

## Teacher Quality and Teacher Shortages: The Need for Policy-Related Information

*In the next few years, as the need for qualified teachers increases dramatically, states will face policy questions about teacher education that are more numerous and complex than ever before. Comprehensive, accurate, and timely data will be critical if we are to understand the dynamics of teacher supply, demand, and quality, to predict shortages in qualified teachers, and to select policies that address these shortages. Unfortunately, a national survey indicates that for most states, good information on teacher shortages is hard to find. The lack of adequate information could be a threat to the timely and accurate diagnosis of teacher shortages and to education reforms at state and national levels.*

In the last several years, the quality and effectiveness of teaching have emerged as critical factors in the movement to reform K-12 education. The importance of good teaching has been supported by the results of several respected state and international studies.<sup>1,2</sup> National commissions and state roundtables have analyzed and recommended strategies for overcoming the barriers to quality teaching.<sup>3,4</sup> In most states, major initiatives are now underway to link K-12 academic standards with the preparation of teachers.<sup>5</sup> At the federal level, major grants are being awarded to reduce the size of classes, improve the quality of teachers, and prepare tomorrow's teachers to use technology. Increasingly, national associations and regional commissions have been creating task forces, discussing collaborative initiatives, and listing teacher education among their top priorities.<sup>6,7</sup>

### Teacher Turnover: Opportunity or Threat?

At the same time, national data collected by the U.S. Commerce, Education, and Labor departments suggest that not only is there a current shortage of teachers in certain subject areas and locations but that many states will soon experience an increase in demand for new teachers – and an unprecedented turnover of existing teachers.<sup>8,9,10</sup> The need to replace a large percentage of current teachers in the next few decades may present an historic opportunity to make a significant impact on the quality of teaching in this country. However, if the supply of new teachers, by subject and location, is not commensurate with increased demand, it will exacerbate the current shortage of teachers. A net increase of teacher demand over supply would be a threat to the quality of teaching because teacher shortages will force school districts to hire underqualified teachers and assign them to larger classes.

While the retirement of the large number of teachers who are part of the “baby boom” generation is the major factor in the predicted increase in teacher turnover, there are other factors that could make the growth in demand for new teachers even larger. For example, projections of the demand for new teachers are sensitive to changes in the continuation rates of current teachers, and the recent decline in these rates, perhaps due to the strong economy, is only now being taken into consideration.<sup>11</sup> Current initiatives to reduce the size of classes will also increase demand.

On the supply side, ironically, the U.S. now prepares nearly twice as many new teachers each year as the number who actually enter teaching. About 30 percent of teachers leave the profession in the first three years. The low entry rate, mismatch of supply and demand both across fields and locations, and lack of coordination between states all result in distributional shortfalls of qualified teachers that add to the absolute shortages in certain subject areas.<sup>12</sup> What is perhaps most alarming, however, is the possibility that by making it more difficult to obtain a teaching certificate, the movement to improve the quality and effectiveness of teachers may actually reduce the supply of new teachers at the same time that demand is growing. The “quality movement” would thereby undermine the prospects for its own success.

A key concern for policymakers in education is whether data are available to help states understand the complex dynamics of teacher supply, demand, and quality, to predict critical shortages in qualified teachers, and to select appropriate policies to address these shortages. Clearly, a lack of adequate information on teacher shortages could put education reform efforts at both the state and national levels in jeopardy.

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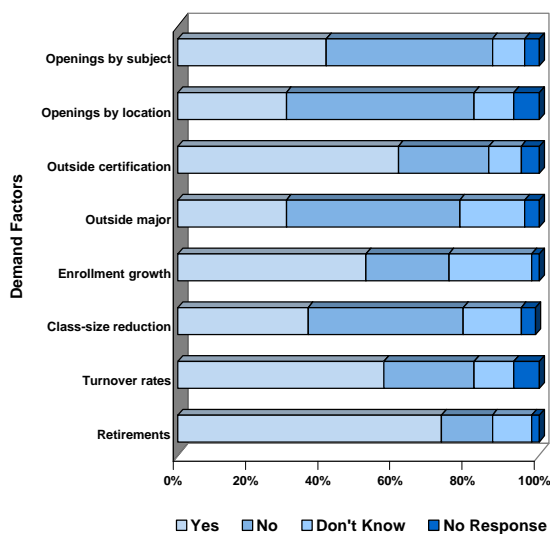
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## Findings from a National Survey

To obtain current information about the availability of data on factors that impact teacher demand, supply, and quality, a national survey was conducted in June 1999 of all State Higher Education Academic Officers (SHEAOs). Forty-three states responded, either directly through the SHEEO office or through referrals to other state agencies. Results suggest that very few states have readily available information adequate to understand and address critical teacher shortages. It may well be that in most states a great deal of data on different aspects of teacher supply and demand are collected by separate departments in separate agencies. However, few of the state-level education agencies that responded to this survey indicated that this information was available to them or that the implications of supply and demand factors for the shortage of teachers in their states had been made clear. Data on these issues, even when it had been collected, was not generally consolidated, analyzed, distributed, publicized, or made available to policymakers or the agencies that support them.

**Demand Data.** According to respondents, the availability of data on factors that impact demand for teachers is mixed. On some factors, such as secondary teachers whose primary assignment is outside their subject area certification and projected teacher retirements, more than one-half of the states have readily available information (see Figure 1). On other factors, such as projected demand due to enrollment growth and turnover rates of teachers, about one-half of the states have

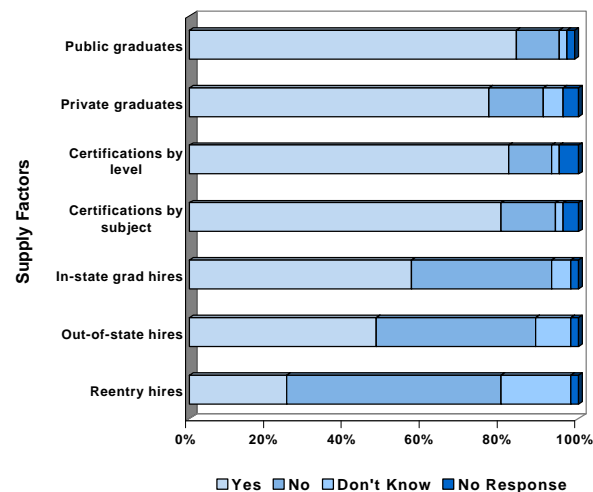
**Figure 1**  
Are Data Available on  
the Demand for Teachers?  
N = 43



information. On factors such as unfilled teaching positions, secondary teachers whose primary assignment is outside of their undergraduate major, and projected demand for teachers due to class-size reduction, only about one-third of the states have information.

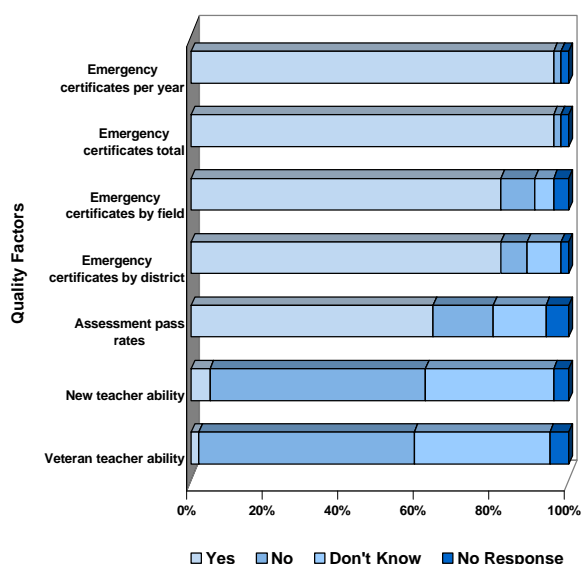
**Supply Data.** In State Higher Education Offices, the availability of data on factors that impact the supply of teachers is somewhat better than on teacher demand (see Figure 2). Over three-quarters of the states have information on the teacher education graduates from public and private institutions and on the certification of these graduates. Information on the hiring of teachers prepared through in-state and out-of-state programs is available in nearly one-half of the states, and only one-quarter differentiate between new graduates and teachers returning to the workforce.

**Figure 2**  
Are Data Available on  
the Supply of Teachers?  
N = 43



**Quality Data.** Nearly all of the State Higher Education Offices have data on the number of waivers or emergency certifications granted to teachers each year, which can be considered an indirect measure of the quality of teacher preparation. Information on the distribution of emergency certifications by subject and school district is available in over three-quarters of the states (see Figure 3). Over one-half of the states have information on the pass rates for program graduates on assessment tests. Finally, only a few states currently have information on the ability of teachers to assist K-12 students in meeting or exceeding academic standards, although many states are just now in the process of developing and implementing such standards.

**Figure 3**  
**Are Data Available on**  
**the Quality of Teachers?**  
**N = 43**



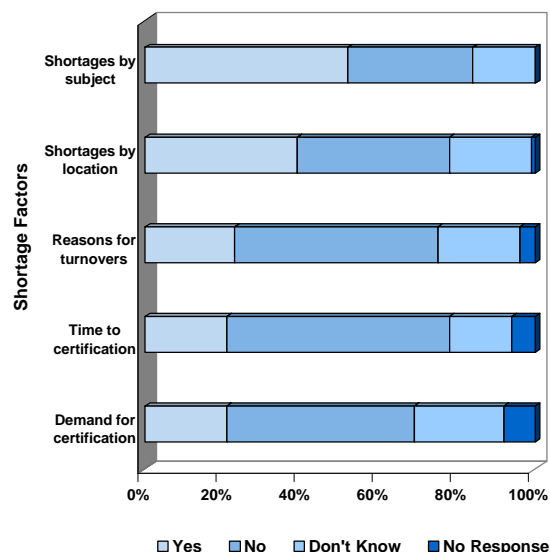
**Shortage Data.** Because of the lack of comprehensive demand and supply data in many states, about one-half of the states have information about teacher shortages: 52 percent have information about shortages by subject area and 39 percent have information about shortages by geographical location (see Figure 4). In addition, from responses to open-ended questions, it is apparent that few states issue comprehensive, regular reports on teacher supply and demand, and many believe that the definition, dissemination, and coordination of supply and demand data within both states and regions should be improved. Moreover, state agencies do not appear to be looking at how current efforts to improve teacher quality may impact teacher shortages. Finally, less than one-quarter of the states have information that would assist in developing policies to address teacher shortages, such as the reasons for teacher turnover and the demand among teachers with waivers or emergency certifications for programs leading to certification.

### Analysis of Shortages Is Needed

As states move to establish or revise policy to address a range of teacher education issues, the need for comprehensive, accurate, and timely data is critical. Unfortunately, policymakers in most states will find little information on teacher shortages readily available to support decision making. Data on the in-state supply of teachers and demand due to factors such as retirement and lack of fully qualified teachers appear to be readily available across most of the nation. However,

higher education agencies in many states do not have other key data on supply and demand factors, such as unfilled positions, enrollment growth, teacher turnover, and in- and out-of-state hires. For this reason, reliable information on teacher shortages is not widely available. Moreover, since the additional impact of efforts to reduce class size and to improve teacher quality has not yet been taken into consideration, policymakers in very few states appear to be in a position to anticipate and address key issues in this area.

**Figure 4**  
**Are Data Available**  
**On The Shortage of Teachers?**  
**N = 43**



### Policy Questions

State agencies and legislatures are currently dealing with numerous issues in teacher education, especially those involving the quality of teaching and teacher preparation. In the next few years, many will face policy questions that are more complex than ever before.

- *Will there be a critical shortage of qualified teachers and, if so, in which subject areas and school districts?*
- *What are the various reasons for those shortages?*
- *What is the best mix of initiatives – such as better teacher salaries, licensing agreements, recruitment strategies, service scholarships, expanded education programs, transfer articulation, and induction programs for beginning teachers – to address these potential or actual shortages?*

- How should these initiatives be structured to address the different challenges represented by preservice teacher preparation on the one hand and professional development of teachers on the other?
- Finally, which of the various teacher preparation and assessment initiatives truly add value to the preparation of qualified teachers, even if they constrain teacher supply?

These and other emerging policy issues can only be effectively addressed if comprehensive, accurate, and timely information is available to decision makers.

States that can answer the right questions about data availability will be prepared to identify salient policy issues regarding teacher education and design appropriate initiatives to address them. Moreover, only if each state's information can be made available to other states will it be possible for teacher education policies to be coordinated across state lines. Finally, there is a need for regional and national initiatives to encourage and facilitate these efforts on the part of the states and to make reliable information on interstate mobility of teachers available. Given the recent growth in support for increasing the availability of qualified teachers, it behooves policymakers at all levels to address the critical need for information about teacher supply, demand, and quality.

### ASKING THE RIGHT QUESTIONS

#### Does your state:

- Encourage cooperation and communication between various departments and agencies that collect information on the supply, demand, and quality of teachers?
- Have a centralized database containing comprehensive information on the key factors of teacher supply, demand, and quality?
- Issue regular reports on teacher supply, demand, and quality and make current data available on the Internet?
- Project teacher shortages by subject area and school district, based on demographic factors that affect the demand and supply of qualified teachers?
- Factor the impact of policy initiatives, such as those to increase teacher quality and decrease class size, into projections of teacher shortages?
- Plan to evaluate initiatives to increase the supply of qualified teachers in terms of the value they add to the academic performance of students?

### Endnotes

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- 3 *What Matters Most: Teaching for America's Future* (New York: National Commission on Teaching & America's Future, September 1996).
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- 5 E.M. Rodriguez, *Preparing Quality Teachers: Issues and Trends in the States* (Denver, CO: SHEEO, July 1998).
- 6 *Proposed SHEEO Initiative on Teacher Education*, prepared for a meeting of the Teacher Education Committee (April 1999).
- 7 *Ten Public Policy Issues for Higher Education in 1999 and 2000*, AGB Public Policy Paper Series, 99, No. 1.
- 8 *Current Population Survey* (Washington, DC.: Bureau of the Census, U.S. Dept. of Commerce, 1993).
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- 11 *Predicting the Need for Newly Hired Teachers in the United States to 2008-09* (Washington, D.C.: U.S. Dept. of Education, National Center for Education Statistics, 1999).
- 12 Linda Darling-Hammond, *How Can We Ensure A Caring, Competent, Qualified Teacher for Every Child? Strategies for Solving the Dilemmas of Teacher Supply, Demand, and Standards*, prepared for "Shaping the Profession that Shapes the Future: An AFT/NEA Conference on Teacher Quality," September 1998.

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