

Teacher and Administrator Supply & Demand in Missouri 2000-2001

EXECUTIVE SUMMARY

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Overview

Demand for teachers and administrators in Missouri continue to increase at a substantial rate while, at the same time, supply continues to decrease. While this anomaly hinders urban school districts efforts to fill teaching positions in areas of critical need, rural districts face even more difficult staffing options. Rural districts have approximately two times more unfilled teaching positions than do urban districts. Teaching positions are being left unfilled; students in rural areas are unable to enroll in foreign language classes, physics, chemistry, and industrial technology. Some schools may have to eliminate music and technology classes altogether. Others may have to staff classrooms with less than fully certified personnel or with substitutes. This trend has increased over the last ten years and has broadened even more dramatically over the last three years.

The State is, perhaps, at a crossroads with regard to policy development and implementation to address what is approaching a crisis situation in public education. Especially in rural schools where substantially fewer applications are made to teach than in urban areas, policies must be put into action before administrators are faced with closing in the sciences and languages. Even technology classes are at risk of being staffed with less than fully qualified personnel if not closed altogether. In an age of multi-cultural awareness and international competition along with a technology information explosion, this situation is both ironic and paradoxical.

Number of Certified Teachers

The University of Missouri, St. Louis, produced 1,269 educators who received 1,459 certificates; Southwest Missouri State University produced 1,200 educators who received 1,369 certificates; and Central Missouri State University produced 1,039 educators who received 1,108 certificates. The total number of educators receiving 9,995 certificates statewide in FY 2000 was 10,481. Of these, 2,497 certifications (25%) were issued by 25 Missouri private colleges and universities; and 7,498 (75%) were issued by the State's 13 public colleges and universities.

The total number of certificates issued in Missouri since the 1996-97 reporting year has decreased by 5,240; from 15,235 to 9,995. While the drop in certificates was most dramatic between 1996-97 and 1997-98 (19%) and has leveled-off over the last two years, demand continues to increase. Middle school certificates decreased by almost 54% since 1996-97, perhaps due to stiffer State requirements implemented in 1997; elementary certificates decreased by 43%; and secondary certificates decreased by 22

Fully Certified New Hires????

A total of 8,417 teachers and administrators were newly hired during the 2000-2001 academic school year. The greatest number of new hires was made in the area of secondary education teachers (3,003), followed by elementary education (2,652), special education (1,075), and middle school (694). A total of 608 administrators and 385 personnel in pupil services were also newly hired. Most new hires were made in Region A (2,153) an area consisting of St. Louis City, St.

Louis County, and Jefferson County; followed by Region B (1,520) which encompasses Kansas City and its six surrounding counties and Region C (959) which is comprised of ten counties in southwest Missouri, including Greene and the Springfield school district. Region G had the fewest new hires (349); this area of the state includes primarily small, rural districts in 11 counties located in south central Missouri.

Areas of Shortage and Surplus/ Factors Contributing

As of January 2001, 501 positions remained unfilled throughout Missouri. Districts in the Kansas City region reported more unfilled positions ($n = 129$) than did districts in any other region. Region D (central Missouri), however, reported 121 positions still vacant. The difference between these two regions is important, due to their geographical locations. The Kansas City area districts employed 1,520 new teachers and administrators, while central Missouri districts employed 685.

Of the 35,594 applications made, 12,291 were for elementary teaching positions, 12,264 were for secondary teaching positions, 4,481 were for administrative positions, 2,740 were for middle school teaching positions, 2,313 were for special education positions, and 1,506 were for pupil services positions.

Elementary education has an employment ratio of almost 99%, whereas special education's employment ratio is 91%. Similarly, Region A has an employment ratio of 99%, and Region B (the Kansas City area) has an employment ratio of 92% while Region D's employment ratio is 85%. One can deduce from these comparisons that, in general, rural districts have a much more difficult time filling positions than do urban areas. Another indicator, employment index, shows that in special education, 2,313 applications were made for approximately 1,178 positions, producing an employment index of 49%. The employment index for pupil services is 73%, and for middle school teaching it is 70%. Elementary education teaching positions produced an employment index of 78%, meaning that roughly five applications were made for each position needed to fill existing vacancies. In secondary education, the employment index is 74%, meaning that approximately four applications were made for each position needed. By stark contrast, one out of every two applications for special education positions resulted in a new hire (49%). And conversely, approximately seven applications were made for each available administrative position for each hire, producing an employment index of 86%.

The urban areas of St. Louis, Kansas City, and Springfield (Regions A, B, and C) receive many more applications, resulting in lower employment ratios and indices than do the rural areas in Regions D - J. The three urban regions made 4,632 new hires from a combined 25,118 applications for 4,879 teaching and administrative positions, including 247 positions still vacant. All other regions of the State (primarily rural) made 3,785 new hires from a combined total of 10,476 applications for 4,038 teaching and administrative positions, including 253 positions still vacant. While these figures produce similar employment ratios of 95% and 94% for urban and rural areas, respectively, the employment index (an indicator of market supply or availability and choice) is 81% for the three urban areas compared to 61% for rural districts. In short, urban districts have almost twice as many choices among the available pool of applications as do rural districts. And because these data do not single out individual districts, this is a very conservative estimate due to the fact that some rural districts' data are included in the analysis of urban regions.

Adding to the condition of teaching and administrative shortages in Missouri is the dilemma of hiring less than fully certified personnel, hiring certified personnel to teach in areas for which they are not certified, and filling positions with substitutes. Nine hundred fifty-nine positions were filled

statewide with personnel who were not fully certified with most of these (44%) in secondary teaching. Within the specific areas of certification in which less than fully certified individuals were hired to teach, 42 were in mathematics, 36 were in foreign languages (with Spanish accounting for 23 positions), 32 were in business, 30 were in biology, 27 were in English, and 27 were in the social sciences (including history). Most positions filled with less than fully certified personnel are found in Region B (Kansas City) with 188 positions, followed by Region C with 124, and Region H with 105. Again, adding the urban regions of A, B, and C for comparison with the rural regions (D - J) highlights another discrepancy: urban regions hired approximately 380 less than fully certified personnel, while rural regions hired 579. Urban areas new hires of less than fully certified personnel represent 7% of their total number of new hires; rural areas new hires of less than fully certified personnel represent 13% of their total number of new hires.

Statewide, 141 assignments outside their area(s) of certification were given to new hires. Most of these assignments (62, representing 44% of the total) were made in secondary education with the unified sciences accounting for the largest percent within that group (19%), and overall 8% where 12 assignments were made in biology, chemistry, and earth science combined. Twenty-nine assignments (21%) in special education were made to personnel not certified in those areas of specialization.

An alarming discrepancy between urban and rural schools exists. Urban districts placed 20 personnel in positions outside their area(s) of certification, whereas rural districts placed 121 personnel in positions outside their area(s) of certification. Urban districts' placements outside certification areas represent 14% of the state total and .4% of their new hires. Rural districts' placements outside certification areas represent 86% of the state total and 3% of their new hires. This is a dramatically significant difference.

Statewide, 384 substitutes were hired by districts during the 2000-2001 academic school year. Most substitutes were hired to teach in secondary classrooms (205) representing almost 53% of the total. Special education classrooms were filled with 83 substitutes, almost 22% of the total. The largest numbers of substitutes hired within specific areas of certification among the education areas of specialty were in learning disabled (30 substitutes), behavior disorders (15), cross categorical (14), middle school mathematics (12), art (26), physical education (24), mental retardation (10).

Demand for elementary teachers has leveled off over the last two years after general increase since 1991-92 through a series of ups and downs. Demand for middle school teachers increased slightly from 1991-92 through 1997-98, after which a dramatic jump in demand occurred in the 1998-99 academic school year. The demand increased slightly the next year (1999-2000) and then decreased this past year (2000-2001). Secondary teachers have been in increased demand since 1991-92. Data for administrators have been collected over the past three years only and show a continued, steady increase in demand. Likewise, demand for personnel in pupil services has increased steadily over the past ten years, as has demand for personnel to teach students with special needs.

Overall statewide totals of new hires have more than doubled over the last ten years, as Missouri's demand for teachers and administrators has increased in a relatively steady way since 1991-92. If this trend continues, Missouri will need more than 10,000 new teachers by the fall of 2003, almost three times the number needed ten years ago.

Administrators believe that the greatest areas of need are in special education, pupil services, and certain areas in secondary education, most notably physics, chemistry, foreign languages,

industrial technology, mathematics, ESL, biology, and gifted education. While these areas are viewed as having the most severe shortages, rural schools consistently document greater demand and more severe shortages in each area than do their urban counterparts. National shortages and surpluses are mirrored by the Missouri data in most instances.

Missouri administrators believe that elementary teachers they have newly hired are the most qualified, followed by administrators, early childhood educators, secondary teachers, middle school teachers, counselors, and special education personnel.

Missouri administrators also believe that low salaries and overly strict certification requirements are the leading culprits causing the current teacher and administrator shortages, followed by colleges and universities not certifying enough educators, retirements, educators leaving the occupation too early (within their first few years), educators transferring out of the district, and school or community factors.

Methodology

Survey questionnaires were mailed to each of Missouri's 524 public school districts in September 2000. A second mailing was made on October 16, 2000, to districts that had not returned completed questionnaires. A third and final mailing was made on November 6, 2000. Follow-up telephone calls were made in December 2000 and January 2001 to encourage other districts to supply data. These efforts produced a 94% response rate (491 districts); however, nine districts' data were unusable due to inaccurate reporting, yielding a usable return rate of 92% (482 districts). Table 1 contains these data disaggregated by region, and Figure 1 presents a graphic display of the statewide totals. Regional response rates ranged from 98% in Region C (southwest Missouri) to 87% in Region H (northeast Missouri), with an overall regional median and mode of 91% each.

Both the number and geographic location of individual districts constituting the sample each year are important factors to consider when attempting to identify State totals and comparing descriptive statistics from year to year. All aggregated regional and State numbers in this report are based on data supplied by 481 of Missouri's 524 public school districts. The ten-year trend data presented, here, are, in part, functions of the sample as well as teaching and administrative factors impacting supply and demand.

Recommendations

Recommendations from past years' teacher supply and demand reports can be echoed again, here: accelerated post-baccalaureate programs could be designed for adults who choose to enter education as a second career; alternative undergraduate programs could be designed for non-traditional students who might be able to begin teaching earlier than traditional programs now allow; financial incentives could be provided for educators who choose to teach in rural schools; and National Teacher Board Certification tied to increased salaries for successful candidates could help retain highly effective teachers in both urban and rural areas throughout Missouri.

**Ten Year Trend for FTE New Hires Fully Certified
Number and (Percent) Return Rate**

