

**Rural Teacher Recruitment and Retention**  
**Review of the Research and Practice Literature**

by

Carla McClure

Cynthia Reeves

Appalachia Educational Laboratory

November 2004

Founded in 1966 as a not-for-profit corporation, AEL provides services to educators, education publishers, and policymakers. Services include rigorous research design and implementation, research reviews, intensive product and program evaluation, randomized field trials, technical assistance, and award-winning professional development programs. AEL operates several contracts funded by the U.S. Department of Education: a Regional Educational Laboratory, the Region IV Comprehensive Center, and an Eisenhower Regional Consortium for Mathematics and Science Education.

For information about AEL research, products, or services, contact



P.O. Box 1348  
Charleston, WV 25325  
304-347-0400  
800-624-9120  
info@ael.org  
www.ael.org

This publication is based on work sponsored wholly or in part by the Institute of Education Sciences (IES), U.S. Department of Education, under contract number ED-091-CO-0016. Its contents do not necessarily reflect the positions or policies of IES, the Department, or any other agency of the U.S. government.

AEL is an Equal Opportunity/Affirmative Action Employer

## Table of Contents

Executive Summary .....	1
Background and Purpose .....	3
Review of the Research and Practice Literature .....	4
Conclusions and Recommendations .....	16
References.....	19

## **Executive Summary**

The “highly qualified teacher” requirement of the No Child Left Behind Act of 2001 has spotlighted the urgency and importance of recruiting and retaining highly qualified teachers. In 2004, AEL and the National Association of State Boards of Education (NASBE) initiated an effort to identify successful strategies for meeting this challenge in rural schools. AEL begins this project by reviewing both non-rural-specific and rural-specific research and practice literature.

### **National Challenges in Teacher Retention and Recruitment**

Generally, the literature shows that the problem of teacher shortages varies across geography, demography, and subject area. The schools that find it hardest to recruit and retain highly qualified teachers are those in highly urban and rural areas (especially those serving minority or low-income students) and schools in the Southeast, Southwest, and the West. Especially needed are teachers in special education, bilingual education, math, and science.

### **Rural-Specific Challenges in Teacher Retention and Recruitment**

Rural-specific literature identifies four challenges related to recruiting and retaining teachers in rural areas: (1) lower pay; (2) geographic and social isolation; (3) difficult working conditions, such as having to teach classes in multiple subject areas; and (4) NCLB requirements for highly qualified teachers (e.g., many rural teachers will need certification in multiple subject areas, and professional development opportunities can sometimes be scarce in rural communities). Collectively, these challenges can place rural schools and districts at a competitive disadvantage in attracting and retaining well-qualified teachers.

### **Teacher Recruitment and Retention Strategies: National, State, and District Practices**

At the national level, the merits of a variety of practices are being examined and debated, including a “national manpower policy” for education, alternative certification programs, various incentives for teaching in hard-to-staff schools, mandatory induction and mentoring programs, and improvements in the culture and working conditions of schools. A survey of literature on state and district strategies revealed five major strategies currently being used for recruiting and retaining teachers: (1) “grow-your-own” initiatives, especially those that help paraprofessionals become certified teachers; (2) targeted incentives directed at teachers willing to teach in schools or subject areas where the need is greatest; (3) improved recruitment and hiring practices; (4) improved school-level support for teachers, including formal induction and mentoring programs; and (5) use of interactive technologies to meet information and professional development needs.

### **Promising Strategies for Rural School Districts**

A look at rural-specific and general literature shows agreement that effective recruitment and retention practices share four characteristics: They are (1) strategic, (2) specific to the schools or subject areas that are hard to staff, (3) sustained, and (4) rooted in the community. This approach to recruitment and retention may require “reculturing”—a shift in the way district and school professionals view their jobs and spend their time.

In rural districts, as in districts everywhere, some aspects of teacher recruitment and retention are beyond the immediate influence of education leaders, but other aspects can be affected through policy and practice. Rural school leaders need access to the best available information and data on teacher recruitment and retention, and they need to approach the task in a manner that is strategic, specific, and sustained. A review of the research and practice literature suggests 14 promising strategies for placing high-quality teachers in rural classrooms and keeping them there: (1) collect state and local data on teacher supply and demand, (2) base recruitment efforts on data analysis, (3) increase the pool of candidates by expanding or refining recruitment efforts, (4) include all vital partners in collaborative efforts, (5) offer targeted incentives, (6) evaluate efforts regularly, (7) invest in “grow-your-own” initiatives to develop teachers, (8) encourage universities to customize teacher education programs, (9) include building-level staff in the hiring process, (10) institute formal induction programs, (11) offer incentives for “staying on” past the first year, (12) improve the school’s culture and working conditions, (13) involve the community in welcoming new teachers, and (14) invest in leadership development.

## Background and Purpose

According to information collected for the Common Core of Data (CCD) by the National Center for Education Statistics (NCES) (2004), in the year 2002–2003, there were 7,824 school districts classified as rural (i.e., have locale codes of 7 or 8). These rural school districts comprised 24,350 schools that served 7,618,077 students with approximately 523,191 full-time equivalent (FTE) teachers.<sup>1</sup> Rural school districts make up nearly half (49%) of all public school districts in the nation, and they serve an important population of students. Rural school districts also face unique challenges that must be addressed with research and policies specifically geared to their needs.

One important challenge facing rural schools is the attraction and retention of highly qualified teachers. Rural schools face this problem both in specific grades and in specific curriculum areas. Many schools, both rural and urban, have implemented recruitment and retention programs with varying, but mostly minimal, success. The lack of success, coupled with the growing need for highly qualified teachers, has created an urgent need for reviewing past and current efforts to help inform practice for the near future. Information on effective teacher recruitment and retention is thin, and states and school districts are clamoring for guidance from studies on “best practices.”

AEL and the National Association of State Boards of Education (NASBE) agreed to partner in 2004 to (1) review current literature on rural teacher recruitment and retention efforts, (2) survey districts across the nation that have tried different models, and (3) follow new models being implemented in rural school districts in Virginia. As a result of this work, AEL and NASBE will identify in a policy report (scheduled for late 2005) which strategies seem to work well. This report constitutes the first part of the project, a review of the research and practice literature.

---

<sup>1</sup> It should be noted that FTE data were not available for teachers in 75 districts with locale codes of 7 or 8. Further, CCD statistics indicated that 35 districts had no FTE teachers but did serve students.

## Review of the Research and Practice Literature

The purpose of the review of literature was to locate research- and practice-based information on rural teacher recruitment and retention efforts. Also reviewed were significant national reports that address teacher recruitment and retention in general, as well as in hard-to-staff schools. The result is a summary of characteristics shared by those models and practices that show promise or evidence of success.

### Methodology

Using the ERIC database, key-word searches were conducted to identify research reports and journal articles published between 1993 and September 2003 on the topic of rural teacher recruitment and retention.<sup>2</sup> The initial descriptors used were *geographic isolation*, *one-teacher schools*, *rural areas*, *rural education*, and *rural schools*. Major descriptors used to narrow the search were *faculty mobility*, *teacher employment*, *teacher persistence*, *teacher recruitment*, and *teacher shortage*. This search located 43 papers, reports, and journal articles.

Also searched were the U.S. Department of Education Web site and the Web sites of national organizations concerned with rural education, including the Rural School and Community Trust, Organizations Concerned about Rural Education, the National Rural Education Association, and the American Association of School Administrators. Finally, an Internet search was conducted, using combinations of the descriptors used for the ERIC search as well as the phrases *best practices*, *successful models*, and *successful programs*. Reference lists of recent reports were scanned; sources that seemed significant or highly relevant were reviewed.

### Limitations of Review and Research

Because demographic, economic, and legislative changes during the past century have had a continuous impact on rural communities and their schools, it was decided that the most recent literature would be the most relevant to this review, which aims to inform political and administrative leadership about current challenges and approaches to rural teacher recruitment and retention. For this reason, the ERIC search was limited to the most current materials, i.e., those published between 1993 and September 2003 that focused on recruiting and retaining rural teachers. The Internet search generated appropriate rural-specific information published between 1998 and September 2004. Because rural-specific research on the topic is sparse, the majority of this information consists of surveys, statistical reports, and policy briefings from state and national organizations. The literature search revealed that attention to the topic of teacher recruitment and retention in general has increased in recent years. In fact, the tremendous volume

---

<sup>2</sup> Due to the redesign of the ERIC system, collection of materials for the ERIC database ceased in the fall of 2003 for a period of approximately one year. Consequently, materials published or produced during late 2003 through the summer of 2004 were not available in the ERIC database and had to be located through other methods.

of non-rural-specific literature written on the topic since 2000 made it impractical to review all of it. Therefore, the documents that received the most attention were those that were most recent, reported research studies on the topic or closely related topics, condensed or summarized other available literature, or were frequently cited or discussed in other reports.

Much of this literature emphasizes difficulties in urban retention and recruitment. Rural difficulties are often mentioned in passing, but rural-specific data and examples are rarely included. It appears that rural-specific literature on the topic has not kept pace with other literature on the topic; 24 of the 43 rural-specific documents identified via the ERIC search were published prior to 1999.

## Findings

The literature review revealed both general and rural-specific problems related to teacher recruitment and retention.

**The general problem of teacher recruitment and retention.** Recent non-rural-specific studies show that the problem of teacher shortages varies across geography, demography, and subject area, leading a number of researchers to conclude that the problem is largely one of distribution (Ingersoll, 2001; Murphy & DeArmond, 2003b; NASBE, 1998; Voke, 2002). The challenge centers on identifying teachers who are both qualified and willing to teach in “hard-to-staff” schools. Typically, hard-to-staff schools include those in highly urban and rural areas, especially those schools serving minority or low-income students. Shortages also exist in certain geographic regions in the country (the Southeast, Southwest, and the West) and in particular specialties such as special education, bilingual education, and math and science education (Murphy, DeArmond, & Guinn, 2003; NASBE, 1998).

Some researchers argue that teacher shortages are not so much the result of too few people entering the field, but of too many teachers leaving the profession (Ingersoll, 2001; National Commission on Teaching and America’s Future [NCTAF], 2003). According to Ingersoll’s analysis of data from the National Center for Education Statistics, almost a third of America’s teachers leave the field sometime during their first three years of teaching. Almost half leave after five years. In many low-income communities and rural areas, the rates of attrition are even higher (NCTAF, 2003, p. 24).

**Challenges specific to rural districts.** The rural-specific literature identifies four primary challenges faced by rural schools and districts: lower pay, geographic and social isolation, difficult working conditions, and No Child Left Behind (NCLB) requirements for highly qualified teachers (Collins, 1999; Jimerson, 2004; McClure, Redfield, & Hammer, 2003; Reeves, 2003).

*Lower pay.* According to the Educational Research Service (2004), staff in rural schools earned lower-than-average pay in every employment category. In 2003-2004, rural teacher salaries averaged \$41,131 compared to \$43,460 for small towns and \$50,844 for suburban areas (the biggest competitors for rural teaching talent). The Rural School and Community Trust

reported that the four lowest average salaries are all in Northern Plains states and, in general, the highest rural salaries are in large urban states<sup>3</sup> (Beeson & Strange, 2003). Rural states tend to pay less than more populated/industrialized states and, within states, rural schools and districts tend to pay less than their urban and suburban counterparts (Jimerson, 2003). A 2004 report by the U.S. Government Accountability Office reported that rural superintendents see their districts' inability to provide competitive salaries for highly qualified teachers as a major obstacle to fulfilling the requirements of NCLB legislation.

*Geographic and social isolation.* Geography also plays an important role in rural schools' ability to attract and retain teachers. Geographically isolated communities tend to have greater problems in attracting teachers, while rural schools and districts located on the outskirts of suburban areas have greater difficulty in retaining teachers. Several researchers have suggested reasons underlying this circumstance. Collins (1999), in a review of the literature on rural teacher retention, cited a survey of teacher mobility in one rural district that found four main reasons why teachers leave communities: (1) geographic isolation, (2) climate/weather, (3) distance from larger communities and family, and (4) inadequate shopping (Murphy & Angelski, 1996/1997). Isolation is particularly unappealing to young beginning teachers (Proffit, Sale, Alexander, & Andrews, 2002). On the other hand, rural schools located close to suburban areas are often able to attract teachers but tend to lose them after only a few years. It may be that new teachers view these rural areas as attractive places to begin their teaching careers, but are soon attracted to higher-paying positions in the nearby suburban schools. Some analysts (Collins, 1999; Harris, 2001) theorize that teachers who stay in rural areas are more likely to have grown up in small communities or to be committed to living in the region. A study that surveyed 86 special education teachers in rural states concluded that "staying seemed to be a matter of having roots in the community" (Bornfield, Hall, Hall, & Hoover, 1997).

*Difficult working conditions.* Other non-rural-specific studies have found that poor working conditions are frequently cited as primary reasons why teachers leave the field (Charlotte Advocates for Education, 2004; Luekens, Lyter, Fox, & Chandler, 2004). Working conditions cited by teachers as contributing to their decisions to leave include lack of basic resources and materials, lack of a strong professional community, ineffective leadership, and discipline issues. Teachers report that large class sizes and the physical conditions of schools impair teaching. Teachers also report feeling overwhelmed by paperwork and the limited time to plan and prepare for instruction. A study that surveyed Charlotte-Mecklenburg Schools demonstrated that principals play a role in whether teachers stay. Principals create stress for new teachers when they are ineffective managers, lack organization and planning skills, and provide little or no support (Charlotte Advocates for Education, 2004).

It's true that some of these issues are not as prevalent in rural schools as elsewhere (e.g., schools and class sizes are often smaller, and discipline is reported to be less of a problem). But rural schools, and particularly small rural high schools, face a unique problem in terms of working conditions. Teachers in many schools must teach multiple disciplines due to low student enrollment, and teaching "out of field" is common in small rural high schools, which cannot afford to hire teachers to cover, for example, one class each of higher-level math and science

---

<sup>3</sup> An exception is Alaska, a rural state that has higher salary levels and higher costs of living.

courses (Jimerson, 2003; 2004). Having more classes to prepare for means greater workloads for rural teachers, often for less pay than their suburban and urban counterparts.

*NCLB requirements for highly qualified teachers.* Under the No Child Left Behind Act of 2001, by the end of the 2005-2006 school year, all teachers must be highly qualified (qualifying rural schools have until 2006-2007). A *highly qualified* teacher is one with full state certification, a bachelor's degree, and demonstrated competence in all subject knowledge they teach (U.S. Department of Education, 2002). Given the common practice of out-of-field teaching, rural schools and districts face a difficult challenge in meeting this requirement. Researchers and advocates for rural schools argue that this requirement increases the already existing competitive disadvantage for rural hard-to-staff and low-resource schools (Jimerson, 2003; Southeast Center for Teaching Quality, 2004). Combined with the lower salaries, more stringent certification requirements add another disincentive for teachers to take positions in rural schools. Teachers will need to pass multiple tests, unlike teachers in urban or suburban schools, who may need to pass only one test (Jimerson, 2004; Reeves, 2003).

Further, it will be difficult for many rural teachers to obtain the required certifications for all subject areas they teach because they are often separated by long distances from colleges and training facilities. Rural district officials reported in a U.S. Government Accountability Office (2004) study that the limited availability of professional development opportunities posed challenges to recruiting and retaining highly qualified teachers. Even when professional development opportunities are found, the limited availability of substitute teachers in small districts makes it difficult to release teachers to attend training.

Collectively, lower salaries, social and professional isolation, difficult working conditions, and NCLB requirements for highly qualified teachers can place rural schools and districts at a competitive disadvantage in attracting and retaining well-qualified teachers.

### **Promising Practices**

The findings from this literature review indicate that an increasing number of teacher recruitment and retention programs are being implemented at state and local levels, but not much is known about their effectiveness. A search for research and other literature on model programs and practices that are *rural-specific* and *successful* turned up little information. Policy analyst Lorna Jimerson of the Rural School and Community Trust confirmed that rural-specific information is sparse and commented that a literature review on successful recruitment and retention practices for rural districts is "sorely needed" (personal communication, March 22, 2004).

The U.S. Department of Education published a literature review on teacher recruitment programs (Clewell, Darke, Davis-Googe, Forcier, & Manes, 2000) as part of a multiyear evaluation of the Higher Education Act's Title II programs to recruit teachers. The authors offered four findings based on their review: (1) There are useful data at the national level on sources of teacher supply; (2) there is a need to determine the supply and demand of teachers at the state and local levels; (3) there is a lack of evaluation data on the effectiveness of existing

models; and (4) there has been little effort to develop a coherent, holistic plan that connects state, local, and private initiatives in teacher recruitment.

At the national level, the merits of a variety of practices are being examined and debated, including a “national manpower policy” for education (Darling-Hammond & Sykes, 2003; NCTAF, 2003, p. 30), alternative certification programs (Feistritzer, 2004; Legler, 2002; Newman & Thomas, 1999; Southeast Center for Teaching Quality, 2001), various incentives for teaching in hard-to-staff schools (Jimerson, 2003; Prince, 2002), mandatory induction and mentoring programs (Ingersoll & Kralik, 2004; Smith & Ingersoll, 2003), and improvements in the culture and working conditions of schools (Johnson, Birkeland, Kardos, Kauffman, Liu, & Peske, 2001).

Our survey of general and rural-specific literature, which focused on state and district recruitment and retention strategies, revealed five major strategies for recruiting and retaining teachers: (1) “grow-your-own” initiatives, including career-switchers programs, that nurture local talent through collaborations among public school systems and postsecondary institutions; (2) targeted incentives; (3) improved recruitment and hiring practices, especially those that use state and local data; (4) improved school-level support for teachers; and (5) use of interactive technologies to help alleviate the problems faced by rural schools in recruiting and retaining high-quality teachers. Each of these strategies is discussed below.

Before we begin a discussion of strategies, however, it should be noted that the Rural School and Community Trust conducted a policy inventory on rural teacher shortages (Jimerson, 2002) and identified promising practices for rural districts. The author of the unpublished policy inventory noted that most of the strategies require additional financial investments, which can make them difficult for poorer districts to implement. This points to the necessity of more equitable distribution of aid within states—a policy concern that underscores the importance of state-level cooperation and responsiveness to local needs.

Each of the practices listed below has been employed in various rural locations with some degree of success, although the evidence of this success is based more on anecdotal evidence than on research.

**“Grow-your-own” initiatives (including career-switchers programs) involving collaborations between schools and higher education.** Citing programs in Georgia, North Carolina, and South Carolina, the Southeast Center for Teaching Quality (2002b) identifies “developing local talent” as having merit in expanding the pool of teachers. Debra Hare and James Heap (2001), in a survey of midwestern superintendents, also cite the high potential of “grow-your-own” strategies but report them as being “underused” in the rural Midwest. In designing initiatives, it is important to improve access to teacher education programs for individuals in a variety of situations: high school students, out-of-field teachers, school paraprofessionals, and second-career adults. In economically distressed areas, tuition assistance and other forms of financial support can be especially important.

Especially promising are programs that target paraprofessionals who already work in rural schools (Eubanks, 2001). A number of studies cite findings that indicate rural schools can

and do reap significant benefits from programs tailored to help school paraprofessionals attain the education and credentials they need to become teachers (Clewell & Villegas, 2001; Eubanks, 2001; Southeast Center for Teaching Quality, 2002b). Beatriz Chu Clewell and Ana Maria Villegas (2001) point out that these candidates are more likely to continue teaching in high-need areas.

Many documents mention strategies that involve collaboration among the community, community colleges, and/or universities in efforts to develop and nurture local talent (Churchill, Jensen, & Cepello, 2001; Collins, 1999; Davis, 2002; Harmon, 2001; Harris, 2001; Jensen, Churchill, & Davis, 2001; Proffit et al., 2002). Collaborations among school districts and universities can improve teacher preparation programs by making them responsive to local needs. Such collaborations are also a vital component of many “grow-your-own” programs. For example—

- Wyoming has established three Professional Development Schools in high-need areas of the state to prepare site-bound college and postgraduate students to teach in local K-12 schools. The Professional Development Schools involve a university, community college, and school district (Holloway, 2002).
- In Georgia, a paraprofessional program at Armstrong State University in Savannah has produced 65 credentialed teachers in hard-to-staff districts since 1993, with a 94 percent retention rate (Southeast Center for Teaching Quality, 2002b).
- In North Dakota, special education teachers trained in various specialty areas were spending large portions of their days traveling from site to site. To address this situation, the University of North Dakota changed its teacher preparation program for special education teachers to include training in case management and serving students with various disabilities. As a result, a small school can retain one special education teacher who spends the entire day at the school, and students can be served in the least restrictive environments (Education Commission of the States, 2001).
- In Arizona, a rural district established partnerships with two out-of-state universities—Southern Utah University and Montana State University—whose teacher training programs were likely to include students already comfortable with living in rural areas. The Arizona district provided student teaching opportunities for prospective teachers and the possibility of subsequent employment. The district ended up hiring 6 of the first 10 student teachers who participated in the program (Crews, 2002).
- In a rural, economically depressed county in Virginia, the school district teamed with Wytheville Community College and Radford University to form the Appalachian Model Teaching Consortium, which created a structured curriculum path for high school students interested in teaching. Articulation agreements among the schools allow students to begin earning college credit in high school, continue for two years at the local community college, complete an undergraduate degree at the university, and return to student teach in the county school system. A scholarship to support students in the

program has been established, and students who accept scholarship money are expected to teach in the school system for a minimum of three years (Proffit et al., 2002).

Available data indicate that grow-your-own strategies are often viewed as successful by those involved, but it appears that further research is needed to determine what types of programs (1) work best in particular settings or with particular populations, (2) are effective in relieving shortages in high-need subject areas, and (3) produce the most effective teachers. A caution about “grow-your-own” strategies—while many such programs produce new teachers, program evaluations show that unless the programs are targeted at producing teachers in high-need subject areas (math, science, special education), they are not likely to alleviate shortages in these critical areas (Clewell et al., 2000).

According to Watts Hull (2003), alternative certification and career-switchers programs are very popular at the state and district levels. Almost every state offers such programs, but researchers and policymakers debate their desirability and effectiveness (Voke, 2002). An Infobrief published by the Association for Supervision and Curriculum Development (Voke, 2002) described one program that showed success in recruiting teachers to rural areas and keeping them there. The Pathways to Teaching Careers Program places qualified returning Peace Corps volunteers in urban and rural school districts and provides a two-year, graduate-level program that leads to a teaching certificate and a master’s degree. Evaluations show that these teachers are likely to teach in high-need schools and subject areas, are perceived to be more effective than typical beginning teachers, and are more likely to remain in teaching after three years. Another successful initiative of the Pathways to Teaching Careers Program focuses on identifying and recruiting paraprofessionals and noncertified teachers.

**Targeted incentives.** A number of researchers and national education organizations have recently argued that states should focus greater attention on developing programs that target persons who are willing to work in hard-to-staff schools and positions (Ingersoll, 2001; NASBE, 1998; Voke, 2002). To be effective, financial incentives must strategically target teachers willing to teach where the need is greatest: high-poverty schools, remote areas, or hard-to-fill subject areas. Even then, Holloway (2002) cautions, salary alone won’t guarantee that a teacher will stay in an isolated region. In Wyoming, despite enacting the highest teacher salary increase in the nation for the 2001-2002 school year, “overall teacher attrition continued to climb upward” as teachers transferred from the western part of the state and into schools located near larger towns (pp. 144-145). Incentives other than salary should target local challenges; a common one in rural areas is suitable housing. One state that is dealing with this challenge is Mississippi, where the Employer-Assisted Housing Teacher Program provides interest-free loans to licensed teachers in areas of critical shortage (Education Commission of the States, 2001, p. 2). The state also offers loan repayment for students who teach in rural areas (Rural School and Community Trust, 1999).

**Improved recruitment and hiring practices.** “Few states have developed specific programs to address the problems of rural teacher recruitment and retention,” according to Timothy Collins, writing in 1999 (p. 2). Other observations about recruitment and hiring practices include the following:

- Rural schools are not effectively promoting the advantages of living and teaching in rural areas (Harmon, 2001).
- Only three states (North Carolina, Pennsylvania, and South Carolina) have a common application form that can be used in any district in the state, reports the National Commission on Teaching and America's Future (2003, p. 11)
- Job seekers rarely have opportunities for two-way interactions that involve the principal and teachers, a practice that is especially important in rural areas with culturally distinct populations (Lui, 2003).

Examples of state programs include these:

- Alaska has established a statewide clearinghouse for job openings and for posting candidate resumes (Rural School and Community Trust, 1999).
- Many states are working to increase the pool of potential teachers by expanding recruitment activities to high schools and middle schools (Watts Hull, 2003).
- Some states are providing opportunities for nontraditional candidates to pursue alternative certification – teaching in classrooms while pursuing full certification (Watts Hull, 2003).

**Improved school-level support for teachers.** Many have argued that strategies aimed at increasing the supply of teachers are not likely to be effective if they ignore the high turnover rate of new teachers (Ingersoll, 2001; Ingersoll & Kralik, 2004; Johnson et al., 2001). While all types of districts report problems retaining new teachers, this problem is pronounced in schools located in low-income areas (Hare & Heap, 2001; NASBE, 1998). A number of rural advocates and researchers have suggested that the greatest opportunity to ensure adequate numbers of qualified, competent teachers is the establishment of high-quality induction and mentoring programs. Unfortunately, a recent study by the Southeast Center for Teaching Quality (2004) found that few high-need schools have moved beyond signing bonuses to more comprehensive approaches such as better working conditions and long-term support for teachers.

New teachers cite “lack of support” as their top concern, according to the National Education Association (n.d.). The first year of teaching can be especially critical for rural teachers who are new to the community in which they are teaching (Lemke, 1994). Induction and mentoring programs are frequently cited as valuable supports for beginning teachers. When Richard Ingersoll and Jeffrey Kralik (2004) reviewed the research, they found empirical support for claims that such programs have a positive impact on teachers and their retention. Some researchers point to the importance of improving support for *all* teachers, not only those who are beginning their careers. “Clever incentives may attract new teachers, but only improving the culture and working conditions of schools will keep them,” state Susan Johnson and associates (2001, p. 1). One effort toward improvement is the California New Teacher Project, which includes an induction component that tests alternative models of support for beginning teachers across the state. “Effective induction models reduced attrition among first- and second-year

teachers by two-thirds,” and retention rates improved for teachers working in rural areas (Clewell et al., 2000, p. 41).

**Technology.** Technology can provide the tools to improve both the recruitment and retention of teachers in rural areas. It can be used to bridge the isolation gap in rural areas by providing support, information, and resources to educators. According to Hobbs (2004), barriers such as hard-to-staff classes or course scheduling problems caused by the need for multiple certifications can be overcome through distance learning. In addition, distance-learning technology can provide professional development and continuing education opportunities for teachers. Distance learning technologies may facilitate cross-district mentoring relationships between new and experienced teachers. Moreover, student services such as speech therapy, psychological testing, counseling, and individual assessment may be accessed through two-way interactive television technologies.

- The New Haven, California, school district uses its Web site as a primary recruiting tool (Davis, 2004). The comprehensive and informative Web site provides prospective teachers with the information they need to make an informed decision. The district’s Web site began as a way to recruit and retain teachers and evolved into a system of support for new teachers. New Haven has used technology to bridge the gaps between hiring and induction, between schools and the central office, and between university and school personnel.
- In Montana, the Education Development Center’s Center for Online Professional Development trains local teachers to develop and facilitate online workshops. Online courses provide opportunities for teachers to discuss difficult issues, solve problems, and develop their skills in a supportive environment (Davis, 2004).
- The New Teacher Center in Santa Cruz, California, offers e-mentoring networks for beginning and experienced science teachers, scientists, and school administrators. The network includes online mentoring, online seminars focused on content learning by examining student work, and leadership training for mentors and scientists (Davis, 2004).
- The Missouri Education Renewal Zone Initiative partners teacher education institutions, teacher and technology support organizations, and K-12 school districts in geographic and virtual proximity with the goal of rearticulating, restructuring, and reinventing the policies and practices for recruiting, preparing, and retaining rural teachers (Hobbs, 2003).
- The Tennessee Department of Education includes online professional development as part of its Reading First program. Course offerings are designed to help K-3 teachers, K-12 special education teachers, and building-level administrators as they implement a reading program grounded in scientifically based reading research. The custom-developed courses have been delivered by the Region IV Comprehensive Center at AEL to more than 1,800 teachers and administrators across the state. Participants receive 24 of 90 required continuing education units for each course. The state department sees this method of professional delivery as one strategy for helping teachers meet the states

highly qualified teacher requirements (Ross, Thigpin, Cavalluzzo, Guzman, & Patterson, 2004).

While the practices identified above have shown promise for recruiting and retaining teachers in rural areas, authors such as Holloway (2002) stress the need for states to create a “package of solutions” to address “the multiple dimensions of teacher quality issues in rural states” (p. 151).

### **Characteristics of Effective Recruitment and Retention Practices**

A look at rural-specific and general literature shows agreement that effective recruitment and retention practices share several characteristics, which can be categorized as *strategic*, *specific*, and *sustained*. A distinguishing characteristic of rural retention is the importance of community “rootedness” in countering isolation.

**Strategic recruitment and retention practices.** Being strategic involves employing local data to analyze needs, develop plans, and make decisions; involving appropriate collaborators at the state, district, and local levels; and leveraging available resources to maximize results. When Patrick Murphy and Michael DeArmond (2003a) looked at district responses to teacher shortages between 1999 and 2002, they found that strategic approaches were rare. Their examination of data from the U.S. Department of Education’s 1999-2000 Schools and Staffing Survey showed that only 4 percent of districts reported using intradistrict incentives to attract teachers to hard-to-staff schools, and only 10 percent of districts reported using targeted subject-area incentives. Interviews with 110 human resource directors revealed that nearly three fourths preferred across-the-board salary increases as a recruitment policy.

Murphy and DeArmond (2003a) recommend that districts remove organizational barriers to flexible and responsive recruitment policies and consider joining with other districts to create a regional human resource institution. Other literature shows that strategic alliances can yield creative solutions. In Colorado, for example, four rural school districts joined forces 10 years ago to establish a solution to the shortage (and expense) of foreign-language teachers for the districts’ small schools. The districts created the state’s first distance-learning network, which enabled the districts to hire a French teacher who used a “studio classroom” arrangement to instruct classes in all four districts simultaneously. Video monitors in the classrooms allowed the teacher to view all students in each classroom (Education Commission of the States, 2001).

**Specific recruitment and retention practices.** A broad, one-size-fits-all approach to recruitment and retention is not likely to produce the desired results (Murphy & DeArmond, 2003a). Efforts should be focused on specific schools or subjects that are particularly hard to staff. Building-level staff should be involved in the hiring process so a specific candidate can interact with potential future coworkers at a personal level (Liu, 2003).

**Sustained recruitment and retention practices.** Sustaining recruitment and retention efforts means reevaluating targeted programs regularly and adjusting them accordingly. Induction programs and other effective initiatives should be formalized so they become part of

the school culture. The literature implies (and occasionally states) that administrators may need training in how to support teachers and foster professional learning communities to aid retention (Ingersoll, 2001; Lemke, 1994). A strategic, specific, and sustained approach to retention may require reculturing—a “shift” in the way district and school professionals (1) view their jobs and (2) spend their time.

Ideally, responsibility for retaining high-quality teachers should be distributed among teachers, the principal, the superintendent, and state decision makers. Ideally, time should be set aside for professional collaboration and other “important but not urgent” matters that affect school climate and culture—including teacher retention, at least to some degree. The time challenge brings to light one of the ironies of rural school culture: In rural places, the pace of life is generally slower than that of the cities. But for rural educators, the pace of school life might seem “speeded up” due to multiple teaching assignments, heavy extracurricular responsibilities, and lack of support staff (“extra hands”).

**Recruitment and retention practices rooted within the community.** Recruiting and developing local talent is seen as a strategy with high potential for rural areas because it results in a pool of teaching candidates who are (1) already familiar with the rural lifestyle and (2) already rooted to the community by family or other connections. Comfort and connectedness within the rural community are especially important because these advantages can help beginning teachers overcome feelings of isolation. Collins (1999) pinpointed isolation as a major factor affecting rural teachers in his summary of rural-specific literature on the topic published between 1990 and 1999.

A national survey of rural superintendents in the United States (Schwartzbeck, 2003) confirms the necessity of addressing isolation as it relates to teacher recruitment and retention. Analysis of the survey’s 896 responses identified low salaries, social isolation, and geographic isolation as the top three factors responsible for difficulties in attracting and retaining teachers. Urban and suburban teachers do not cite isolation as a factor in their decisions to leave, according to an analysis of national data by Richard Ingersoll (NCTAF, 2003, pp. 27, 37).

A distinguishing characteristic of effective rural retention, it appears, is its ability to capitalize on the power of “rootedness” within the community. For example, one study of special education teachers in a rural state showed that “leavers” and “stayers” rated their job satisfaction about equally (none were greatly satisfied), but the determining factor in whether a teacher changed jobs was rootedness to the community (Bornfield et al., 1997, p. 31). “The leavers . . . considered ‘home’ to be someplace other than where they worked” (p. 36). A study of Montana’s smallest schools identified the personal/family sphere as having the greatest influence on teachers’ decisions to accept employment and the community sphere as having the greatest influence in their decisions to stay. “Within-classroom” and “whole-school” spheres were less influential (Davis, 2002). Findings such as this have prompted many rural communities to employ “grow-your-own” strategies to develop teachers from the local pool of potential candidates.

The authors of a review of state and local efforts to recruit teachers, published by the U.S. Department of Education (Clewell et al., 2000), reported that “there is far more experimentation

going on . . . than is being reported in the literature” and expressed concern that valuable information about successful strategies was being lost because “evaluation results of model programs are not being shared . . . with other researchers and practitioners” (p. 71). Perhaps the most significant contribution of this review is a point not frequently mentioned in the rural-specific literature—the potential advantages of connecting state and local efforts to (1) collect and analyze data and (2) use this data collaboratively to develop programs that are responsive to specific local needs. Clewell and colleagues point out that local programs have the discrete information necessary to determine what actions will best address local needs. States, however, have the authority to enact policy changes (e.g., provision of incentives and reciprocal agreements about credential portability) that can hinder or support local efforts. Current state strategies that address teacher recruitment and retention include scholarship programs, loan and loan-forgiveness programs, salary increases, bonuses, tax credit/mortgage assistance, relocation assistance, and stipends (Education Commission of the States, 2002). Collaboration and cooperation among state and local education agencies could magnify the results of these efforts at both levels.

## Conclusions and Recommendations

In rural districts, as in districts everywhere, some aspects of teacher recruitment and retention are beyond the immediate influence of education leaders: a local factory closing forces the math teacher to resign after her husband finds another factory job elsewhere, the science teacher moves to another state to care for an ailing parent, the special education teacher decides to pursue a nursing degree, the French teacher retires early. There will always be vacancies created by teachers who leave for personal and family reasons such as these. Likewise, one wonders how much can be done to stem the out-migration of young people (including young teachers) from many rural areas to the cities and suburbs.

Other aspects of teacher recruitment and retention, however, can be influenced by rural education leaders. A review of the literature suggests that the following strategies hold the greatest promise for yielding the desired result—placing high-quality teachers in rural classrooms and keeping them there.

- **Collect state and local data on teacher supply and demand.** Stakeholder groups should analyze data to identify trends and disaggregate data to determine what subjects or geographic areas need the greatest attention. When Oregon examined statewide data, for example, it became clear that some rural areas were having trouble recruiting elementary school teachers even though there was not a statewide shortage (Oregon University System, 2004).
- **Base recruitment efforts on data analysis.** States, school districts, and individual schools might target initiatives to recruit the best possible candidates to the areas of greatest need.
- **Increase the pool of candidates.** There are two categories of candidates: those already certified to teach and those who have the interest and potential but lack education credentials and certification. Attracting certified teachers might require expanding or refining current recruitment efforts. Attracting members of the latter group—secondary school students, community college students, education paraprofessionals, substitute teachers, and professionals in other fields—will require states to develop career pathways that accommodate the particular needs of nontraditional students, including financial aid. Such grow-your-own initiatives are especially attractive in rural areas because the candidates are more likely to desire a teaching position within the community. A common mistake, however, is failing to target the subject areas where the need is greatest. A strategy pursued in some rural districts is to assist current teachers in retraining for high-need subject areas.
- **Include all vital partners in collaborative efforts.** States and districts should ensure that their efforts are complementary. University teacher preparation programs are vital partners in teacher recruitment; community colleges can play an important role in the development of nontraditional teaching candidates.

- **Offer targeted incentives.** As competition increases for teachers in high-demand subject areas, rural schools will be at a disadvantage if they cannot offer differential pay and perhaps other incentives.
- **Evaluate efforts regularly.** Stakeholder groups should examine data to determine whether state and district initiatives are effective at attracting and retaining desirable candidates. If something is not working, try to pinpoint why it's not working and make necessary changes.
- **Invest in “grow-your-own” initiatives to develop teachers.** Community members who are interested in teaching in local schools are more likely to stay in the community. Another advantage is their familiarity with local culture and challenges. Retention rates are especially high for paraprofessionals who already have experience in local schools.
- **Encourage universities to customize teacher education programs.** Especially needed are programs that prepare prospective teachers for success in rural schools. Oregon universities have successfully recruited students from “shortage” fields (e.g., math, science, foreign languages) into teaching careers. Offering evening, weekend, or online courses can play a vital role in preparing nontraditional teaching candidates.
- **Include building-level staff in the hiring process.** Talking with school-level staff allows teaching candidates to learn more about the school and its culture, making a good match more likely.
- **Institute formal induction programs.** Research shows high-quality induction programs to be one of the most effective ways to protect a district's investment in a new teacher. The best programs start new teachers with a reduced teaching and extracurricular load and formally match them to an expert teacher-mentor. Interestingly, new teachers rate their mentor's emotional support as the most crucial element of the relationship. Expert teachers who mentor new teachers should be rewarded for their willingness to assume such responsibilities.
- **Offer incentives for staying.** States and/or school districts might consider tying bonuses, student loan-forgiveness programs, and other incentives to “staying on” past the first year.
- **Improve the schools.** Improving the school's culture and working conditions can make teachers want to stay. Additionally, research shows that improvements in school culture can lead to improved student achievement, which can, in turn, make the school a more attractive place to teach.
- **Involve the community.** The community can play an important role in welcoming new teachers. The community is also a potential source for teachers that are already rooted to the area and therefore more likely to stay.

- **Invest in school leadership development.** Principals' training does not always prepare them to nurture school structures and cultures that support teachers in important ways. Ongoing professional development for principals is just as important as it is for teachers.

Rural school leaders need access to the best available information and data on teacher recruitment and retention, and they need to approach the task in a manner that is strategic, specific, and sustained.

## References

- Beeson, E., & Strange, M. (2003). *Why rural matters 2003: The continuing need for every state to take action on rural education*. Washington, DC: Rural School and Community Trust, 2003. Retrieved November 13, 2003, from [http://www.ruraledu.org/newsroom/wrm\\_new.htm](http://www.ruraledu.org/newsroom/wrm_new.htm)
- Bornfield, G., Hall, N., Hall, P., & Hoover, J. (1997, Winter). Leaving rural special education positions: It's a matter of roots. *Rural Special Education Quarterly*, 16(1).
- Charlotte Advocates for Education. (2004). *Role of principal leadership in increasing teacher retention: Creating a supportive environment*. Public Education Network. Available: [www.publiceducation.org/pdf/MemPubs/CAE\\_Principal\\_Final](http://www.publiceducation.org/pdf/MemPubs/CAE_Principal_Final)
- Churchill, L. R., Jensen, M. C., & Cepello, M. (2001). *Finding and keeping the best: A rural regional partnership*. Chico, CA: California State University. (ERIC Document Reproduction Service No. ED453033).
- Clewell, B. C., & Villegas, A. M. (2001). *Absence unexcused: Ending teacher shortages in high-need areas*. Washington, DC: The Urban Institute.
- Clewell, B. C., Darke, K., Davis-Googe, T., Forcier, L., & Manes, S. (2000). *Literature review on teacher recruitment programs*. Washington, DC: U.S. Department of Education.
- Collins, T. (1999). *Attracting and retaining teachers in rural areas* (ERIC Digest). Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools. ERIC Document Reproduction Service No. ED438152. Retrieved November 13, 2003, from [http://www.ericfacility.net/databases/ERIC\\_Digests/ed438152.html](http://www.ericfacility.net/databases/ERIC_Digests/ed438152.html)
- Crews, J. (2002). Recruiting teachers to rural communities. *The School Administrator*, 59(5), p. 38.
- Darling-Hammond, L., & Sykes, G. (2003). *Wanted: A national manpower policy for education*. Denver, CO: Education Commission of the States.
- Davis, H. B. (2004). Technology and teacher retention. *Threshold*, Spring 2004, pp. 26-29.
- Davis, M. S. (2002). *An investigation of factors related to teacher retention in small rural school districts in Montana*. Unpublished doctoral dissertation, Montana State University. (ERIC Document Reproduction Service No. ED472264).
- Education Commission of the States. (2001, Winter). Rural education. *State Education Leader*, 19(1). Retrieved March 16, 2004, from <http://www.ecs.org/clearinghouse/24/10/2410.htm>

- Education Commission of the States. (2002, August). *State notes: Teacher recruitment/retention*. Denver, CO: Author.
- Educational Research Service. (2004). *Salaries and wages for professional and support personnel in public schools, 2003-2004*. Arlington, VA: Author.
- Eubanks, S. (2001). *Licensure programs for paraeducators* (ERIC Digest). Washington, DC: ERIC Clearinghouse on Teaching and Teacher Education. Retrieved March 18, 2004, from [http://www.ericfacility.net/databases/ERIC\\_Digests/ed460127.html](http://www.ericfacility.net/databases/ERIC_Digests/ed460127.html)
- Feistritzer, C. E. (2004). *Alternative teacher certification: A state-by-state analysis 2004*. Washington, DC: National Center for Education Information.
- Hare, D., & Heap, J. L. (2001, May). *Teacher recruitment and retention strategies in the Midwest: Who is making use of them?* Naperville, IL: North Central Regional Educational Laboratory. Retrieved March 16, 2004, from <http://www.ncrel.org/policy/pubs/html/strategy/index.html>
- Harmon, H. L. (2001). *Attracting and retraining teachers in rural areas*. Paper presented at the Annual Meeting of the American Association of Colleges for Teacher Education, Dallas, TX, March 1-4, 2001.
- Harris, M. L. (2001, Spring). Lessons from prairie teachers. *Action in Teacher Education*, 23(1), 19-26.
- Hobbs, V. (2003). *The Missouri education renewal zones*. Washington, DC: Rural School and Community Trust.
- Hobbs, V. (2004). *The promise and the power of distance learning in rural education* (Policy Brief). Washington, DC: Rural School and Community Trust.
- Holloway, D. L. (2002, Winter). Using research to ensure quality teaching in rural schools. *Journal of Research in Rural Education*, 17(3), 138-153.
- Ingersoll, R. (2001, Fall). Teacher turnover and teacher shortages: An organizational analysis. *American Education Research Journal*, 38(3), 499-534.
- Ingersoll, R. (2002). "Holes in the teacher supply bucket." *School Administrator*, 59(3), 42-43.
- Ingersoll, R., & Kralik, J. (2004). *The impact of mentoring on teacher retention: What the research says*. Denver, CO: Education Commission of the States.
- Jensen, M. C., Churchill, L., & Davis, T. (2001). *Finding and keeping the best: A rural regional partnership for recruiting and retaining teachers for children with high-incidence disabilities* (Final Performance Report). Chico, CA: California State University. (ERIC Document Service Reproduction No. ED464443).

- Jimerson, L. (2002). *Combating rural teacher shortages: A policy checklist for rural communities and schools*. Unpublished manuscript, The Rural School and Community Trust.
- Jimerson, L. (2003). *The competitive disadvantage: Teacher compensation in rural America* (Policy Brief). Washington, DC: The Rural School and Community Trust.
- Jimerson, L. (2004). *Teachers and teaching conditions in rural Texas* (Policy Brief). Washington, DC: Rural School and Community Trust.
- Johnson, S. M., Birkeland, S., Kardos, S., Kauffman, D., Liu, E., & Peske, H. G. (2001, July/August). Retaining the next generation of teachers: The importance of school-based support. *Harvard Education Letter*. Retrieved March 16, 2004, from <http://www.edletter.org/past/issues/2001-ja/support.shtml>
- Legler, R. (2002). *Alternative certification: A review of theory and research*. Naperville, IL: North Central Regional Educational Laboratory.
- Lemke, J. C. (1994). Teacher induction in rural and small school districts. In D. Montgomery (Ed.), *Rural Partnerships: Working Together*, Proceedings of the Annual National Conference of the American Council on Rural Special Education, Austin, TX, March 23-26, 1994. (ERIC Document Reproduction Service No. ED369589).
- Liu, E. (2003). *New teachers' experiences of hiring: Preliminary findings from a four-state study*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April 2003. Available: [www.gse.harvard.edu/~ngt](http://www.gse.harvard.edu/~ngt)
- Luekens, M. T., Lyter, D. M., Fox, E. E., & Chandler, K. (2004). *Teacher attrition and mobility: Results from the teacher follow-up survey, 2000-01*. Washington, DC: National Center for Education Statistics. Available: <http://nces.ed.gov/pubs2004301.pdf>
- McClure, C., Redfield, D., & Hammer, P. (2003). *Recruiting and retaining high-quality teachers in rural areas*. Charleston, WV: AEL.
- Murphy, P., & Angelski, K. (1996/1997). Rural teacher mobility: A report from British Columbia. *Rural Educator*, 18(2), 5-11.
- Murphy, P. & DeArmond, M. (2003a). *From the headlines to the frontlines: The teacher shortage and its implications for recruitment policy*. Seattle, WA: Center on Reinventing Public Education.
- Murphy, P., & DeArmond, M. (2003b). *Lessons from the recent "teachers shortage."* Seattle, WA: Center on Reinventing Public Education.

- Murphy, P., DeArmond, M., & Guin, K. (2003). A national crisis or localized problems? Getting perspective on the scope and scale of the teacher shortage. *Education Policy Analysis Archives*, 11(23). Available: <http://epaa.asu.edu/epaa/v11n23>
- National Association of State Boards of Education. (1998). *The numbers game: Ensuring quantity and quality in the teaching workforce*. Alexandria, VA: Author.
- National Center for Education Statistics. (2004). *CCD data resources: Build a table*. Available: <http://nces.ed.gov/ccd/search.asp>.
- National Commission on Teaching and America's Future. (2003). *No dream denied: A pledge to America's children*. Washington, DC: Author. Retrieved October 13, 2003, from [www.nctaf.org/dream/dream.html](http://www.nctaf.org/dream/dream.html)
- National Education Association. (n.d.). *NEA committed to improving teacher quality*. Retrieved October 13, 2003, from [www.nea.org/teacherquality](http://www.nea.org/teacherquality)
- Newman, C., & Thomas, K. (1999). *Alternative teacher certification*. Retrieved March 23, 2004, from [http://www.aesa.org/Pubs/99perspect/altern\\_teacher\\_certif.html](http://www.aesa.org/Pubs/99perspect/altern_teacher_certif.html)
- Oregon University System. (2004). *K-12 educator supply and demand: Snapshots*. Eugene, OR: Author. Retrieved March 26, 2004, from <http://www.ous.edu/aca/TEpdf/S&Dsnapshots04.PDF>
- Prince, C. D. (2002). *Higher pay in hard-to-staff schools: The case for financial incentives*. Arlington, VA: American Association of School Administrators.
- Proffit, A. C., Sale, R., P., Alexander, A. E., & Andrews R. S. (2002). *The Appalachian Model Teaching Consortium: A community and learning model for rural Appalachian teacher preparation*. Revised version of a paper presented at the annual meeting of the National Rural Education Association, Albuquerque, NM, October 24-27, 2001. (ERIC Document Reproduction Service No. ED468843).
- Reeves, C. (2003). *Implementing the No Child Left Behind Act: Implications for rural schools and districts*. Oak Brook, IL: North Central Regional Educational Laboratory. Available: [www.ncrel.org/policy/pubs/html/implicate/index.html](http://www.ncrel.org/policy/pubs/html/implicate/index.html)
- Ross, J. D., Thigpin, C., Cavalluzzo, L., Guzman, J., & Patterson, L. (2004, November). *Reading teachers first: Statewide implementation of ePD*. Paper presented at the Association for the Advancement of Computers in Education's E-Learn World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, Arlington, VA.
- Rural School and Community Trust. (1999, November). Rural teacher shortages: NREA panel sees community as factor in recruiting and retaining. *Rural Policy Matters*, 1(9). Retrieved March 16, 2004, from <http://www.ruraledu.org/rpm/rpm109e.htm>

- Schwartzbeck, T. D., with Redfield, D., Morris, H., & Hammer, P. C. (2003). *How are rural school districts meeting the teacher quality requirements of No Child Left Behind?* Charleston, WV: AEL.
- Smith, T. M., & Ingersoll, R. M. (2003). *Reducing teacher turnover: Do induction and mentoring programs help?* Paper presented at the annual meeting of the American Association of Educational Research, Chicago, IL, April 2003. Summarized in the May 2003 issue of *Teaching Quality Research Matters*, [www.teachingquality.org/ResearchMatters/RMindex.htm](http://www.teachingquality.org/ResearchMatters/RMindex.htm)
- Southeast Center for Teaching Quality. (2001). Alternative certification. *Best Practices and Policies*, 1(1). Retrieved March 16, 2004, from <http://www.teachingquality.org/BestTQ/issues/v01/issue01navigator.htm>
- Southeast Center for Teaching Quality. (2002a). *Recruiting teachers for hard-to-staff schools: Solutions for the southeast & the nation*. Chapel Hill, NC: Author.
- Southeast Center for Teaching Quality. (2002b). Recruitment lessons for the Southeast. *Best Practices and Policies*, 1(8). Retrieved March 16, 2004, from <http://www.teachingquality.org/BestTQ/issues/v01/issue01navigator.htm>
- Southeast Center for Teaching Quality. (2004). *Unfulfilled promise: Ensuring high quality teachers for our nation's students*. Chapel Hill, NC: Author.
- U.S. Department of Education. (2002). *No child left behind: A desktop reference*. Washington, DC: U.S. Department of Education, Office of the Under Secretary.
- U.S. Government Accountability Office (2004). *No Child Left Behind Act: Additional assistance and research on effective strategies would help small rural districts*. Washington, DC: Author.
- Voke, H. (2002). Attracting and retaining quality teachers: Understanding and responding to the teacher shortage. *Infobrief No. 29*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Watts Hull, J. (2003). *Filling the gaps: Solving teacher shortages*. Southern Legislative Conference of The Council of State Governments, June 2003. Available: [www.slcatlanta.org/RecentPublications.htm](http://www.slcatlanta.org/RecentPublications.htm)