

# Meeting the Demand for Highly Qualified Special Education Teachers During Severe Shortages: *What Should Policymakers Consider?*

Mary T. Brownell, *University of Florida*  
Eric Hirsch, *Southeast Center for Teaching Quality*  
Seonjin Seo, *University of Florida*

In the authors' response to the other articles in this special series, they acknowledge the dilemma that chronic teacher shortages and recent demands for a quality teacher for every child pose for securing sufficient numbers of special educators. We provide information about current policies and programs that states and districts are implementing that hold promise for improving the supply of qualified special educators. Although we recognize the potential effectiveness of individual strategies, such as induction programs, we emphasize the importance of a comprehensive, statewide reform effort as the most viable mechanism for resolving teacher shortages.

Few problems in special education have been as vexing as the chronic undersupply of special education teachers. Annually, the U.S. Department of Education, Office of Special Education Programs, spends approximately \$90 million to increase the numbers of special education teachers available to serve our nation's students with disabilities. These funds are in addition to any incentive programs states have to increase the number of teachers in critical shortage areas. Unfortunately, these combined costly efforts have been insufficient to adequately increase the number of qualified teachers in special education, particularly teachers who are culturally and linguistically diverse (CLD).

The articles in this special series provide research-based information that improves our understanding of the factors related to teacher shortages, especially the role that attrition plays in the chronic demand for teachers. We know from these articles that we could increase the yearly supply of teachers if we would attend more carefully to the factors related to attrition. Specifically, we know that young, inexperienced teachers are a high attrition risk. Additionally, efforts to improve teacher salaries and design work environments that support teachers and result in manageable workloads should reduce attrition-related shortages in special education. Moreover, the need to hire uncertified teachers continually exacerbates the attrition problem, particularly in high-poverty schools and districts. National and statewide studies comparing special and general education teachers who stay versus those who leave (as opposed to studies examining intent) show that certification is a significant predictor of attrition (Boe, Barkanic, & Leow, 1999; Henke, Chen, Geis, & Knepper; 2000; Miller, Brownell, & Smith, 1999).

We know much less about what factors keep teachers from entering the special education profession. The number of elementary general education teachers available for every new position is almost double the number of available special educators (Boe, Cook, et al., 1999). Moreover, as McLeskey, Tyler, and Flippin (this issue) point out, we have no knowledge of how effective various recruitment efforts at local, state, and federal levels are in increasing the supply of certified special education teachers. What district and state administrators do know is that in many schools and districts, particularly in poor urban and rural areas, they are desperate for certified special education teachers.

To complicate matters, state and district administrators feel considerable pressure to recruit and retain teachers who can raise student achievement in special education, while receiving confusing messages about how to do so. On the one hand, federal policymakers define *qualified teachers*, particularly at the secondary level, as those who have the content expertise to teach their subjects, with little regard for pedagogical expertise. From this perspective, teachers with subject matter knowledge are best positioned to help students achieve. On the other hand, the same policymakers are communicating that pedagogy is essential when they describe qualified teachers as those who collect ongoing student assessment data to inform decisions about which scientifically based practices are appropriate to use. From this perspective, qualified special education teachers have considerable preparation in implementing research-based strategies and using assessment.

Any definition of a qualified special education teacher, however, is unlikely to allay the fears of districts and states already suffering severe shortages. Without different incen-

tives or supports, these states and districts are unlikely to recruit special education teachers with content expertise, those well-prepared in using research-based practices, or those with expertise in both. How can policymakers and administrators focus their efforts on recruiting and retaining qualified special educators, given the limited and shrinking state budgets? Also, how can they insist on high standards for the preparation of new special educators when they need so many? Although research on special education teachers may be insufficient to answer these questions, the findings in general education combined with our research base in special education provide evidence upon which policymakers can act. In our response, we discuss key strategies that states can implement that may help alleviate shortages. Although we recognize these strategies as individually successful, we emphasize a comprehensive *set* of policy strategies as the most powerful means for ensuring an adequate supply of qualified special education teachers.

## Induction Programs and Improving Retention

Beginning teachers are the most vulnerable to attrition and should be the target of any major retention effort. While all beginning teachers are an attrition risk, special educators may be more at risk because of the demanding nature of teaching special education (Billingsley, this issue), and many enter teaching without sufficient certification (Billingsley, 2002). The attrition risk beginning teachers pose has compelled many states to implement induction programs. Thirty states currently have induction programs in place; however, the extent of those programs is largely unknown, and only 16 of those states require and fund induction for all new teachers (Education Week, 2003). Recent research shows that extensive, well-designed induction programs increase intention to stay and reduce attrition rates for beginning general and special education teachers. In California and three cities in Ohio, induction programs reduced attrition rates for beginning teachers by two thirds or more (Berry, 2001; Darling-Hammond, 1997). Attrition data, however, were not disaggregated by grade level or content area taught so that program effectiveness for different types of teachers could be determined.

When crafting statewide teacher induction programs, policymakers and educators must consider components of effective induction programs and fund them sufficiently. Well-articulated support systems and mechanisms for evaluating beginning teaching are key components to success (Griffin, Winn, Otis-Wilburn, & Kilgore, in press). Specifically, high-quality induction programs (a) have clear goals for improving teaching, (b) provide sufficient opportunities for new teachers to work with trained mentors, (c) include extensive professional development activities aligned with program goals, and (d) provide adequate fiscal and political support. Moreover, evaluation of beginning teachers is separated from the

mentoring component of these programs and is based on consensus about quality teaching.

Such consensus about teaching is essential to creating a cohesive system for preparing teachers. "Teachers are not finished products when they complete a teacher preparation program" (National Commission on Teaching and America's Future, 2003, p. 79). Strong partnerships between preparation programs and schools are essential to successful induction, as these partnerships create coherence between preparation and classroom practice, making it easier for beginning teachers to operationalize the skills they have learned. The University of California–Santa Cruz and the University of Washington have built these partnerships with schools to mentor inexperienced teachers, and are experiencing impressive success. For example, the New Teacher Center at the University of California–Santa Cruz has developed a teacher induction program that retains 95% of new teachers over an 11-year period (National Commission on Teaching and America's Future, 2003).

Policymakers and educators interested in implementing a statewide teacher induction program that has incorporated many of these important components and partnerships could look to Connecticut and California for guidance. The Connecticut Beginning Educator Support and Testing (BEST) Program and California's Beginning Teacher Support and Assessment (BTSA) Program are examples of comprehensive support systems for beginning teachers (Hirsch, Koppich, & Knapp, 2001; Wilson, Darling-Hammond, & Berry, 2001). Both programs include individual support to new teachers, advanced study, frequent reflection on the practice of teaching, and performance assessment. Evaluation studies also show that these programs are effective in retaining teachers and ensuring their competence. Specifically, the California Research Bureau (as cited in Hirsch, 2001) found that teachers participating in the BTSA had attrition rates of 9% over 5 years, compared with 37% for nonparticipating teachers. However, we should note that teachers must be fully prepared to qualify for this support (see [www.btsa.ca.gov](http://www.btsa.ca.gov)), a requirement that would preclude the participation of many new special educators working out-of-field. In Connecticut, extensive mentoring support to meet performance standards and a rigorous portfolio assessment system based on those standards set a high bar for new special education teachers. Seven percent of special education teachers were unable to successfully meet performance standards during their first 2 years and received a third year of induction support (Moirs & Fiske-Natale, 2002), suggesting a rigorous system that is likely to ensure teaching competence. Additionally, low attrition rates for all teachers (approximately 3% annually) and an adequate supply of certified special educators suggest that the program is helpful in retaining teachers.

Two major benefits of a comprehensive state induction program are its cost effectiveness and its ability to improve teachers' skills. Connecticut's BEST program costs \$3.6 million annually, and its estimated cost per teacher over the 2-year

period is \$1,384. Much of those funds go to mentor training and evaluations, which serve as professional development investments for veteran teachers involved as mentors and assessors (Pecheone, 2002). The cost of this statewide program is a bargain when one considers the cost of replacing teachers. A recent study estimated that the cost to Texas systems for losing a teacher ranged from \$8,231 for a teacher with no experience to \$13,122 for one with 20 years' experience, with an average cost of \$11,120 (Benner, 2000).

Clearly, well-designed induction programs represent a powerful strategy that states can employ to simultaneously reduce teacher attrition and improve quality. However, policy-makers and educators interested in this strategy must be sensitive to the needs of beginning special education teachers, particularly culturally and linguistically diverse teachers. In their review of teacher induction research, Griffin et al. (in press) asserted that new teachers wanted guidance from experienced special education teachers to develop specialized skills needed for working with students with disabilities. Moreover, these teachers believed that they were isolated from the mainstream of general education and lacked collegial support. Certainly, the feeling of being an outsider could be intensified for CLD special education teachers, who might perceive themselves as existing outside the dominant culture of society and schools. Furthermore, special educators are expected to serve in many roles, have a wide range of expertise, and, often, serve students across grade levels and disability groups. As a result, they are expected to have a broader range of knowledge about curriculum and interventions than many general educators. Additionally, these teachers are expected to provide direct instruction to students while coordinating the collaborative efforts of professionals and parents.

Given the needs of special educators and the complexity of their jobs, any efforts to design induction programs must consider (a) strategies for including new special education teachers in the broader school context and (b) each special educator's specific needs, based on his or her prior experience, level of expertise, role in the school, and the population served. Moreover, data will be necessary for determining the specific components of induction programs necessary for meeting special educators' varied needs.

### **Increasing the Availability of Quality Alternative Routes**

Well-designed alternative preparation programs can provide a mechanism for increasing the number, and perhaps the quality, of special educators, particularly those who are CLD. One of the most well-documented aspects of alternative routes is their capacity for recruiting higher percentages of CLD teachers into both special and general education (Rosenberg & Sindelar, 2001; Zeichner & Schulte, 2001). Nationally, the percentages of CLD individuals graduating from alternative certification programs versus traditional programs are 21% and

13%, respectively. However, some programs are far more successful in recruiting CLD individuals than others. For example, the Pathways to Teaching Careers Program, a step-up program designed to prepare paraprofessionals to become teachers (DeWitt Wallace Reader's Digest Fund, n.d.), and the Milwaukee Metropolitan Teacher Education Program (Haberman, 1999) have CLD participation rates of 79% and 78%, respectively. Troops for Teachers (TFT) have fewer but nonetheless significant numbers of CLD individuals completing preparation routes (29%).

A small number of research studies suggest that graduates from more intensive alternate routes are likely to stay in teaching longer and be more successful. Berry (2001) and Darling-Hammond (1999) demonstrated that graduates of shortcut alternative routes (e.g., bachelor's degree plus intensive summer training in a teaching field) were high attrition risks. Specifically, about 60% of graduates of shortcut routes left the field, compared with 30% of graduates from 4-year programs and 10% to 15% of graduates of 5-year programs. In contrast, graduates from more intensive alternative programs have impressive retention rates (Southeast Center for Teaching Quality, 2002a). For example, paraprofessional step-up programs have demonstrated remarkable retention rates, ranging from 90% to 99% (DeWitt Wallace Reader's Digest Fund, n.d.; Southeast Center for Teaching Quality, 2002b). In special education, a paraprofessional step-up program funded through the Office of Special Education Programs graduated 19 students, and 16 were still teaching in the program 5 years later (Rennells, Sindelar, & Austrich, 1997).

More intensive alternative preparation programs also show promise for developing competent teachers (DeWitt Wallace Reader's Digest Fund, n.d.; Sindelar, Rennells, Daunic, Austrich, & Eisele, 1999). Sindelar et al. found that beginning teachers developed through the collaborative efforts of districts and universities outperformed graduates of alternative routes created exclusively by districts. Similar findings have been obtained for graduates of the Pathways program, who demonstrated, at a minimum, an average level of competence on PRAXIS III (DeWitt Wallace Reader's Digest Fund, n.d.).

### **The Need for Comprehensive Personnel Databases**

In the current policy context, many state and federal policy-makers have demonstrated an interest in vehicles for improving teacher quality. Regulations set forth under Title II of the Higher Education Act and No Child Left Behind (NCLB), along with funding allocated to carry out these regulations (e.g., the Teacher Quality Enhancement grants and Title II, Part A, of NCLB), emphasize the importance of teacher quality at the federal level. More than 30 states have enacted legislation to upgrade the teaching profession by improving teacher salaries, teaching standards, teacher education, beginning-teacher induction, and professional development (Hirsch et al., 2001).

However, states, districts, and institutions of higher education that provide incentives or secure grants to improve the teaching profession have little data to draw on to determine the effectiveness of their efforts because most states' personnel databases are woefully insufficient (Southeast Center for Teaching Quality, 2000b; Voorhees & Barnes, 2003).

Developing and implementing strategies that improve the supply and quality of special educators is unlikely to be an attainable goal without sufficient personnel databases. States do not have personnel databases to track teachers from the time they enter a preparation route to the time they leave the classroom. As a consequence, researchers and policymakers are unable to determine the effectiveness of recruitment strategies, licensure mechanisms, preparation routes, or retention strategies with regard to increasing the supply of special education teachers, particularly CLD teachers, and improving the overall quality of the special education teaching workforce. Moreover, they are unable to determine how recruitment and retention strategies, especially those designed to also improve teacher quality, relate to student achievement (Clements, 2001).

Policymakers and educators need these data systems to make wise decisions about how to spend public funds, particularly at a time when state and federal budgets are so limited. The information that some states, such as Kentucky and North Carolina, provide through personnel data they have collected suggest the potential that coherent data-collection systems hold. The Kentucky Education Professional Standards Board (KEPSB) and the North Carolina State Department of Education, in collaboration with the North Carolina Education Research Council (NCERC), collect data to determine supply-and-demand issues across their states. Personnel data in both states allow state administrators and policymakers to determine how supply varies according to geographic location and subject area.

Additionally, both states collect information related to teacher preparation and retention. Using teacher and supervisor surveys, Kentucky and North Carolina have been able to determine how prepared teachers feel to deal with certain aspects of their job. Focusing exclusively on new teachers, Kentucky's state department of education has used survey information to determine how well teacher education programs are preparing teachers for their positions. To improve retention, the KEPSB has developed a system for examining mobility and retention patterns for any subject, grade range, and number of years of experience. Using this system, KEPSB has been able to demonstrate the effectiveness of their beginning-teacher internship program. Specifically, the attrition rate for teachers in their first 5 years is 75% to 80%, compared with 50% for teachers nationally.

North Carolina also collects information that can potentially decrease teacher turnover and improve working conditions. NCERC compiles a turnover report that includes longitudinal information on why teachers leave their positions (NC Schools First in America, 2002). Recently, the governor's office surveyed 42,000 teachers to assess working conditions,

to better understand their impact on teacher recruitment and retention decisions (Governor Mike Easley's Teacher Working Conditions Initiative, 2003). These reports provide powerful data for informing state policy analyses and deliberations.

## Why Systemic Reform Is Critical

Historically, special educators have worried about the impact of chronic teacher shortages on schools' and districts' capacity for ensuring a free and appropriate education for all students (Billingsley & Cross, 1991; Brownell & Smith, 1992). However, the field has been unable to remedy these shortages despite considerable effort by the federal government, state governments, local districts, and professional organizations, such as the Council for Exceptional Children. The field's struggle to adequately address this problem is most likely due to two pernicious problems. First, the approach to resolving shortages has often been a piecemeal one, focusing only on particular aspects of the teaching profession, such as recruiting sufficient numbers of special education teachers. Second, special education is only a small part of the education enterprise and, consequently, has difficulty influencing the rest of the system. Though concerns about securing sufficient numbers of qualified special educators are long-standing, only within the last 10 years have state policymakers demonstrated a serious interest in improving the quality of the teaching workforce. The attention currently focused on teacher shortages and teacher quality provides a prime opportunity for the field of special education to become involved in efforts to recruit and retain highly qualified special educators. However, the somewhat haphazard policy approach most states are taking to resolving shortages and improving quality is likely to be insufficient.

Panicked about pending shortages, many states have instituted various recruitment strategies. In 2000, approximately 450 bills addressing teacher recruitment were introduced in the legislative sessions of 41 states (Hirsch, 2001). Approximately half of states now have scholarship or loan-forgiveness programs. In 1999, states invested more than \$80 million in scholarships and loan forgiveness for teachers (Education Week, 2000). Some states are spending considerable sums to pay signing bonuses for teachers willing to work in critical shortage areas (Southeast Center for Teaching Quality, 2002b). Yet, the success of these strategies is questionable. While New York has experienced some reduction in the overall demand for teachers, South Carolina was unable to recruit teachers for high-need areas, despite an \$18,000 signing bonus per teacher. Moreover, for years, states have involved special educators in professional development (and, more recently, induction programs) with little knowledge of the impact of these programs on teacher quality.

A reactive approach to policy development, combined with insufficient personnel data, thwarts the creation of coherent statewide strategies that, at least in general education,

seem to work in increasing the supply of qualified teachers. Both Connecticut and North Carolina, because of strong political and administrative leadership and significant investments, have taken a systemic approach, professionalizing teaching by creating performance-based standards that provide both support and accountability to teachers throughout their career.

Since 1986 and the passage of the Education Enhancement Act, Connecticut has gradually built a system that professionalizes teaching by (a) raising salaries from a 1986 average of \$29,437 to \$47,823 in 1991, (b) creating a tiered licensing system, (c) implementing a beginning-teacher induction program, and (d) focusing professional development efforts on standards and student data (Wilson et al., 2001). The BEST program, described earlier, and professional development efforts are centered on the state's Common Core of Teaching and discipline-based professional standards. These standards are used to determine teachers' learning needs and judge their performance for moving from initial to professional licensure. The state has also worked to link professional development directly to gaps in student achievement. With guidance from the state, districts must create professional development plans that meet state and national standards that are targeted to identified student achievement needs.

Connecticut's statewide, systemic approach appears to work, as they can make impressive claims about their capacity for improving the supply of qualified teachers overall (Southeast Center for Teaching Quality, 2002a). Moreover, Connecticut's teachers are considered some of the best prepared in the country, demonstrating that high standards for student and teacher performance and sufficient resources to support a comprehensive reform effort result in a more professional environment for teachers—one more capable of attracting and retaining them.

Punctuated by the passage of the Excellent Schools Act in 1997, North Carolina has gradually expanded successful recruitment programs, such as the state's Teaching Fellows program; revamped master's programs; and increased salaries, including a 12% increase for national board-certified teachers. Like Connecticut, North Carolina is interested in improving schools and retaining teachers through improved professional development and school leadership. It should not be surprising that both Connecticut and North Carolina have seen significant increases in student achievement on the National Assessment of Educational Progress. Evidence indicates that changes in state policy helped explain those gains (Darling-Hammond, 1999).

## Conclusion

Over the next decade, policymakers are unlikely to amass additional resources to raise teachers' salaries significantly, particularly given the vulnerable nature of the economy and dwindling state and federal budgets. For example, in 2001,

Maryland created a program in which the state provided a portion of salary increases for districts that increased teacher compensation. More than \$30 million was cut from the salary-matching program this year (National Conference of State Legislatures, 2003). Given the lack of data gathered and few evaluations of program effectiveness, it will be difficult for legislators to decide where to make cuts. Clearly, a first step policymakers can take is to implement policies that demonstrate the most potential for increasing the supply of special educators, and avoid implementing those that are likely to exacerbate teacher shortages or do little to resolve them.

NCLB, and ultimately the reauthorized IDEA, will provide all states with opportunities to reassess their state systems by requiring a focus on defining a "highly qualified" teacher. Yet, to do this in a way that will address all aspects of quality, states should focus less on these acts' mandates and requirements and more on reaching a consensus on what a highly qualified teacher should know and be able to do at various career stages. Ideally, states will use federal definitions provided by NCLB and IDEA to guide their own conversations about what teaching quality looks like in special education, how to assess it, and how to prepare new candidates and support existing teachers to reach high standards. Yet, productive conversations among key stakeholders in states depend on data. Researchers, state administrators, and district administrators need to work collaboratively to collect and interpret data that identify personnel needs, the factors contributing to those needs, and effective strategies for remediation.

Systemic reform efforts will also require educators and policymakers to use federal funding to design and implement strategies with the greatest potential for increasing the supply of qualified special education teachers. Currently, monies are available through Title II of the Higher Education Act (HEA), NCLB, and IDEA to improve preparation, induction, and professional development. Some of these grants include the Title II Teacher Quality Enhancement Grants, the NCLB Improving Teacher Quality State Grants, and a variety of grant opportunities available through the U.S. Department of Education, Office of Special Education Programs (e.g., Personnel Preparation, State Improvement Grants, Projects of National Significance). State education agencies, local districts, and universities should work strategically to develop comprehensive teacher-quality improvement efforts that will also focus on increasing the supply and retention of special education teachers, particularly those going to high-need schools. Without a comprehensive, collaborative approach to defining what a quality special educator is, or research demonstrating how to attract and retain such individuals, we are likely to be discussing the pernicious problem of teacher shortages in special education for decades to come.

## REFERENCES

- Benner, A. D. (2000). *The cost of teacher turnover*. Austin: Texas Center for Educational Research.

- Berry, B. (2001). No short cuts to preparing good teachers. *Educational Leadership*, 58(8), 32–36.
- Billingsley, B. S. (2002). Beginning special educators: Characteristics, qualifications, and experiences: SPeNSE summary sheet. Retrieved October 28, 2002, from <http://www.SPeNSE.org>
- Billingsley, B. S., & Cross, L. H. (1991). Teachers' decisions to transfer from special and general education. *The Journal of Special Education*, 24, 496–511.
- Boe, E., Barkanic, G., & Leow, C. (1999). *Retention and attrition of teachers at the school level: National trends and predictors* (Data Analysis Rep. No. 1999-DAR1). Philadelphia: University of Pennsylvania. (ERIC Document Reproduction Service No. ED436485)
- Boe, E., Cook, L., Paulsen, C., Barkanic, G., & Leow, C. (1999). *Productivity of teacher preparation programs: Surplus or shortage in quantity and quality of degree graduates* (Data Analysis Rep. No. 1999-DAR2). Philadelphia: University of Pennsylvania, Graduate School of Education, Center for Research and Evaluation in Social Policy.
- Bond, C. K. (2001). *Do teacher salaries matter? The effects of teacher salaries on teacher recruitment, teacher retention, and student outcomes*. Unpublished doctoral dissertation, Teachers College, Columbia University, New York.
- Brownell, M. T., & Smith, S. W. (1992). Attrition/retention of special education teachers: Critique of current research and recommendations for retention efforts. *Teacher Education and Special Education*, 15, 229–248.
- Clements, S. (2001). *Teacher data infrastructures in selected southeastern states: Progress, problems and possibilities*. Chapel Hill, NC: Southeast Center for Teaching Quality.
- Darling-Hammond, L. (1997). *Doing what matters most: Investing in quality teaching*. New York: National Commission on Teaching and America's Future.
- Darling-Hammond, L. (1999). *Solving the dilemma of teacher supply, demand, and standards*. New York: National Commission on Teaching and America's Future.
- DeWitt Wallace Reader's Digest Fund. (n.d.). *Focus: Pathways: A periodic report on grant making programs of the DeWitt Wallace Reader's Digest Fund*. Retrieved November 27, 2002, from [http://www.wallacefunds.org/publications/pu\\_teach/](http://www.wallacefunds.org/publications/pu_teach/)
- Education Week. (2000, January). *Quality counts 2000: Who should teach?* Retrieved April 10, 2003, from <http://www.edweek.org/qc00/>
- Education Week. (2003, January). *Quality counts 2003: If I can't learn from you*. Retrieved May 20, 2003, from <http://www.edweek.org/qc03/>
- Governor Mike Easley's Teacher Working Conditions Initiative. (2003, March). *Preliminary report of findings from a statewide survey of educators*. Raleigh, NC: Office of the Governor.
- Griffin, C. C., Winn, J., Otis-Wilburn, A., & Kilgore, K. L. (in press). *New teacher induction in special education*. Gainesville: University of Florida, Center on Personnel Studies in Special Education. Retrieved October 1, 2002, from <http://www.copsse.org>
- Haberman, M. (1999). Increasing the number of high-quality African American teachers in urban schools. *Journal of Instructional Psychology*, 26, 208–212.
- Henke, R. R., Chen, X., Geis, S., & Knepper, P. (2000). Progress through the teacher pipeline: 1992–1993. College graduates and elementary/secondary school teaching as of 1997. *Education Statistics Quarterly*, 2, 91–98.
- Hirsch, E. (2001). *Teacher recruitment: Staffing classrooms with quality teachers*. Denver, CO: The State Higher Education Executive Officers.
- Hirsch, E., Koppich, J. E., & Knapp, M. S. (2001). *Revisiting what states are doing to improve the quality of teaching: An update on patterns and trends*. Seattle: University of Washington, Center for the Study of Teaching and Policy. Retrieved August 27, 2002, from <http://depts.washington.edu/ctpmail>
- Miller, D., Brownell, M., & Smith, S. (1999). Factors that predict teachers staying in, leaving, or transferring from the special education classroom. *Exceptional Children*, 65, 201–218.
- Moirs, K., & Fiske-Natale, C. (2002, December). *Beginning Educator Support and Training (BEST) program portfolio performance results, 1999–2002*. Hartford: Connecticut Department of Education.
- National Commission on Teaching and America's Future. (2003, January). *No dream denied: A pledge to America's children*. Washington, DC: Author.
- National Conference of State Legislatures. (2003). *State budget and tax actions*. Denver, CO: National Conference of State Legislatures.
- NC Schools First In America. (2002). *Education First NC school report cards: 2002 First In America annual report*. Retrieved March 24, 2003, from <http://erc.northcarolina.edu/content.php/system/fia.htm?PHPSESSID=fa7b9d4e15e5f1e320c1f2b85f166a76>
- Pecheone, R. (2002, July). *Developing a performance-based licensure system*. Paper presented at the National Council of State Legislators/National Governors Association seminar, San Francisco.
- Rennells, M. S., Sindelar, P. T., & Austrich, C. (1997). *Volusia County/University of Florida collaborative training program case study* (Tech. Rep. No. 8). Gainesville: University of Florida, Project SEART-C.
- Rosenberg, M. S., & Sindelar, P. T. (2001). *The proliferation of alternative routes to certification in special education: A critical review of the literature*. Arlington, VA: Council for Exceptional Children, National Clearing for Professionals in Special Education.
- Sindelar, P. T., Rennell, M. S., Daunic, A., Austrich, C., & Eisele, M. (1999). *Systemic evaluation of alternative routes to teaching competence: Project SEART-C final report* (Tech. Rep. No. 10). Gainesville: University of Florida, Center for School Improvement.
- Southeast Center for Teaching Quality. (2002a, August 15). *Questions and answers for the Ohio Governor's Commission on Teaching Success. Prepared for the National Governors' Association Center for Best Practices and The National Conference of State Legislatures: Colleges and Classrooms: Redesigning Teacher Preparation Policies*. Chapel Hill, NC: Author. Retrieved April 3, 2003, from [www.teachingquality.org](http://www.teachingquality.org)
- Southeast Center for Teaching Quality. (2002b). *Recruitment and retention strategies in a regional and national context* [Electric Report]. Southeast Center for Teaching Quality Recruitment and Retention Strategies. Retrieved September 2, 2002, from <http://www.teachingquality.org/resources/articles.htm>
- Voorhees, R. A., & Barnes, G. T. (2003). *Data systems to enhance teacher quality*. Denver, CO: State Higher Education Executive Officers.
- Wilson, S. M., Darling-Hammond, L., & Berry, B. (2001). *A case of successful teaching policy: Connecticut's long-term efforts to improve teaching and learning*. Seattle: University of Washington, Center for the Study of Teaching and Policy.
- Zeichner, K. M., & Schulte, A. K. (2001). What we know and don't know from peer-reviewed research about alternative teacher certification programs. *Journal of Teacher Education*, 52, 266–282.