

CRITICAL TEACHER SHORTAGE AREAS

2004-2005

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METHODOLOGY FOR THE IDENTIFICATION OF TEACHER SHORTAGE AREAS 2004-05

Section 1012.07, Florida Statutes, requires that the State Board of Education annually identify areas of critical teacher shortage. This list of shortage areas is used in implementing the Critical Teacher Shortage Tuition Reimbursement Program and the Critical Teacher Shortage Student Loan Forgiveness Program. State Board of Education Rule 6A-20.0131(2) further provides that:

In accordance with procedures approved by the Commissioner, a list of critical teacher shortage areas shall be prepared based on consideration of current supply and demand information related to Florida public school instructional personnel including but not limited to:

- (a) The number and percentage of vacant positions in each teaching discipline;*
- (b) The number and percentage of positions filled by teachers not certified in the appropriate field;*
- (c) The projected annual supply of graduates of state approved Florida teacher education programs for each discipline.*

Based on the information outlined above, the following subject fields are being recommended to the State Board of Education for adoption as the critical teaching areas for 2004-05:¹

- **middle and high school level mathematics;**
- **middle and high school level science;**
- **reading;**
- **exceptional student education programs;**
- **English for speakers of other languages (ESOL);**
- **foreign languages;**
- **school psychologists; and**
- **technology education/industrial arts.**

Shortages During Fall 2002

Each fall the Department of Education surveys the school districts to determine the number of teaching positions filled (new hires) from July 1 to November 1.² Results from this survey provide two indicators of fields currently facing critical shortages: the number of new hires as a percentage of teachers in each field and the number of positions filled by teachers who lack appropriate certification. A third measure of teacher shortages is the number of teachers currently teaching courses in subjects in which they are not certified.

¹ See page 11 for the list of the critical teacher shortage areas for 1984-85 through 2003-04.

² New hires are new to the district, but may have taught in another district in prior years and, therefore, not be new to Florida public schools.

Number of New Hires

According to the fall 2002 new hires survey, 15,388 classroom teachers and 845 other instructional personnel were hired between July 1 and November 1, slightly higher than the prior year. (See Table 1.) The new hires represented 10.9 percent of all classroom teachers.

Table 1
Number of Fall New Hires – Classroom Teachers

| | 1999 | 2000 | 2001 | 2002 |
|-----------------------------|---------|---------|---------|---------|
| Fall New Hires | 13,442 | 14,624 | 14,411 | 15,388 |
| Classroom Teachers | 132,521 | 134,504 | 136,888 | 141,004 |
| As a Percentage of Teachers | 10.1 | 10.9 | 10.5 | 10.9 |

Table 2 displays the number of new hires as a percentage of the estimated number of teachers for the critical teacher shortage areas. Subject fields with the highest percentages of positions that were filled in fall 2002 include hearing impaired, autism, severely emotionally disturbed (SED), varying exceptionalities (VE), emotionally handicapped (EH), and foreign languages. Although the fields of reading, gifted, visually impaired, and ESOL had proportionally fewer new hires, other measures of teacher shortage, particularly the number of new teachers hired out of field (discussed in the next section), merit their inclusion in the list of shortage areas.

Table 2
Number of New Hires Compared to Total Number of Teachers - Fall 2002

| Subject Fields | New Hires | Estimated Number of Teachers | New Hires as a Percentage of Teachers |
|-------------------------------|-----------|------------------------------|---------------------------------------|
| Reading | 213 | 3,006 | 7.1 |
| Math | 1,082 | 8,915 | 12.1 |
| Science | 977 | 7,433 | 13.1 |
| Foreign Languages | 320 | 2,154 | 14.9 |
| ESOL | 320 | 4,807 | 6.7 |
| Industrial Arts/Tech Educ. | 76 | 803 | 9.5 |
| Ment. Handi. (EMH+TMH) | 174 | 1,332 | 13.1 |
| Profoundly Ment. Handi. | 40 | 363 | 11.0 |
| Emot. Handi. (EH) | 181 | 1,139 | 15.9 |
| Severely Emot. Dist. (SED) | 146 | 873 | 16.7 |
| Specific Learning Disb. (SLD) | 293 | 2,107 | 13.9 |
| Autistic | 93 | 477 | 19.5 |
| Varying Excep. (VE) | 1,483 | 9,089 | 16.3 |
| Ortho. Impaired | 20 | 174 | 11.5 |
| Speech & Language Imp. | 343 | 2,599 | 13.2 |
| Hearing Impaired | 76 | 363 | 20.9 |
| Visually Impaired | 11 | 212 | 5.2 |
| Occ/Phy. Therapy | 33 | 644 | 5.1 |
| PreK Handi. | 76 | 684 | 11.1 |
| Hosp. & Homebound | 43 | 356 | 12.1 |
| Gifted | 146 | 2,594 | 5.6 |
| Except. Other | 31 | 409 | 7.6 |
| Total Exceptional | 3,189 | 23,415 | 13.6 |
| Sch. Psychologist | 99 | 1,203 | 8.2 |

Newly-Hired Out-of-Field Teachers

A second indication of teacher shortages used to identify critical teaching fields is the percentage of newly hired teachers who were not certified in the field that they were assigned to teach. Overall, nearly 16 percent of the new hires in fall 2002 were not appropriately certified, the second largest percentage in the 18-year history of the new hires survey.

Table 3 gives trends in three areas--basic fields, exceptional student education (ESE), and vocational. Twelve percent of the new hires in basic fields and 10 percent of those in vocational fields were hired out of field. ESE programs continue to experience serious shortages. The percentage of newly-hired ESE teachers not certified in the appropriate field, always significantly higher than other subject areas, is slightly lower than the percentages in 2000 and 2001, but higher than any prior year.

Table 3
Percentage of New Hires
Not Certified in the Appropriate Field

| | 1994 | 1996 | 1998 | 1999 | 2000 | 2001 | 2002 |
|-------------------|------|------|------|------|------|------|------|
| Basic Fields | 11.0 | 8.4 | 10.2 | 12.8 | 10.2 | 13.1 | 12.3 |
| Exceptional Educ. | 27.8 | 22.2 | 27.1 | 27.3 | 30.0 | 31.8 | 29.9 |
| Vocational | 12.3 | 9.0 | 11.4 | 15.0 | 15.4 | 20.6 | 9.9 |
| Total | 14.9 | 11.3 | 13.6 | 15.6 | 14.2 | 16.9 | 15.8 |

Table 4 displays information on the number of new hires in fall 2002 for each of the fields being recommended as critical teaching areas. As shown in Column 3:

- More than half of the teachers hired to teach gifted classes lacked certification in this field. Principals sometimes fill such positions with experienced subject field teachers who lack the course work in gifted, but who later satisfy requirements for endorsement in this field.
- Nearly one third of the new hires in the largest programs within ESE (mentally handicapped, emotionally handicapped, specific learning disabled [SLD], and varying exceptionalities [VE]) did not have the appropriate certification. The percentages were highest in EH and lowest in SLD.
- One third of the teachers hired in SED were hired out of field.
- More than one third of the new hires in ESOL and nearly one fourth of those in technology education/industrial arts were hired out of field.
- For the fourth year in a row, nearly one fifth of the new hires in math were out of field.
- More than 15 percent of the teachers newly hired to teach science and 13 percent hired to teach reading lacked appropriate certification.
- Typically, few out-of-field teachers are hired in the areas of speech, hearing impaired, occupational therapy, and physical therapy because of the highly specialized nature of these areas.

Table 4
 Number of New Hires Filled by Teachers
 Not Certified in the Appropriate Field
 Critical Teacher Shortage Areas - Fall 2002

| Subject Fields | 1 New Hires | 2 New Hires Not Cert. in Approp. Field | 3 % (2/1) |
|-------------------------------|----------------|--|-----------------|
| Reading | 213 | 29 | 13.6 |
| Math | 1,082 | 207 | 19.1 |
| Science | 977 | 150 | 15.4 |
| Foreign Lang. | 320 | 41 | 12.8 |
| ESOL | 320 | 117 | 36.6 |
| Industrial Arts/Tech Educ. | 76 | 18 | 23.7 |
| Ment. Handi. (EMH+TMH) | 174 | 54 | 31.0 |
| Profoundly Ment. Handi. | 40 | 12 | 30.0 |
| Emot. Handi. (EH) | 181 | 60 | 33.1 |
| Severely Emot. Dist. (SED) | 146 | 48 | 32.9 |
| Specific Learning Disb. (SLD) | 293 | 66 | 22.5 |
| Autistic | 93 | 25 | 26.9 |
| Varying Excep. (VE) | 1,483 | 557 | 37.6 |
| Ortho. Impaired | 20 | 9 | 45.0 |
| Speech & Language Imp. | 343 | 10 | 2.9 |
| Hearing Impaired | 76 | 3 | 3.9 |
| Visually Impaired | 11 | - | 0.0 |
| Occ/Phy. Therapy | 33 | 2 | 6.1 |
| PreK Handi. | 76 | 13 | 17.1 |
| Hosp. & Homebound | 43 | 13 | 30.2 |
| Gifted | 146 | 80 | 55.0 |
| Except. Other | 31 | 2 | 6.5 |
| Total Exceptional | 3,189 | 954 | 29.9 |
| Sch. Psychologist | 99 | - | 0.0 |

Teachers Currently Teaching in Areas in Which They Are Not Certified

A third indicator of teacher shortage is the number of teachers currently teaching who lack appropriate certification. As shown in Table 5, the percentage of inappropriately certified teachers in these critical areas includes:

- 33 percent in ESOL;
- 25 percent in technology education and gifted;
- 16-19 percent in SED, EH, VE, and school psychologist;
- 11-14 percent in autistic, profoundly mentally handicapped, reading, MH, and foreign languages; and
- 7-10 percent in math, science, SLD, and hearing impaired.

Table 5
 Estimated Number of Teachers
 Not Certified in the Area in Which They Are Teaching
 Critical Teacher Shortage Areas - Fall 2002
 Ranked by Percentage Not Appropriately Certified

| Subject Field | 1 Number Teachers | 2 Est. FTE Teachers Not Approp. Certified | 3 % Not Approp. Certified |
|--------------------------|-------------------------|---|------------------------------------|
| ESOL | 4,608 | 1,511 | 32.8 |
| Gifted | 2,594 | 669 | 25.8 |
| Tech. Educ. | 843 | 207 | 24.6 |
| Severely Emot. Disturbed | 873 | 167 | 19.1 |
| Emotionally Handi. | 1,139 | 203 | 17.8 |
| Varying Excep. | 9,089 | 1,600 | 17.6 |
| School Psychologist | 1,197 | 99 | 16.0 |
| Autistic | 477 | 63 | 13.3 |
| Profoundly Ment. Handi. | 363 | 44 | 12.0 |
| Reading | 1,653 | 194 | 11.7 |
| Mentally Handi. | 1,332 | 152 | 11.4 |
| Foreign Lang. | 2,154 | 237 | 11.0 |
| Math | 8,442 | 806 | 9.5 |
| Science | 6,902 | 643 | 9.3 |
| Specific Learning Disab. | 2,107 | 196 | 9.3 |
| Hearing Impaired | 363 | 27 | 7.4 |
| Visually Impaired | 212 | 6 | 3.0 |
| Speech & Lang. Disabled | 2,599 | 26 | 1.0 |

Table 6 shows the trends since 1998 for ESE programs. As can be seen, EH and SED continue to experience critical shortages, as do programs in gifted and VE. As already mentioned, teachers are not typically hired out of field in speech because of the highly specialized nature of this area. Although certification options are available for speech professionals at the bachelor's level, these are

Table 6
 Percentage of Teachers Not Certified in the Appropriate Field
 Selected Exceptional Student Education Programs

| Subject Field | 1998 | 1999 | 2000 | 2001 | 2002 |
|--------------------------|------|------|------|------|------|
| Mentally Handi. | 11.3 | 11.5 | 11.0 | 11.7 | 11.4 |
| Profoundly Ment. Handi. | 13.7 | 13.5 | 12.0 | 9.7 | 12.0 |
| Emotionally Handi. | 16.8 | 18.2 | 18.6 | 21.7 | 17.8 |
| Severely Emot. Disturbed | 20.0 | 16.2 | 17.5 | 17.4 | 19.1 |
| Specific Learning Disab. | 8.3 | 9.8 | 9.2 | 11.5 | 9.3 |
| Autistic | 6.6 | 6.8 | 8.3 | 11.9 | 13.3 |
| Varying Excep. | 16.1 | 16.8 | 17.5 | 17.1 | 17.6 |
| Speech & Lang. Disabled | 2.7 | 3.0 | 0.9 | 0.9 | 1.0 |
| Hearing Impaired | 3.3 | 2.1 | 4.1 | 5.3 | 7.4 |
| Visually Impaired | 1.9 | 3.4 | 9.1 | 6.5 | 3.0 |
| Gifted | 28.9 | 16.9 | 16.2 | 16.0 | 25.8 |
| Total ESE* | 13.3 | 12.5 | 12.4 | 12.9 | 13.6 |

* Includes ESE fields not shown above.

time limited. The Critical Teacher Shortage Tuition Reimbursement Program is used to assist these teachers to pursue their required master's degree. There continues to be a shortage of speech teachers at the master's level to perform specific duties and to direct those at the bachelor's level.

Components of Demand for New Teachers

The gap between supply and demand for teachers in these shortage areas needs to be put in context with the broader picture of teacher shortages. Each school year Florida school districts face the challenge of filling more than 16,000 teacher positions. Two trends largely determine the size of this challenge: teacher turnover and student enrollment.

Teacher Turnover

Based on information from the school districts in the End of Year Survey for 2001-02 (Staff Information Data Base), 9.6 percent of Florida's teachers left the classroom in 2001-02, higher than any other prior year. (See Tables 7 and 8.) In a year when the total number of teachers increased by less than two percent, terminations in all three categories increased significantly—resignations by 14 percent, retirements by 29 percent and terminations for other reasons by 24 percent.

Table 7
Number of Terminations - Classroom Teachers

| | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 |
|----------------|--------------|--------------|---------------|---------------|---------------|---------------|
| Resignations | 4,544 | 4,872 | 7,350 | 7,080 | 7,732 | 8,839 |
| Retirements | 1,415 | 1,542 | 1,540 | 1,647 | 1,622 | 2,085 |
| Other Reasons* | 1,073 | 1,626 | 2,229 | 1,822 | 1,836 | 2,276 |
| Total | 7,032 | 8,040 | 11,119 | 10,549 | 11,190 | 13,200 |

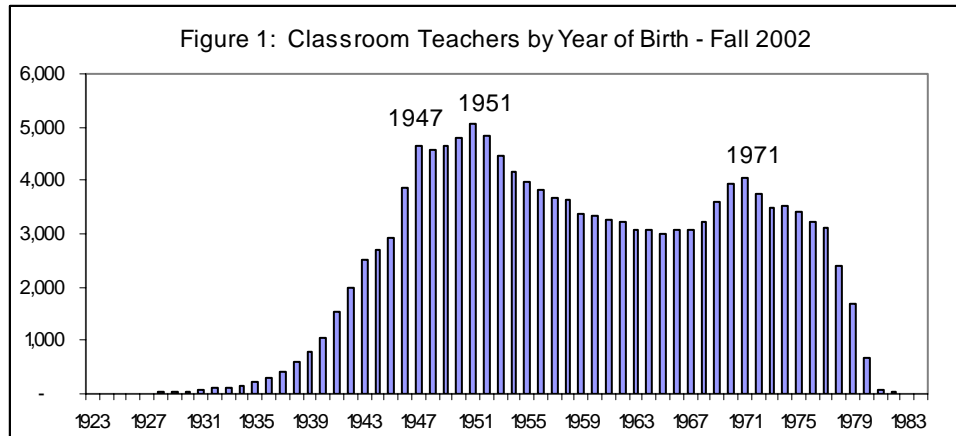
Table 8
Teacher Terminations as a Percentage of the Teacher Workforce

| | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Resignations | 3.71 | 3.85 | 5.67 | 5.34 | 5.75 | 6.46 |
| Retirements | 1.16 | 1.22 | 1.19 | 1.24 | 1.21 | 1.52 |
| Other Reasons* | 0.88 | 1.28 | 1.72 | 1.37 | 1.37 | 1.66 |
| Total | 5.74 | 6.35 | 8.57 | 7.96 | 8.32 | 9.64 |

* Includes deaths, dismissals, contracts expired, and staff reductions.

Trends in Teacher Retirements

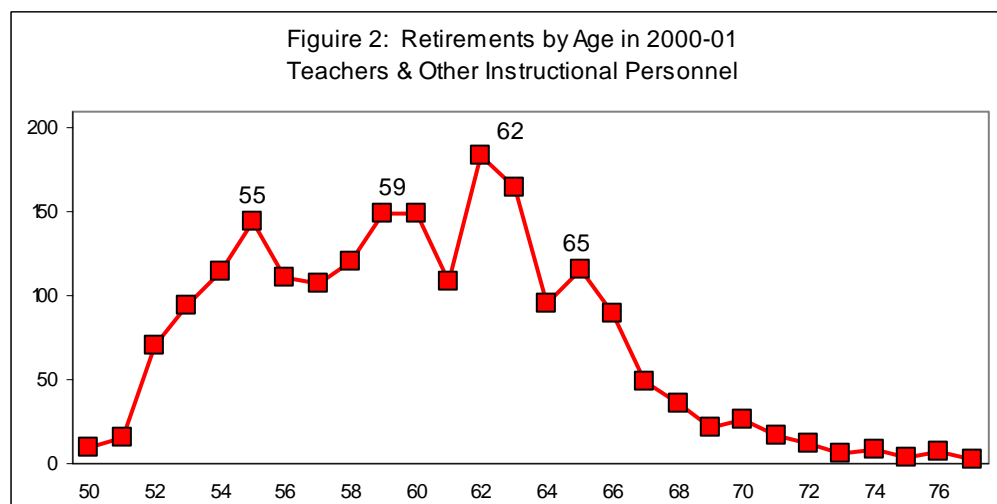
One fifth of Florida's classroom teachers were born before 1949 and are thus ages 55 or older. Another fifth were born between 1948 to 1954 and are ages 48 or older. (See Figure 1.) As shown in Table 7, the state has already begun to experience significant increases in the number of teacher retirements, with the likelihood that retirements will reach unprecedented heights in the decade following 2006.



The age group with the most job stability are teachers in their 40s and early 50s. The magnitude of the retirements expected from 2003 on is likely to be all the greater because by then mid-life teachers will represent teacher cohorts which were much smaller to begin with.

Figure 2 shows the number of retirements by age. More than half of the teachers retiring in 2000-01 were younger than 60, with most of these younger-age retirements taking place after the teachers reached 30 years of service in Florida public schools. Retirements peak at age 62, not at the assumed age of 65.

During 1999-2000 the retirement trends began to intersect with the age trend. Until that year more teachers had been born in 1947 than in any other year. By 1999 slightly more teachers were born in 1951 than in 1947, indicating that the teachers born in 1947 had begun to retire. The leading edge of the teachers born in 1947 reached 30 years of service in 2000-01, with the rest of the teachers in the 1947-1954 “bubble” reaching this level year by year. The teachers born in 1947 reach age 62 in 2009, but by that year it is likely that half of them will have already retired. Eighty percent of them are expected to retire by the year 2011.



Effect of Enrollment Growth on the Number of Teachers Needed

The second component of the number of new hires each year is the projected number of additional teachers needed because of increased enrollments. Overall, annual preK-12 enrollments grew from 2.5 to 4.0 percent each year from 1985-86 through 1996-1997. In 1997-98 the growth, as expected, began to slow. However, enrollments in Florida public schools grew by 2.5 percent in 2000-01 rather than the projected 1.8 percent. Reasons given cite increases in immigration, decreases in the number of high school dropouts, and other demographic and school-related factors. According to current enrollment forecasts, growth will decline, but at a slower pace than earlier projected.

Implementation of the Class Size Amendment and No Child Left Behind

Teacher turnover and enrollment growth are ongoing trends that will continue to affect the demand for new teachers. New on the horizon is the implementation of the class size amendment passed by Florida voters in 2002 and the federal No Child Left Behind Act, mandating, among other requirements, that there be a highly qualified teacher in every core-subject classroom by 2005-06. These legal mandates have the potential for exacerbating an already serious situation, expanding what has been a teacher shortage in specific subject areas to a more general teacher shortage.

The increased need for new teachers stemming from the implementation of the class size amendment cannot be projected for 2004-05 until the numbers of teachers needed for 2003-04 are known. The initial indication of this will be the results of the fall survey for the Staff Information Data Base, available in late 2003. In advance of that, school districts, responding to a telephone survey conducted by the Department in August 2003, reported that they had budgeted for more than 6,000 additional teachers to reduce class sizes in 2003-04. The Department will be working with districts on details for satisfying the highly qualified teacher requirements under No Child Left Behind.

Teacher Supply

Statistics on the number of Florida teacher education graduates used in this report are based on a survey of graduates completed annually by the education deans and chairpersons of the 30 institutions in Florida with approved teacher education programs. Each year's survey covers the actual number of graduates for the most recent year (2001-02, in the case of the 2002 survey used here) and three years of projected graduates.

Preliminary studies tracking 1998-99 completers indicate that, of those seeking initial certification (that is, those who were not already teaching prior to completing a program), about 73 percent taught at least one year in Florida public schools during the first four years following graduation. Fifty-eight percent of the completers were still teaching in fall 2002. No information is available on the number of education graduates who were teaching in nonpublic or out-of-state schools.

Trends in the Number of Teacher Education Graduates

Results from the annual teacher graduate survey are shown in Table 9. An analysis of the data presented pinpoints the following trends:

- Over the last two years, the numbers of math education graduates have been the lowest since 1987 and science graduates the lowest since 1990. During these same years, middle and high schools have seen sizeable increases in enrollments.
- Despite the ongoing demand for additional ESE teachers, ESE overall shows little growth, even including the increasing number of dual programs covering two subjects areas, such as elementary and SLD.
- The increase in the number of graduates/completers in reading is an indication of Florida's many-faceted effort to boost reading skills at all levels.
- Increases in ESOL are being achieved through a growing number of dual programs, such as programs in elementary education and ESOL, or ESE and ESOL. Endorsement in ESOL is required for teaching classes that include students who are not proficient in English.
- The number of graduates in foreign languages remains low, especially when compared to the number of new hires in this field each year. However, it is likely that a number of foreign language teachers enter the classroom by way of a modern or classical foreign language degree.

Table 9
Projected Number of Teacher Vacancies
Critical Teacher Shortage Areas

| Programs | 1 Projected Number of Teachers 2002-03 | 2003-04 | | 4 Total Projected Vacancies |
|--------------------------|--|--|---|--------------------------------------|
| | | 2 Number Needed to Replace Resigning Teachers | 3 Number Needed Due to Enrollment Growth | |
| Math | 8,721 | 1,043 | 296 | 1,339 |
| Science | 7,134 | 892 | 240 | 1,132 |
| Reading | 1,697 | 110 | 40 | 150 |
| For. Lang. | 2,168 | 330 | 75 | 405 |
| ESOL | 4,715 | 253 | 101 | 354 |
| Tech. Educ./Indust. Arts | 869 | 85 | 31 | 116 |
| Excep. Stud. Educ. | 14,134 | 1,831 | 377 | 2,208 |
| Speech Path. | 2,545 | 287 | 57 | 344 |
| Hearing Imp. | 365 | 59 | 8 | 67 |
| Visually Imp. | 199 | 15 | 5 | 20 |
| Autism | 432 | 65 | 11 | 76 |
| Severe Disabilities | 1,245 | 81 | 34 | 115 |
| Gifted | 2,727 | 147 | 70 | 217 |
| PreK Handi. | 674 | 71 | 6 | 77 |
| Sch. Psychologist | 1,184 | 64 | 31 | 95 |

- These teachers would then qualify for tuition reimbursement funds to use in taking courses leading to full certification.
- Few graduates are shown for gifted and technology education. Most teachers in gifted programs become certified by means of an add-on to existing certification, not included in the statistics used here. The small numbers of graduates in technology education are indicative of its critical shortage status.

Projected Shortages for 2004-05

Table 10 compares the number of new hires in fall 2002 (Column 1) with the number of Florida teacher education graduates for 2000-01 (Column 2) and the projected number in 2002-03 through 2004-05 (Columns 4-6). Column 3 gives the number of graduates in each subject field in 2001-02 as a percentage of the number of new hires in fall 2002.

Table 10
Comparison of New Hires and Florida Teacher Education Graduates
Critical Teacher Shortage Areas

| Subject Fields | 1 New Hires Fall 2002 | 2 Teacher Education Graduates 2001-02 | 3 Grads as a % of New Hires (2/1)*100 | P R O J E C T E D | | | 7 Percentage Change 2001-02 to 2004-05 (6-2)/2X100 |
|--------------------------------------|-----------------------------|---|--|-------------------|--------------|--------------|---|
| | | | | 4 2002-03 | 5 2003-04 | 6 2004-05 | |
| Math | 1,082 | 115 | 10.6 | 123 | 136 | 134 | 16.5 |
| Science | 977 | 99 | 10.1 | 102 | 115 | 123 | 24.2 |
| Reading | 213 | 192 | 90.1 | 247 | 296 | 302 | 57.3 |
| Foreign Languages | 320 | 26 | 8.1 | 25 | 41 | 44 | 69.2 |
| ESOL* | 320 | 52 | 16.3 | 34 | 26 | 28 | (46.2) |
| Industrial Arts/Tech Educ. | 88 | 10 | 11.4 | 10 | 10 | 10 | - |
| Exceptional Student Education | | | | | | | |
| Ment. Handi. (EMH+TMH+PMH) | 214 | 70 | 32.7 | 44 | 39 | 42 | (40.0) |
| SLD | 293 | 180 | 61.4 | 147 | 118 | 124 | (31.1) |
| Emot. Handi.+SED | 327 | 64 | 19.6 | 49 | 47 | 52 | (18.8) |
| Varying Excep. | 1,483 | 560 | 37.8 | 513 | 579 | 579 | 3.4 |
| Speech Pathology | 343 | 140 | 40.8 | 145 | 139 | 139 | (0.7) |
| Hearing Impaired | 76 | 2 | 2.6 | 5 | 7 | 10 | 400.0 |
| Visually Impaired | 11 | 8 | 72.7 | 6 | 6 | 6 | (25.0) |
| Gifted | 146 | 4 | 2.7 | 9 | 10 | 11 | 175.0 |
| Autistic | 93 | 0 | - | - | - | - | - |
| PreK Handicapped | 76 | - | - | - | - | - | - |
| Hospital & Homebound | 43 | - | - | - | - | - | - |
| Dual programs | | | | | | | |
| ESE + ESOL | | 46 | | 104 | 107 | 103 | 123.9 |
| ESE + another subject | | 92 | | 107 | 111 | 112 | 21.7 |
| Total ESE | 3,105 | 1,166 | 0.376 | 1,129 | 1,163 | 1,178 | 1.0 |
| School Psychologist | 99 | 45 | 45.5 | 51 | 46 | 49 | 8.9 |

*Does not include dual programs in ESOL/ESE and ESOL/Elementary

As shown:

- The new hires in math and science were ten times the number of graduates.
- The gap between new hires and graduates are equally wide for foreign language education and technology education.
- More graduates are projected to complete programs in reading than the number of new positions expected. However, many of these completers will be seeking endorsement in reading as an adjunct to teaching elementary or language arts.
- Teacher education institutions in Florida graduate one school psychologist for every two needed. While the ratio is higher than for other fields, districts rarely hire school psychologists out of field, partly because of the legal responsibility these professionals have in identifying students for inclusion in ESE programs.
- A wide gap remains between the number of new hires in the combined ESE programs (3,105 fall new hires) and the projected number of graduates (1,178, including dual programs). At-risk status depends partially on the depth of the reserve pool in each field. As evidenced by the percentage of inappropriately certified teachers hired, ESE programs have perpetually been behind, with the number of graduates never seeming to catch up with the demand.

Fields where the number of graduates is significantly smaller than the number of vacancies and fields where there are insufficient reserves are the ones most likely to face critical shortages. All of the subject fields above fall into one or both of these categories

**CRITICAL TEACHER SHORTAGE AREAS
FOR THE YEARS 1984-85 - 2004-05**

| | |
|-------------------------------|---|
| 1984-85 | Math, science, speech therapy, emotionally, industrial arts, foreign languages |
| 1985-86 1986-87 | Math, science, emotionally handicapped, English, foreign languages |
| 1987-88 | Math, science, emotionally handicapped, foreign languages |
| 1988-89 | Math, science, emotionally handicapped, English, foreign languages |
| 1989-90 1990-91 1991-92 | Middle and secondary level science, math, and English; foreign languages; and exceptional education programs serving the handicapped. |
| 1992-93 | Middle and secondary level math and physical sciences; English for speakers of other languages (ESOL); exceptional education programs |
| 1993-94 1994-95 1995-96 | Exceptional education programs |
| 1996-97 1998-99 1999-00 | Same as 1995-96, with the addition of technology education/industrial arts |
| 2000-01 | Same as 1999-2000, with the addition of middle and secondary mathematics and science |
| 2001-02 | Same as 2000-01 with the addition of foreign languages |
| 2002-03 | Same as 2001-02 with the addition of reading and school psychologists |
| 2003-04 2004-05 | Same as 2002-03 |