

Key Issue:

Increasing Teacher Retention to Facilitate the Equitable Distribution of Effective Teachers

All resources contained within the TQ Tips & Tools documents have been reviewed for their quality, relevance, and utility by TQ Center staff and three content-area experts. These experts usually have a policy, practice or research background. The strategies and resources are provided to help regional comprehensive center and state education agency staff to be aware of the initiatives, programs or activities taking place in other settings. Our provision of the links to these resources should not be considered an endorsement but a qualified suggestion that they be considered as an option to study and/or pursue given the needs and context of the inquiring region, state, or district. Evidence of the impact of initiatives, programs or activities is provided where available or appropriate.

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Updated by Molly Lasagna
Learning Point Associates



1100 17th Street NW, Suite 500
Washington, DC 20036-4632
877-322-8700 • 202-223-6690
www.tqsource.org

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Scenario

Principal Suzanne Paige is frazzled. It's only the middle of September, but her teaching staff is incomplete. She lacks teachers—not to mention certified teachers—again. Just as last year, her school, which is low-performing and on academic watch, has scared away three more teachers within two months of the beginning of the school year. She feels bad for her new teachers, who seem to be dazed and sometimes frustrated, but she is too busy putting out fires: student discipline issues, poor attendance (of both students and faculty), a dearth of substitutes, budget cuts, having to beg teachers to take lunch duty—the list goes on and on.

Next year, Principal Paige decides, things will be different. She will approach school improvement and teacher retention holistically. She decides to jot down some ideas for the meeting she has next week with Assistant Superintendent Britt, who is in charge of human resources and hiring for the district. At the top of her page of notes, she writes the phrase *the total package*. She has realized that the students at her school need teachers who are well rounded and effective, and the only way to attract these educators to a school such as hers is with a set of recruitment and retention strategies that is also well rounded and effective. Below the page's theme, she makes the following list of the different facets of her new approach to teacher retention:

- Induction and mentoring
- Working conditions
- Performance pay and financial incentives
- Opportunities for teacher leadership

Principal Paige knows that in past school years, she has focused on each of these four pieces individually, without creating a systemic approach to reform. “It's not enough to plan innovatively about only one or two of these issues,” she thinks to herself. “Teacher retention is going to be a combination of all four facets.” A systemic approach had always seemed too overwhelming, but Principal Paige realizes that without the total package, she will be left with half-hearted reform.

At their meeting, she and Assistant Superintendent Britt discuss ways the district and state can support her efforts. Assistant Superintendent Britt says the state monitors are putting pressure on him to make sure that the poor and minority students in Principal Paige's school are not disproportionately taught by unqualified, inexperienced teachers.

Benefits

What Is Teacher Retention?

The term *teacher retention* refers to the ability to keep teachers on the job. In other words, it is the ability to reduce or eliminate teacher turnover. *Turnover* refers to the migration of teachers between schools or districts *and* the attrition of teachers from the profession (Ingersoll & Perda, 2009). From the perspective of a principal, both are problems of equal concern. From the perspective of a policymaker seeking to improve teacher quality systemwide, however, it is a more nuanced concern. One principal's turnover may be another principal's recruitment boon. If the latter principal is leading a hard-to-staff school, such migration may be welcomed as a move toward a more equitable distribution of teachers. Both migration and attrition are costly, with taxpayers losing approximately \$2.2 billion per year to teacher migration and \$2.7 billion per year to teacher attrition (Alliance for Excellent Education, 2005).

Although the retention of ineffective teachers should of course be discouraged, increasing the retention of effective teachers in the profession will serve all principals well (see benefits listed below). In high-needs districts, where teacher turnover tends to be highest, improving teacher retention is particularly important. Tracking the movement of teachers between schools, districts, and states as well as into and out of the profession is a good first step to help policymakers and school leaders develop effective strategies for improving teacher retention. This Key Issue offers strategies to improve the retention of qualified and effective teachers in hard-to-staff schools.

Benefits of Retaining Qualified and Effective Teachers

Improving the retention of high-quality teachers in at-risk schools and districts will help those schools and districts by doing the following:

- **Create stability and growth among the teaching force.** Most beginning teachers—especially in at-risk schools—leave the profession because of lack of support, a poor professional environment, and a feeling of isolation (Coggshall, 2006). This constant churn of educators leaves students with an increased feeling of instability and a decreased sense of empowerment and ability to succeed (Darling-Hammond & Sykes, 2003). Changing the professional culture of a school and giving teachers the information and respect needed to buy in to their administrations will bring growth: both in the number of high-quality teachers and, consequently, in the depth of quality teaching.
- **Address the equitable distribution of highly qualified teachers.** Despite states' efforts in the last several years to improve the equitable distribution of highly qualified and experienced teachers to all schools in the state, there remains an imbalance: More affluent schools with a lower proportion of minority students are still more likely to have a higher percentage of qualified and experienced teachers than other schools (Clotfelter, Ladd, Vigdor, & Diaz, 2003).

A teacher's decision to move away from a position at an at-risk school may be due to several factors, including the following:

- Lack of experience with inner-city students

- Fear of poor working conditions
- Belief that inner-city students cannot learn to high levels
- Avoidance of more challenges for equal pay

Several retention strategies can be implemented to allay some of the fears listed. Above all, a teacher must feel respected, empowered, and safe when he or she walks into school each day. By improving retention rates among educators, schools will have an easier time meeting the objectives of equitable distribution.

- **Raise student achievement.** What teachers know and can do is the most important influence on what students learn. Research tells us that teachers are the most influential school-level factor in raising student achievement (Rockoff, 2004). Teacher attitudes and behaviors can significantly influence minority and at-risk student achievement (French, Seidman, Allen, & Aber, 2000). Ultimately, retaining high-quality, highly effective teachers in at-risk schools will positively contribute to students' success.
- **Save money.** Recruiting, hiring, and in-processing an influx of teachers each year is costly. Breaux and Wong (2003) estimated that the cost to a district of finding one new teacher can be as much as \$50,000. In 2009, local school officials can determine the current amount by utilizing the Teacher Turnover Cost Calculator, offered by the National Commission on Teaching and America's Future (<http://nctaf.org>). Districts can save money by retaining the highly effective teachers currently working for them.

Tips and Cautions

When improving teacher retention in at-risk schools, be sure to the following:

- Prepare for a substantial commitment of resources, both fiscal and otherwise. Changing school culture takes time, energy, and money, and results may not be immediately apparent. If you're planning to implement an alternative compensation system, for example, the resources being allocated to that model have to come from somewhere. Don't stretch yourself too thin, but don't be shy about putting money behind that in which you believe.
- Commit to improving retention among the entire faculty. When launching a new set of retention strategies, communicate to your faculty that your main goal is to improve instruction so as to raise student achievement.
- Communicate with other schools in your district or other districts in your state about retention strategies that work or don't work. Be mindful of the lessons learned by others. Take note of best practices and innovative strategies going on in schools of similar size or demographic. Take a community approach to reform and reconceptualization.
- Get a genuine sense from your teachers of what they are looking for in a satisfying professional exploit. Teachers, just as any professionals, need to feel respected and empowered in order to really be effective. Conduct informal interviews and focus groups of your teachers to understand their professional needs. Take these opinions and this feedback into account when planning retention strategies.

Strategies

1. Provide high-quality induction and mentoring.
 - 1.1. Create a comprehensive induction system in which mentoring and formative assessment are key components.
 - 1.2. Open induction programs to all beginning teachers, regardless of entry point, preparation model, or certification route.
 - 1.3. Structure mentoring and assessment sessions using state and district guidelines and implementation resources.
 - 1.4. Hold initial orientation for new teachers before the first day of school or on the first day of professional employment.
 - 1.5. Create a mentor training program and guide for mentors and school leaders that includes topics such as the distinctive learning needs of novices, how to provide new teacher supports, how to mentor new teachers, how to observe teaching practice, and how to assess professional growth.
2. Improve working conditions.
 - 2.1. Ask teachers about their working environment.
 - 2.2. Set standards and measures to support continuous improvement of the school climate.
 - 2.3. Implement consistent schoolwide and districtwide approaches to climate, safety, and discipline.
 - 2.4. Involve families and the surrounding community.
 - 2.5. Create a school culture that fosters collaboration.
3. Create diversified pay structures that reward quality performance.
 - 3.1. Make several decisions prior to designing the pay system.
 - 3.2. Base differentiated pay on valid measures of effectiveness.
 - 3.3. Expect costs.
 - 3.4. Publicize the program and communicate extensively with teachers, administrators, and the public to ensure that important stakeholders understand the project and its impact.
4. Provide advancement and leadership opportunities for teachers.
 - 4.1. Create a multitiered licensure system tied to salary, professional growth, and student achievement.
 - 4.2. Create opportunities for teachers to create, influence, and implement school and district policies and procedures.
 - 4.3. Establish teacher leadership positions, and train teachers accordingly.

Resources

The resources that follow provide helpful information about implementing the strategies listed. Some resources highlight the rationale for a strategy or the research base that supports it; others provide examples of how the strategy has been implemented elsewhere or practical toolkits that can assist school leaders in adopting these strategies.

Strategy 1: Provide High-Quality Induction and Mentoring

Although induction is often thought to be a type of program, it is actually a critical stage of new teacher development. Induction programs are often designed to socialize new teachers to their roles, improve their instructional effectiveness, and increase their retention in the teaching profession. States and districts should consider induction as one point along the educator's career continuum and, therefore, design a comprehensive induction program that meets local needs. High-quality induction will not only increase novices' retention and effectiveness, but it will also act as a catalyst in establishing a professional community among beginning and veteran teachers. Frontloading information and strategies in the form of mentoring and induction will help beginning teachers feel prepared and veteran teachers feel empowered.

Resource 1: Mid-continent Research for Education and Learning (McREL)

McREL. (2009). *Teacher preparation and retention*. Retrieved May 19, 2009, from <http://www.mcrel.org/topics/TeacherPreparation/>

This collection of online resources works to help teacher preparation institutions apply 30 years of research on effective instruction to their programs. It includes technical assistance, tools and guides, and policy briefs.

Resource 2: *Developing the “Compendium of Strategies to Reduce Teacher Turnover in the Northeast and Island Region”: A Companion to the Database*

Ellis, P., Grogan, M., Levy, A. J., & Tucker-Seeley, K. (2008). *Developing the “compendium of strategies to reduce teacher turnover in the Northeast and Islands region”: A companion to the database* (Issues & Answers Report, REL 2008-No. 052). Newton, MA: REL Northeast and Islands. Retrieved May 19, 2009, from http://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL_2008052a.pdf

This report accompanies a new database launched by the REL Northeast and Islands, which provides a variety of strategies and innovative practices currently being used to improve teacher retention. The database itself can be accessed at <http://www2.edc.org/relnei/teacherdb/>.

Substrategy 1.1: Create a Comprehensive Induction System in Which Mentoring and Formative Assessment Are Key Components

A subpar system of induction and mentoring can turn teachers off to a school before they have even begun. Quality induction helps beginning teachers feel prepared and comfortable, which will ultimately aid in retention. More substantively, high-quality mentoring and induction programs serve to increase teacher effectiveness, which ultimately affects student learning positively.

Resource 3: New Teacher Center at the University of California–Santa Cruz

New Teacher Center. (n.d.). *Improving student learning by supporting the development of an inspired, dedicated and highly qualified teaching force* [Website]. Retrieved May 19, 2009, from <http://www.newteachercenter.org>

Villar, A., & Strong, M. (2007). Is mentoring worth the money? A benefit-cost analysis and five-year rate of return of a comprehensive mentoring program for beginning teachers. *ERS Spectrum*, 25(3). Reprint retrieved May 19, 2009, from http://www.newteachercenter.org/pdfs/Spectrum_Villar-Strong.pdf

This article discusses a study of a mentoring and formative assessment system that has been running successfully for over 15 years. First given as an example for state legislation for mentoring and assessment of all new teachers, the model is now nationally used. The New Teacher Center is beginning to document positive effects on student achievement with new teachers who receive comprehensive professional support.

Resource 4: Peer Assessment and Review (PAR)

Toledo Federation of Teachers. (n.d.). *Peer review: The Toledo plan*. Retrieved May 19, 2009, from http://www.tft250.org/peer_review.htm

Peer assessment and review comprises professional assistance, observations, assessment, and evaluation, typically organized by the district's teachers union. Effective teaching practices and classroom management skills are reinforced; veteran teachers are assisted or assume leadership; and, importantly, any teacher under review who is found unsatisfactory in practice or improvement can be counseled out of the school district, following an extensive review and appeals process led by a panel of teacher leaders and district leaders.

Resource 5: Virginia Requirements of Quality and Effectiveness for Beginning Teacher Mentor Programs in Hard-to-Staff Schools

Virginia Department of Education (2004). *Virginia requirements of quality and effectiveness for beginning teacher mentor programs in hard-to-staff schools*. Retrieved May 19, 2009, from <http://www.doe.virginia.gov/VDOE/newvdoe/HardTSSMentoringRequirements.pdf>

This report was compiled by the Task Force on Teacher Mentor Programs in Hard-to-Staff Schools. The 10 requirements recommended by the task force focus on the following topics:

- Sponsorship, administration, and leadership
- Resources
- Program design
- Collaboration and communication
- Mentor selection and assignment

- Mentor professional development
- Roles and responsibilities of K–12 school organizations
- Individual learning plans
- Formative assessment systems
- Program evaluation

Resource 6: *Lessons Learned—Teaching in Changing Times*

National Comprehensive Center for Teacher Quality, & Public Agenda. (2008). *Lessons learned: New teachers talk about their jobs, challenges, and long-range plans—Teaching in changing times* (Issue No. 3). Naperville, IL: Author. Retrieved May 19, 2009, from <http://www.tqsource.org/publications/LessonsLearned3.pdf>

Lessons Learned, a joint project of the National Comprehensive Center for Teacher Quality and Public Agenda, is designed to help leaders in education and government understand more about the quality of current teacher education and on-the-job support for new teachers. At the heart of the project is a survey of first-year teachers across the country, including more than 100 items covering issues related to teacher training, recruitment, professional development, and retention. The final report in this series focuses on the strengths and possible deficits of new teacher training. The research described in this report points to two specific areas in which teacher training may be lacking: preparedness for the diversity of the contemporary American classroom and teaching students with special needs.

Resource 7: *Evaluation of the Beginning Teacher Induction and Mentoring (BTIM) Program*

Texas Education Agency. (2009). *Evaluation of the Beginning Teacher Induction and Mentoring (BTIM) program*. Retrieved May 19, 2009, from http://ritter.tea.state.tx.us/opge/progeval/ProfessionalDevelopment/BTIM_Final_Report_1-28-09.pdf

This report is an evaluation of the BTIM program implemented in Texas schools. With the goals of increasing beginning teacher retention, improving beginning teacher performance, and improving overall student achievement, BTIM has been enacted in Texas schools for the past two years, targeted at first to schools with high levels of teacher turnover. Based on its findings, the research team behind the BTIM evaluation recommend that Texas remove all impediments to full implementation of this induction and mentoring system.

Resource 8: *Comprehensive Teacher Induction*

Glazerman, S., Dolfin, S., Bleeker, M., Johnson, A., Isenberg, E., Lugo-Gil, J., et al. (2008). *Impacts of comprehensive teacher induction: Results from the first year of a randomized controlled study* (NCEE 2009-4034). Washington, DC: National Center for Education Evaluation and Regional Assistance. Retrieved May 19, 2009, from <http://ies.ed.gov/ncee/pdf/20094034.pdf>

This study, funded by the U.S. Department of Education’s Institute of Education Sciences, examines the correlation between high-quality teacher induction programs and student achievement, and also between high-quality teacher induction programs and teacher retention. In general, the research team found that although there were treatment variations, there were actually no real effects—particularly in student achievement. It is, however, important to note that this was a longitudinal study examining the very expensive “Cadillac” programs; there could be effects in future years.

Higher Education Opportunity Act, Pub. L. No 110-315, 122 Stat. 3078 (2008). Retrieved May 19, 2009, from http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ315.110.pdf

This law lays out a clear and specific definition of induction programs and authorizes grants for induction and mentoring programs.

Resource 9: The Effects of Mentoring on Turnover

Smith, T. M., & Ingersoll, R. M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal*, 41(3), 681–714.

This study uses a national survey (the NCES *Schools and Staffing Survey* of 1999–2000 and the associated teacher follow-up survey) to examine the effects of induction. Participation in induction was found to have increased from 40 percent of new teachers in 1990 to 80 percent in 1999. The types of induction and mentoring activities in 1999 are described. Overall, 29 percent of first-time teachers either left their schools or stopped teaching, with significant differences between the types of schools. Extensive differences in the likelihood of teachers leaving schools based on teacher and school characteristics are found. Participation in induction activities reduced the likelihood of leaving a school, with having a mentor in the same field, common planning time with other teachers, and being part of an external network of teachers appearing to be most effective in reducing attrition.

Resource 10: Induction in Chicago

Kapadia, K., & Coca, V. (with Easton, J. Q.) (2007). *Keeping new teachers: A first look at the influences of induction in the Chicago Public Schools*. Chicago: Consortium on Chicago School Research. Retrieved May 19, 2009, from http://ccsr.uchicago.edu/publications/keeping_new_teachers012407.pdf

Chicago has embraced induction as a means for retaining good teachers. In addition to the Chicago Public Schools (CPS) GOLDEN Teachers Program—which is mandated for all first- and second-year CPS teachers—induction programs with various models and degrees of teacher contact are in operation in different regions of the city and among diverse populations of novice teachers. To probe the effects of teacher induction, the Consortium on Chicago School Research included a new battery of questions designed specifically for new teachers on its spring 2005 surveys of CPS elementary and high school teachers. This first look at the influences of teacher

induction uses responses from these surveys to evaluate the effects of participating in induction activities on teachers' reports of the quality of their teaching experience, whether they intend to continue teaching, and whether they plan to remain in the same school.

Substrategy 1.2: Open Induction Programs to All Beginning Teachers, Regardless of Entry Point, Preparation Model, or Certification Route

Resource 11: Teacher Induction Academy

Associated Colleges of Illinois. (2005). *ACI's center for success in high-need schools: Teacher Induction Academy*. Retrieved May 19, 2009, from <http://www.successinhighneedschools.org/programs/tia>

The Teacher Induction Academy is designed to help new teachers acclimate themselves to and prepare for the profession of teaching, as well as to support veteran teachers. This program is open to all first- through fifth-year teachers, regardless of certification route.

Resource 12: Connecticut Beginning Educator Support and Training (BEST) Program

Connecticut State Department of Education. (2008). *Beginning Educator Support and Training (BEST) program update*. Retrieved May 19, 2009, from <http://www.sde.ct.gov/sde/lib/sde/pdf/circ/circ08-09/c1.pdf>

Although the Connecticut BEST program currently is undergoing changes to its structure and design, some foundational tenets of the program remain. For example, beginning teachers must submit portfolios, which are assessed and returned, complete with feedback. The main objective of the program—that every student in public school in Connecticut be taught by a highly qualified and competent teacher—remains the same, but now the responsibility for this objective will fall to both the state and the local school districts.

Resource 13: *Teacher Induction in Illinois and Ohio*

Humphrey, D. C., Wechsler, M. E., & Bosetti, K. R. (2007). *Teacher induction in Illinois and Ohio: A preliminary analysis*. Menlo Park, CA: SRI International. Retrieved May 19, 2009, from <http://policyweb.sri.com/cep/publications/TeacherInductioninIllinoisandOhio-Feb2007.pdf>

This report examines the different approaches that Illinois and Ohio have taken to support new teachers. Ohio provides financial support for a statewide induction program; in contrast, with the exception of a recent \$2 million investment in 10 pilot programs, Illinois does not fund a statewide program, although district programs are common. Both states provide guidance on the features of state-approved teacher induction programs; yet, both states exhibit significant variation in the characteristics of induction programs and the ways in which teachers experience their induction.

Substrategy 1.3: Structure Mentoring and Assessment Sessions Using State and District Guidelines and Implementation Resources

Resource 14: Austin Mentor Teacher Program

Austin Independent School District. (2009). *Mentor teacher program*. Retrieved May 19, 2009, from <http://www.austinisd.org/teachers/mentorteacher/index.phtml>

The Mentor Teacher Program is a districtwide program with support for beginning and veteran teachers at both the district and school levels. The program includes professional development and training, as well as standards for evaluation and assessment.

Resource 15: East Rochester (New York) Mentor Program

East Rochester Union Free School District. (2008–09). *Mentor plan*. Retrieved May 19, 2009, from http://www.erschools.org/district/curriculum/docs/08-09/Mentor_Plan_2008-2009.pdf

The program guide stresses that meetings between mentor teachers and beginning teachers will be formally recorded and that all communication and assessments will be reviewed by the mentors, beginning teachers, and the Mentor Program Committee. The program guide also includes all observation and evaluation forms.

Resource 16: Delaware New Teacher Mentoring/Induction Program

Delaware Department of Education. (n.d.). *New teacher mentoring/induction program* [Website]. Retrieved May 19, 2009, from <http://www.doe.k12.de.us/infosuites/staff/ntmentor/>

All teachers new to Delaware must participate in the mentoring/induction program. Beginning teachers (regardless of certification route) must participate for three years, and teachers who are not beginning but are new to Delaware must comply for one year. The online program information is complete with rationale and history, as well as a newsletter for mentors, mentees, and lead mentors.

Substrategy 1.4: Hold Initial Orientation for New Teachers Before the First Day of School or on the First Day of Professional Employment

Resource 17: Public Education Network

Public Education Network. (2003). *The voice of the new teacher*. Washington, DC: Author. Retrieved May 19, 2009, from: http://publiceducation.org/pdf/Publications/Teacher_Quality/Voice_of_the_New_Teacher.pdf

On page 30 of this report, the New Teachers Top 10 Wish List includes materials and resources that new teachers need prior to the start of school. Recommendations on pp. 51–55 are directed to school systems, teacher preparation programs, and teachers (on reaching diverse students).

Resource 18: Sample New-Teacher Orientation

International Mentoring Association. (2003). *Here is an example of a district new teacher orientation program*. Retrieved May 19, 2009, from <http://www.mentoring-association.org/MembersOnly/K12/ExamOrientaProg.html>

This template for an orientation agenda includes a mock-up participant list, goals and objectives, activities, and schedule. All orientation events take place before the start of the school year, but the guide also gives examples of follow-up supports and evaluation methods and measures.

Substrategy 1.5: Create a Mentor Training Program and Guide for Mentors and School Leaders That Includes Topics Such as Distinct Learning Needs of New Teachers, How to Design Local Supports for Novices, How to Mentor New Teachers, How to Observe Teaching Practice, and How to Assess Professional Growth

The guide should outline a progression of mentoring topics and activities, but it should be personalized for all new teachers.

Resource 19: New Teacher Center at the University of California–Santa Cruz

New Teacher Center. (n.d.). *Improving student learning by supporting the development of an inspired, dedicated and highly qualified teaching force* [Website]. Retrieved May 19, 2009, from <http://www.newteachercenter.org/>

Villar, A., & Strong, M. (2007). Is mentoring worth the money? A benefit-cost analysis and five-year rate of return of a comprehensive mentoring program for beginning teachers. *ERS Spectrum*, 25(3). Reprint retrieved May 19, 2009, from http://www.newteachercenter.org/pdfs/Spectrum_Villar-Strong.pdf

The New Teacher Center is currently implementing its nationally recognized program of mentoring and formative assessment in high-needs schools nationwide. Evidence in the Villar and Strong report shows that the program prevents teacher turnover and that it improves the achievement of students who have participating new teachers.

Resource 20: New York Mentoring Guidelines

New York State Education Department. (2007). *Guidelines for implementing district-based teacher mentoring programs*. Retrieved May 19, 2009, from <http://www.highered.nysed.gov/tcert/resteachers/guidemenprog.htm>

This brief information guide advocates for the setup and implementation of a rigorous mentor-teacher training and preparation program prior to induction.

Strategy 2: Improve Working Conditions

There is no right professional context that works for all educators. Veteran educators often have expectations and desires about their teaching environment that are different from new teachers. New teachers seek environments that are collaborative and flexible and provide opportunities for influence and advancement whereas veteran educators tend to be more focused on privacy and autonomy. Creating an integrated culture that draws on these different novice and veteran dispositions and expectations is critical (Peske, Liu, Johnson, Kauffman, & Kardos, 2001). The level of success for schools, however, is dependent on a variety of factors, including the experiences, knowledge, skills, and disposition of the existing faculty; the degree of site-based autonomy possible in a given district; state and federal laws, rules, and regulations; and the amount of resources available.

Resource 21: *Identifying Professional Contexts to Support Highly Effective Teachers*

Hirsch, E. (2008). *Identifying professional contexts to support highly effective teachers* (Key Issue). Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved May 19, 2009, from <http://www2.tqsource.org/strategies/het/ProfessionalContexts.pdf>

This comprehensive set of resources and strategies helps school and district officials begin to conceptualize the link between working conditions and teacher job satisfaction, and it offers tips on implementation of reforms.

Resource 22: *Pay, Working Conditions, and Teacher Quality*

Hanushek, E., & Rivkin, S. (2007). Pay, working conditions, and teacher quality. *The Future of Children*, 17(1), 69–86. Retrieved May 19, 2009, from http://www.futureofchildren.org/usr_doc/7_04.pdf

This article argues that working conditions—in this work, working conditions are exemplified by factors such as safety, facilities, and quality of leadership—have a greater impact on teacher attrition and mobility than salary. Moreover, the working conditions of urban schools have a much greater negative impact on teacher perceptions and attitudes than those of suburban schools.

Substrategy 2.1: Ask Teachers About Their Working Environments

While national studies point to certain characteristics of a healthy working environment (time, resources, empowerment, management, leadership, etc.), each school and district is unique. School leaders need to ask teachers what is important to them and what areas of the working environment need improvement. By asking teachers, school leaders can focus reforms on the areas of greatest need.

Resource 23: *Keys to Excellence for Your Schools (KEYS)*

National Education Association. (2002–2009). *KEYS 2.0: Keys to excellence for your schools* [Home Page]. Retrieved May 19, 2009, from <http://keysonline.org/>

KEYS is a survey tool that lets schools measure for themselves the extent to which the following quality indicators are present:

- Shared understanding and commitment to high goals
- Open communication and collaborative problem solving
- Continuous assessment for teaching and learning
- Personal and professional learning
- Resources to support teaching and learning
- Curriculum and instruction

A school facilitator can register a school for the survey. School members can then complete the online survey. After a significant number of surveys are completed, the responses are analyzed and the results are posted online.

Resource 24: Teacher Working Conditions

Berry, B., Smylie, M., & Fuller, E. (2008). *Understanding teacher working conditions: A review and look to the future*. Hillsborough, NC: Center for Teaching Quality. Retrieved May 19, 2009, from http://www.teachingquality.org/pdfs/TWC2_Nov08.pdf

The research team responsible for this report conducted a national survey of teachers to explore attitudes and opinions about school working conditions. The major findings of the study are as follows:

- Most teachers want to remain in teaching and are committed to their students.
- Teachers who intend to leave their schools and teaching are more likely to have grave concerns about their lack of empowerment, poor school leadership, and the low levels of trust and respect inside their buildings.
- Elementary school teachers were far more sanguine about their working conditions than their middle school and high school counterparts.
- New teachers who have quality support are more likely to report they will remain in teaching.
- Teachers who report relatively low levels of satisfaction with their professional development often do not have access to the kinds of training they believe they need.
- Teachers with different characteristics (e.g., type of credential, years of experience) tend to respond more or less similarly (except in a few instances, and, not surprisingly, new teachers were less concerned about issues of empowerment).

- Teachers' perceptions of working conditions may vary more inside of schools than between them.
- Teachers' response rates vary by type of school (low poverty versus high poverty) in different states and appear to influence reports of positive or negative working conditions.
- Teachers and administrators view teaching and learning conditions differently—and often quite dramatically so.

Resource 25: *Building a Framework*

Mikkelsen, K. (2004). Building a framework: Improving working conditions. In Northeast Regional Resource Center; Learning Innovations at WestEd; & University of the State of New York, New York State Education Department, Vocational and Educational Services for Individuals with Disabilities (VESID), *Keeping quality teachers: The art of retaining general and special education teachers* (pp. 2.1–2.29). Albany, NY: Authors. Retrieved May 19, 2009, from http://www.wested.org/online_pubs/li-05-01.pdf

Appendix 2-1 (pp. 2.11–2.29) is a self-assessment instrument that focuses on working conditions and assists school leaders in identifying strengths and needs.

Substrategy 2.2: Set Standards and Measures to Support Continuous Improvement of the School Climate

Assessment of the working environment must be ongoing in order to measure changes in teacher satisfaction and to identify areas still in need of improvement.

Resource 26: *School Improvement Self-Study*

Center for Prevention Research and Development. (2008). *School improvement self-study* [Website]. Retrieved May 19, 2009, from <http://www.cprd.uiuc.edu/self-study>

The School Improvement Self-Study is one way for middle schools and high schools to gather reliable data about their practices and progress that will assist them in improving the teaching and learning process. The self-study consists of a set of surveys for students, teachers, and principals. An additional survey is available for parents. These confidential and anonymous surveys ask about classroom practices, integration of instruction and curricula, decision-making practices, parent and community involvement, climate and attitudes, professional development needs, educational expectations, school safety, and student well-being.

Resource 27: Staff Climate Survey

Wisconsin's Information Network for Successful Schools. (n.d.). *Staff climate survey* [Website]. Retrieved May 19, 2009, from <http://goal.learningpt.org/winss/staff/>

This is an example of a teacher and administrator survey that can be used to assess school climate. From the website: “The survey process starts by defining a survey project (that is, selecting a school or district, a time span for the survey period, and the surveys to be used). A ‘project manager’ enters this information on the ‘Start a New Project’ page. Once the project manager has completed the initial project management tasks, he or she receives a Project Password. Each person who gives that Project Password to this Web site after clicking ‘Participate in a Survey Project’ can take the surveys, and their responses will be stored. After the last day of the survey period, anyone who returns to the Web site, clicks ‘Results,’ and gives this Project Password can see the analyses.”

Resource 28: *Safe School Facilities Checklist*

National Clearinghouse for Educational Facilities. (2009). *Safe school facilities checklist* [Website]. Retrieved May 19, 2009, from <http://www.edfacilities.org/checklist/index.cfm>

The NCEF online checklist allows school leaders to assess the safety and security of proposed or existing school facilities. After filling out a free registration form, school leaders can select from categories to create a personalized assessment tool. The categories range from school grounds to communication systems to emergency power.

Substrategy 2.3: Implement Consistent Schoolwide and Districtwide Approaches to Climate, Safety, and Discipline

New teachers often find classroom management to be the most difficult aspect of teaching. Many new teachers point to an inability to manage students as the reason they leave the classroom. Schools and districts can help teachers manage their classrooms by creating a safe, positive school environment. This starts with setting clear, high, and consistent expectations for behavior. Too often, students face a patchwork of rules and are expected to misbehave. Schools need to create a simple set of behavioral expectations that are present in every classroom. Such consistency helps to eliminate confusion and reinforces that all school staff are on the same page. In addition to being consistent, approaches to climate, safety, and discipline must set high standards. Just as low academic expectations lead to low academic achievement, low behavioral expectations lead to discipline and safety issues. School leaders need to involve teachers in the development of consistent, high standards for behavior and safety. Such development is an opportunity to empower teachers, foster collaboration, and improve the culture of the school.

Resource 29: *School Safety and Security Toolkit*

National Crime Prevention Council. (2003). *School safety and security toolkit: A guide for parents, schools, and communities*. Retrieved May 19, 2009, from http://www.ncpc.org/cms-upload/ncpc/File/BSSToolkit_Complete.pdf

This guide assists parents and administrators in implementing the Be Safe and Sound model in their schools. It includes a step-by-step procedure for assessing school safety and security, forming an action team, identifying problems, holding a forum with stakeholders to brainstorm solutions, developing an action plan and building support for it, and evaluating the results. The

appendixes provide all the materials needed to implement this process, from surveys that identify the problems to a sample press release and media advisory for publicizing your efforts.

Resource 30: *Safe and Orderly Schools*

American Federation of Teachers. (n.d.). *Safe and orderly schools*. Washington, DC: Author. Retrieved May 19, 2009, from <http://www.aft.org/pubs-reports/downloads/teachers/safeandorderly4pgr.pdf>

This publication identifies and discusses the following six elements of safe and orderly schools:

- A discipline code that is supported by the entire school community
- Research-based prevention and intervention strategies
- Interventions, such as social skills training, social problem solving, or anger management training
- Alternative placements for chronically disruptive and violent students
- School safety plans that protect students and teachers from dangers that come from outside the school
- A commitment to high standards for safe buildings

Substrategy 2.4: Involve Families and the Surrounding Community to Improve Teaching and Learning Conditions

Family and community involvement and support help to facilitate teachers' ability to educate all students. As opposed to an adversarial relationship in which teachers feel isolated, a strong community partnership can offer a positive environment where teachers feel valued. Parental involvement has been shown to increase teacher morale, effectiveness, and job satisfaction. In addition, student achievement improves when families and the community are positively engaged at the school and district levels.

Resource 31: *The School-Family Connection*

Ferguson, C. (with Ramos, M., Rudo, Z., & Wood, L.). (2008). *The school-family connection: Looking at the larger picture, a review of current literature*. Austin, TX: National Center for Family and Community Connections with Schools at SEDL. Retrieved May 19, 2009, from <http://www.sedl.org/connections/resources/sfclitrev.pdf>

This set of studies helps to elucidate the connections and partnerships made among schools, families, and the communities that surround them.

SEDL's national center also offers two online learning modules in community and family involvement.

SEDL. (2009). *Modules for community and family involvement with schools* [Website]. Retrieved May 19, 2009, from <http://www.sedl.org/learning/>

- *What Do We Mean by Family and Community Connections with Schools?*
This interactive module discusses the benefits of family and community connections with schools and introduces eight types of family and community connections. The module then teaches school leaders how to plan strategies for developing or increasing family and community involvement in schools.
- *What Structures Can Help Schools Create Effective Family and Community Involvement That Supports Learning Outside of School?*
This interactive module discusses research-based strategies that involve families and communities to support learning outside of the classroom. The module then introduces a framework for effective family and community involvement.

Resource 32: Rethinking Parent Conferences

Kansas City, Kansas Public Schools. (2007). *Rethinking parent conferences* [Website]. Retrieved May 19, 2009, from http://www.kckps.org/parents/fas/rethink_parent_conf.html

This group of online resources provides ideas, strategies and graphic organizers for getting the most out of parent conferences. The suggestion here is to pilot student-led conferences, so that students begin to take ownership over their academic achievement and behavioral actions at school.

Resource 33: Family Involvement Resources

Harvard Family Research Project. (2008). *FINE: Family involvement network of educators* [Website]. Retrieved May 19, 2009, from <http://www.hfrp.org/family-involvement/fine-family-involvement-network-of-educators>

This website contains the latest research and a great deal of practical information for establishing and strengthening family-community-school partnerships. The Resource Guide section contains standards for family involvement, tools for educators and family members, programs that promote family involvement, and special initiatives involving several organizations. The guide contains many links to organizations and publications that explain why and how effective family-community-school partnerships are formed.

Resource 34: Becoming a Community School

Crane, C., Bix, P., Herbert, P. E., Kelly, B., Landergan, K., Neilson, C., et al. (2003). *Becoming a community school: A step-by-step guide to bridging the school-family gap*. Dorchester, MA: Project for School Innovation. Table of contents and purchasing information retrieved May 19, 2009, from http://www.psinnovation.org/what_we_do/dissemination/books/becoming_a_community_school_2#TOC

This book is about the family-community-school partnerships of Robert L. Ford School, where 57 percent of the families speak limited English and 95 percent are low income. The school has dramatically increased the achievement of its students by offering a wide range of educational and social supports to families. The book provides tips and lessons learned from the Ford School's efforts to strengthen family and community involvement.

Resource 35: *A Broader, Bolder Approach to Education*

Economic Policy Institute. (2009). *A broader, bolder approach to education* [Website]. Retrieved May 19, 2009, from: <http://www.boldapproach.org/who.html>

In 2008, this online statement was released for dissemination, and supporters were invited to co-sign. *A Broader, Bold Approach* advocates for a rethinking of the American public education system to include health care, early childhood education, and afterschool and out-of-school learning. This manifesto promotes a community approach to schooling for the 21st century.

Resource 36: *Organizing a Successful Family Center in Your School*

Wisconsin Department of Public Instruction. (2005). *Organizing a successful family center in your school: A resource guide* (Rev. ed.). Madison, WI: Author. Retrieved May 19, 2009, from <http://dpi.wi.gov/fscp/pdf/fcsprntc.pdf>

This booklet serves as a guide to understanding and establishing family centers. Located in a school building, a family center can be especially welcoming to families of diverse cultures and those with limited English skills. The family center permits school staff members and families to establish relationships, programs, and activities to help children succeed. The booklet answers questions related to family center planning, development, funding, staff, activities, and evaluation.

Substrategy 2.5: Create a School Culture That Fosters Collaboration

Resource 37: *Building Professional Learning Communities*

Building professional learning communities. (2007, November 19). *Education Week* [Online chat] Transcript retrieved May 19, 2009, from http://www.edweek.org/chat/transcript_11_19_2007.html?r=1241758788

This discussion, featuring Rick and Becky DuFour and Anne Jolly, focused on paring down a working definition for professional learning communities and providing strategies and best practices centered around the creation and implementation of professional learning communities and other such professional development activities in schools.

Resource 38: *Time for Reflection*

Emm, L. (2007). Time for reflection. *Teacher Professional Development Sourcebook*, 1(1), 11. Retrieved May 19, 2009, from <http://www.teachermagazine.org/tsb/articles/2007/10/25/01practices-2.h01.html>

This brief editorial offers support for the development of professional learning communities (PLCs). Using the example of the Miami-Dade County Public Schools, Emm writes this of PLCs: “Teachers feel more in charge of their work, and students flourish because teachers are constantly reflecting on ways to teach them better.”

Resource 39: *All Things PLC*

All Things PLC: All Information, No Commerce. (n.d.). *All things PLC, all in one place* [Website]. Retrieved May 19, 2009, from <http://www.allthingsplc.info/>

This website is dedicated to disseminating the latest research and information on professional learning communities. As stated on the site itself, it “was created to serve as a collaborative, objective resource for educators and administrators who are committed to enhancing student achievement.” Among the resources are blogs and discussion boards, presentations of evidence of the effectiveness of PLCs, and a compendium of tools and resources.

Strategy 3: Create Diversified Pay Structures That Reward Quality Performance

Performance-based pay systems are important because they improve retention of effective teachers and draw accomplished teachers to at-risk schools (Coates-McBride & Kritsonis, 2008). Teachers have the single greatest within-school impact on student learning. However, pay is not the only thing that will attract and retain excellent teachers in high-needs schools. Significant salary increases, strong leadership, and investment in school working/learning conditions are also central strategies, not only for attracting good teachers but also for retaining quality teachers in at-risk schools. In addition, performance-based pay gives teachers goals and challenges to meet, and it focuses them on continuous professional development—two major aspects of improving the teaching/learning environment.

Resource 40: Center for Educator Compensation Reform (CECR)

Website: <http://www.cecr.ed.gov/>

CECR was originally established as a national center charged to support the grantees of the Teacher Incentive Funds. The center's website has an expansive compilation of research and resources focused on various aspects of building alternative compensation systems.

Center for Educator Compensation Reform. (2009). *A guide to implementation: Resources for applied practice*. Retrieved May 19, 2009, from <http://www.cecr.ed.gov/guides/compReform.cfm>

The CECR guidebook includes explicit examples of current nationwide initiatives in the following areas of educator compensation reform:

- Classroom observations of teacher performance
- Communication and stakeholder engagement
- Data quality essentials
- Information technology considerations
- Principals and alternative compensation
- Alternative compensation for teachers of nontested subjects and grades
- Paying for a performance-based compensation system
- Value-added measurement

Resource 41: Teacher Incentive Fund (TIF)

U.S. Department of Education. (2008). *Teacher incentive fund* [Website]. Retrieved May 19, 2009, from <http://www.ed.gov/programs/teacherincentive/index.html>

The Education Department instituted the TIF program to support performance-based compensation systems for both teachers and administrators in schools identified as high needs. The goals of the TIF program include the following:

- Improving student achievement by increasing teacher and principal effectiveness.
- Reforming teacher and principal compensation systems so that teachers and principals are rewarded for increases in student achievement.
- Increasing the number of effective teachers teaching poor, minority, and disadvantaged students in hard-to-staff subjects.
- Creating sustainable performance-based compensation systems.

Resource 42: Teacher Advancement Program (TAP)

National Institute for Excellence in Teaching. (2009). *Teacher advancement program: A new direction for success* [Website]. Retrieved May 19, 2009, from <http://www.talentedteachers.org/>

The TAP program is a national model built on the following principals of reform:

- Multiple career paths with differentiated duties and compensation for teachers who serve as either mentor or master teachers
- Ongoing job-embedded professional development
- Instructionally focused accountability through five to six annual teacher evaluations scored using rubrics based on TAP-developed performance standards and rubrics
- Performance-based pay

TAP teachers are compensated based on increased responsibilities in differentiated positions, how well they perform in those positions, the quality of their instructional performance, and their students' academic growth. All teachers in a TAP school are eligible for financial awards based on these factors. The system also encourages districts to offer competitive salaries to those who teach in hard-to-staff schools.

Resource 43: *Performance Pay System Preferences of Students Preparing to Be Teachers*

Milanowski, A. (2006). *Performance pay system preferences of students preparing to be teachers* (WCER Working Paper No. 2006–8). Madison, WI: University of Wisconsin–Madison, Wisconsin Center for Education Research. Retrieved May 19, 2009, from http://www.wcer.wisc.edu/publications/workingPapers/Working_Paper_No_2006_08.pdf

This policy brief offers insights into teacher-education students' feelings about performance-pay systems, and gives some explanation as to their mixed emotions.

Resource 44: *Can Pay Incentives Improve the Recruitment and Retention of Teachers in America's Hard-to-Staff Schools? A Research Summary*

Wheeler, J., & Glennie, E. (2007). *Can pay incentives improve the recruitment and retention of teachers in America's hard-to-staff schools? A research summary* (Policy Matters). Durham, NC: Center for Child and Family Public Policy at Duke University. Retrieved May 19, 2009, from <http://www.childandfamilypolicy.duke.edu/publications/policybriefs/files/edureform/Incentives.pdf>

This publication investigates whether providing incentives in hard-to-staff schools will increase teacher recruitment and retention. The authors offer examples of recruitment and retention bonuses currently being used across the United States. They take a more extensive look at a district recruitment initiative in Charlotte-Mecklenburg, North Carolina. Finally, the document provides a brief summary of the research currently available on teacher recruitment and retention incentives, as well as a look at how incentives are viewed depending on age, gender, and race.

Substrategy 3.1: Make Several Decisions Prior to Designing the Pay System

Be sure to think about the following aspects of performance-pay before you launch into implementation:

1. What you want to achieve through performance-based pay?
2. Which elements already exist in your district, state, or school that can support or feed into a performance-based pay program?
3. What do you want to reward?
4. How will the pay program directly address improving quality and equity (of teaching/learning for at-risk schools)?
5. How much time do you have for the creation/design process—keeping in mind collaboration and negotiations, as well as the need to keep momentum?
6. Will you supplement the traditional pay scale or replace it?

Resource 45: *Catching Up With the Vaughn Express*

Kellor, E. M. (2005). Catching up with the Vaughn express: Six years of standards-based teacher evaluation and performance pay. *Education Policy Analysis Archives*, 13(7). Retrieved May 19, 2009, from <http://epaa.asu.edu/epaa/v13n7/v13n7.pdf>

The Vaughn Next Century Learning Center, a public conversion charter school in the Los Angeles Unified School District, developed a knowledge- and skills-based pay program in the 1997–98 school year. This program also came with a new evaluation system. Kellor's paper provides an overview of the development and evolution of the performance-pay program and the new teacher evaluation system implemented at the Vaughn Center. Vaughn teachers' reactions to these innovations are discussed. Finally, the author offers key recommendations to help those who plan to implement knowledge- and skills-based pay or standards-based teacher evaluation.

Resource 46: *Pay for Performance: What Are the Issues?*

Delisio, E. R. (2006). *Pay for performance: What are the issues?*[Website]. Retrieved May 19, 2009, from http://www.educationworld.com/a_issues/issues/issues374a.shtml

Reforms to the traditional pay system for teachers are becoming more common. This School Issues article from Education World discusses the alternative proposals that have gained national attention. Many districts are moving toward one of many types of performance pay for teachers. Advocates of the programs say that they will help attract and retain teachers. The article indicates, however, that flaws to this reform still need to be addressed by research.

Resource 47: *The Revolving Door*

Hanushek, E., Kain, J. F., & Rivkin, S. G. (2004). The revolving door. *Education Next*, 4(1), 77–82. Retrieved May 19, 2009, from http://media.hoover.org/documents/ednext20041_76.pdf

This article reports on research that has been conducted in Texas on the reasons that teachers leave the profession. Many different factors influence the recruitment and retention of teachers, such as salary, working conditions, and preferences. This article reviews research that posits that working conditions mattered more to teachers than salary when they decided to stay, leave, or teach in a certain district. Teaching in low-achieving schools was also a strong decision factor in movement between districts. The results of this study have policy implications for the recruitment and retention of teachers in Texas public schools.

Resource 48: *Developing a Performance-Pay Plan for Teachers*

Center for Educator Compensation Reform. (2009). *A guide to implementation: Resources for applied practice*. Retrieved May 19, 2009, from <http://www.cecr.ed.gov/guides/compReform.cfm>

The CECR guidebook includes explicit examples of current nationwide initiatives in the following areas of educator compensation reform:

- Classrooms observations of teacher performance
- Communication and stakeholder engagement
- Data quality essentials
- Information technology considerations
- Principals and alternative compensation
- Alternative compensation for teachers of nontested subjects and grades
- Paying for a performance-based compensation system
- Value-added measurement

Substrategy 3.2: Base Differentiated Pay on Valid Measures of Effectiveness

Resource 49: Research Synthesis

Goe, L., Bell, C., & Little, O. (2008). *Approaches to evaluating teacher effectiveness: A research synthesis*. Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved May 19, 2009, from <http://www.tqsource.org/publications/EvaluatingTeachEffectiveness.pdf>

This research synthesis offers insight into how to measure teacher effectiveness. The report suggests which assessments and measures should be used in specific circumstances and provides complete definitions for the key terms used in the conversation on teacher effectiveness. Finally, the synthesis presents policy implications for the national conversation on teacher effectiveness.

Resource 50: *Using Value-Added Models to Identify and Support Highly Effective Teachers*

Goe, L. (2008). *Using value-added models to identify and support highly effective teachers* (Key Issue). Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved May 19, 2009, from <http://www2.tqsource.org/strategies/het/UsingValueAddedModels.pdf>

This comprehensive publication is a collection of strategies and resources aimed at building an understanding among school and state officials of the value-added model of teacher evaluation. The text includes a working definition of *value-added*, a list of some of the major benefits of such measures, some tips and cautions for implementation, and a real-life example of value-added measures in action. This resource includes links to program websites, scholarly articles, and media pieces related to the topic of value-added evaluation.

Resource 51: *Assessing the Potential of Using Value-Added Estimates of Teacher Job Performance for Making Tenure Decisions*

Goldhaber, D., & Hansen, M. (2008). *Assessing the potential of using value-added estimates of teacher job performance for making tenure decisions*. Seattle, WA: Center on Reinventing Public Education. Retrieved May 19, 2009, from http://www.crpe.org/cs/crpe/download/csr_files/brief_crpe_badclass_nov08.pdf

In recent years, education researchers and policymakers alike have conceptualized and posited many different strategies for evaluating teacher effectiveness. One strategy, value-added modeling, has emerged as both widely recognized and highly controversial. The authors of this research brief examine the utility and stability of value-added modeling, and provide accompanying policy recommendations and implications. Using a longitudinal data set provided by the North Carolina Department of Public Instruction, the researchers attempt to find a correlation between teacher effectiveness (as measured by value-added methods) and student achievement, for both pretenure and posttenure teachers. In addition, it is noteworthy that the sample size drops significantly for the second group of teachers; only roughly 500 of the original 1,363 teachers observed stayed in teaching long enough to gain posttenure status. The resulting

statistics provide mixed results, which could be used to fuel either side of the value-added debate. On the one hand, the study shows that “a nontrivial percentage of teachers who are found to be ineffective pretenure appear to be more effective in a posttenure period” (p. 10). On the other hand, descriptive data about these teachers imply that school administrators are not selective about which teachers receive tenure, which could damage the validity of pro-tenure arguments.

Resource 52: *Communication Framework*

Coggsall, J. (2007). *Communication framework for measuring teacher quality and effectiveness: Bringing coherence to the conversation*. Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved May 19, 2009, from <http://www.tqsource.org/publications/NCCTQCommFramework.pdf>

This guide serves as a framework for stakeholders discussing teacher effectiveness. Although the framework does not define teacher effectiveness, it provides talking points and discussion components that must be addressed. It also provides stakeholders with common definitions for key measurement terms to ensure that common language is used when discussing such a complex topic. The framework presents examples of the various teacher quality dimensions, measurements, or instruments that can be used to evaluate each dimension and the recommended resources for conversation for each dimension. Finally, the framework offers potential policy questions surrounding the evaluation of teacher effectiveness.

Substrategy 3.3: Expect Costs

Adequately fund your alternative compensation system with a long-term plan for resources and sustainability.

Resource 53: CECR Guidebook Module

Guthrie, J. W., & Prince, C. D. (2008). *Paying for and sustaining a performance-based compensation system*. Washington, DC: Center for Educator Compensation Reform. Retrieved May 19, 2009, from <http://www.cecr.ed.gov/guides/payingFor.pdf>

This Center for Educator Compensation Reform guidebook module illustrates how state and local education agencies can take appropriate and efficient financial steps toward building an alternative educator compensation system.

Resource 54: *Frozen Assets*

Roza, M. (2007). *Frozen assets: Rethinking teacher contracts could free billions for school reform*. Washington, DC: Education Sector. Retrieved May 19, 2009, from http://www.educationsector.org/usr_doc/FrozenAssets.pdf

This policy paper provides a cost-benefit analysis of several aspects of the typical teacher contract. Roza argues that a reallocation of funds away from certain pieces of standard teacher

contracts would help alleviate the scarcity of resources currently at play in American public education. “Money spent on seniority-based raises and generous health plans for more veteran teachers might be better used for raising minimum salaries to recruit younger educators who meet high teaching standards” (p. 1). Of the contract stipulations examined, salary increments based on years of experience and costs associated with class-size reduction policies would yield the greatest returns. When taken together, the eight contract areas would, if reformed, free up roughly \$77 billion per year.

Resource 55: Performance Pay in Iowa

Baylor, K. (2007, January 3). Teachers wary of performance-based pay. *West Branch Times*. Retrieved May 19, 2009, from <http://www.westbranchtimes.com/article.php?id=1390>

While the Iowa Legislature considers proposals for performance-pay models for teachers, many educators in the state expressed consternation over the idea of merit pay. Aside from concerns about funding sources and reallocation of resources, the teachers report being worried about basing salaries solely around student test scores.

Substrategy 3.4: Publicize the Program and Communicate Extensively With Teachers, Administrators, and the Public to Ensure That Important Stakeholders Understand the Project and Its Impact

Resource 56: CECR Guidebook Module

Koppich, J., & Prince, C. D. (2008). *Stakeholder engagement and communication*. Washington, DC: Center for Educator Compensation Reform. Retrieved May 19, 2009, from <http://www.cecr.ed.gov/guides/CECRStakeholderEngagement.pdf>

This Center for Educator Compensation Reform guidebook module offers strategies and best practices to be enacted when school, district, and state education officials are working toward a communication plan for launching an alternative compensation system.

Resource 57: Building a Communication Plan

Koppich, J., & Prince, C. (2007, September). *Engagement and communication*. Presentation given at the Round 2 Teacher Incentive Fund Grantee Meeting. Retrieved May 19, 2009, from <http://www.cecr.ed.gov/news/sept07Materials/communicationsPlan.pdf>

This slide presentation exemplifies many of the ideas and strategies presented in the *Stakeholder Engagement and Communication* module of the Center for Educator Compensation Reform guidebook.

Resource 58: *Building Healthy Communities*

McDermott, R. (2007). Building healthy communities. *InsideKnowledge*, 10(9). Retrieved May 19, 2009, from <http://www.ikmagazine.com/display.asp?articleid=26F53BD0-4ABC-4120-89A8-77BB08D72CF0>

This article provides a brief overview about building communities as part of the knowledge management movement. The author reviews key factors that will cause a community to thrive, specifically those from a three-year study conducted in private industry. The article concludes with recommended steps for building communities.

Resource 59: *What Went Wrong in Cincinnati?*

Delisio, E. R. (2003). *Pay for performance: What went wrong in Cincinnati?* Retrieved May 19, 2009, from http://www.educationworld.com/a_issues/issues/issues374b.shtml

In this School Issues article from Education World, Kathleen Ware, former associate superintendent of the Cincinnati Public Schools, is quoted as follows: "I'm not sure the teachers completely understood the plan. We lost time negotiating because teachers felt the board had breached a cooperative agreement [on another issue]."

Resource 60: *Lessons Learned*

U.S. Department of Education. (2008). *Lessons learned about implementing performance-based pay*. Washington, DC: Author. Retrieved May 19, 2009, from <http://www.ed.gov/admins/tchrqual/performance/pay-performance.pdf>

This information guide disseminated by the U.S. Department of Education gives a brief rationale for the use of alternative compensation systems in public school classrooms, then highlights some key components of effective performance-pay models. These tenets include linking data systems with human resources, payroll, student performance, and teacher evaluations; implementing multiple valid assessments of teachers; offering incentives large enough to change behavior; and continually refining the system based on stakeholder input. Finally, the guide lays out specific differences between alternative compensation systems and traditional pay models. According to this piece, "By continuing to evaluate the effect of these innovative programs and harnessing emerging insights, ... we can ensure that these promising developments will benefit greater numbers of schools, teachers, and students across the nation" (p. 4).

Strategy 4: Provide Advancement and Leadership Opportunities for Teachers

Creating a teacher career with advancement and leadership opportunities can help schools and districts retain quality teachers, which is particularly important in at-risk schools and, therefore, important for improving equitable teacher distribution. Research suggests that the greater the participation in decision making, the greater the job satisfaction of teachers. When teachers believe that their knowledge of teaching and learning is considered a valuable factor in decision making, they feel empowered. Such empowerment has been shown to be a key influence on whether teachers remain in a school, especially at the high school level. Also, many teachers feel that the only way to advance and lead is to leave teaching and become an administrator. Creating a career in teaching allows teachers to remain in the classroom while pursuing opportunities for leadership and salary advancement.

Providing these kinds of opportunities also can help identify ineffective teachers early. Many states and districts have only one chance to conduct a deep evaluation of a teacher's effectiveness, and this occurs before the teacher ever sets foot in a classroom as the "teacher of record." Some states have adopted provisional and professional licenses, but this two-step process occurs early in a teacher's career and is too often a formality and does not give the teacher specific and direct feedback on teaching practices. By promoting teaching as a career, states can conduct regular evaluations and identify teachers in need of improvement or dismissal. Regular evaluations also can identify teachers deserving special recognition and reward.

Resource 61: *Enhancing Teacher Leadership*

National Comprehensive Center for Teacher Quality. (2007). *Enhancing teacher leadership* (Key Issue). Washington, DC: Author. Retrieved May 19, 2009, from:
<http://www2.tqsource.org/strategies/leadership/EnhancingTeacherLeadership.pdf>

This set of resources presents different facets of the reform strategy of enhancing and reshaping teacher leadership in schools.

Resource 62: Teacher Career Ladders

Democratic Leadership Council. (2000). *Idea of the week: A teacher career ladder based on merit*. Washington, DC: Author. Retrieved May 19, 2009, from
http://www.dlc.org/ndol_ci.cfm?contentid=393&kaid=110&subid=135

This opinion piece, published by the Democratic Leadership Council, examines the creation and implementation of performance-pay systems in general and provides information about one specific program in Cincinnati. The article's author argues that although the Cincinnati model of merit pay has its flaws—he cites the indirect link between teacher evaluation and pay to measures of student achievement as an issue—it is a good start to push forward the Clinton administration's objective to "invest more in teachers and schools and demand more in return" (p. 1).

Resource 63: Urban School Principalship

Coggshall, J. G., Stewart, J. K., & Bhatt, M. (2008). *Paving the path to the urban school principalship* (TQ Research & Policy Brief). Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved May 19, 2009, from: <http://www.tqsource.org/publications/June2008Brief.pdf>

This Research & Policy Brief describes the principal pipeline through a focused review of the research. It shares findings from a series of four focus groups of 74 aspiring school principals and discusses the implications for policymakers and others who are working to improve the supply of high-quality principals.

Resource 64: *Connecting Teacher Leadership and School Improvement*

Murphy, J. (2005). *Connecting teacher leadership and school improvement*. New York: Corwin Press.

This handbook is designed to help readers understand the necessity for and relevance of strong, high-quality teacher leadership within schools. Rather than treating the issue of teacher leadership as just another reform “fad” in education policy, the author of this text argues that teacher leadership is a critical component of systemwide reform, a “piece of equipment in the school-improvement toolbox” (p. 4).

Substrategy 4.1: Create a Multitiered Licensure System Tied to Salary, Professional Growth, and Student Achievement

Multitiered licensure systems provide school leaders an opportunity to assess teacher performance, teachers an opportunity and incentive to improve practice, and state leaders an opportunity to reward effective practice. Such systems have the power to greatly improve teacher quality, recruitment, and retention. However, the effectiveness of multitiered licensures depends on several factors, as follows:

- High teaching standards
- An effective system of evaluation
- Ample opportunity for professional growth tied to teaching standards
- Substantial incentives for advancement in the form of increased recognition, responsibility, and salary

Resource 65: *Multi-Tiered, Performance-Based Licensure*

Hill, T. L., & Dozier, T. (2003). *Multi-tiered, performance-based licensure: Four state profiles* (Briefing Paper). Denver, CO: Education Commission of the States. Retrieved May 19, 2009, from <http://www.ecs.org/clearinghouse/51/22/5122.htm>

This paper summarizes the tiered licensure systems of four states: Arkansas, Connecticut, Kentucky, and Wisconsin. The report examines the key components of each state's system and presents a side-by-side analysis for easy comparisons. It also includes lessons these states have learned as they implemented their systems, and concludes with some thoughts on the strengths and weaknesses of the systems profiled.

Resource 66: Teach New Mexico

Teach New Mexico. (2008). *Overview: The 3-tiered licensure system* [Website]. Retrieved May 19, 2009, from <http://www.teachnm.org/overview.html>

Providing an overview of New Mexico's tiered licensure system, this website explains what a teacher must accomplish at each of the three tiers and lists the salaries that accompany each level.

Resource 67: Arizona Career Ladder

Website: <http://www.ade.az.gov/asd/CareerLadder/>

The Arizona Career Ladder Program is a performance-based compensation plan that provides incentives to teachers in 28 districts around the state who choose to make career advancements without leaving the classroom or the profession. Rather than advancing on a salary schedule as a result of seniority and educational credits, teachers are paid according to their level of skill attainment and demonstrated student academic progress. The program supports and encourages collaboration and teamwork, and provides opportunities for leadership and professional growth, with Career Ladder teachers participating in higher level instructional responsibilities within their districts. Although the state requires that a number of basic elements be included in the local plan, each district may develop specific details that meet its unique needs.

Resource 68: Denver ProComp

Website: <http://denverprocomp.dpsk12.org/about/>

Denver's ProComp system is an alternative educator compensation program based on several facets of high-quality teaching: knowledge and skills, professional evaluation, student growth, and market incentives. Teachers can add to their base salaries by choosing off the "menu" of ProComp options.

Substrategy 4.2: Create Opportunities for Teachers to Create, Influence, and Implement School and District Policies and Procedures

Teachers are at the intersection of policy and practice and have an in-depth knowledge of their students. They bring a valuable perspective to any discussion involving teaching. Through their daily contact with students, they also control whether an initiative positively impacts student achievement. When school leaders allow teachers to be a meaningful part of education-related discussions, teachers are more likely to support the results. In order to garner the support of

teachers unions, leaders must acknowledge that teacher input and buy-in are particularly important to the creation and implementation of a rewarding career path.

Resource 69: Teacher Influence Over Policy

Hatch, T., Eiler-White, M., Faigenbaum, D. (2005). Expertise, credibility, and influence: How teachers can influence policy, advance research, and improve performance. *Teachers College Record*, 107(5), 1004–1035.

From the abstract: “While many efforts to foster teacher leadership focus on the power, authority, and control that can come with teachers’ formal positions in organizational hierarchies, case studies of 4 teachers document how expertise, credibility, and influence can come together in teachers’ activities regardless of the formal positions they hold. These teachers’ expertise emerged from investigations of issues that were of concern to them in their own classrooms and schools. Through these investigations, they developed representations that both helped them to articulate their own ideas and facilitated the sharing of their work in a variety of different contexts. The connections these teachers made provided them with new perspectives, helped them to build their credibility, and enabled them to gain access to individuals who served as translators, advocates, and amplifiers for their work. Despite conditions that provided little support for and often significant discouragement from sharing their work and ideas, their experiences suggest some of the ways that schools, school systems, and reform networks can build on the ideas, energy, and influence of teachers both in the classroom and out.”

Resource 70: Opportunities for Teachers as Policy Makers

Kumar, D. D., & Scuderi, P. S. (2000). Opportunities for teachers as policy makers. *Kappa Delta Pi Record*, 36(2), 61–64. Retrieved May 19, 2009, from <http://www.teachersnetwork.org/tnli/resources/kumar.htm>

The authors of this article advocate for teachers to empower themselves to become policymakers. According to Kumar and Scuderi, there are myriad professional development opportunities of which practitioners can take advantage, thereby lending themselves more professional credibility and increasing their chances of holding authority in policy debates.

Teachers Network. (2002). Online discussion on Kumar & Scuderi article. Retrieved May 19, 2009, from <http://teachersnetwork.org/tnli/listarchive/opptspolicy.htm>

This interactive discussion around the role of teachers in policymaking features some interesting insights from practitioners and administrators on “Opportunities for Teachers as Policy Makers.”

Substrategy 4.3: Establish Teacher Leadership Positions, and Train Teachers Accordingly

Resource 71: Houston Teachers Institute (HTI)

Website: http://hti.math.uh.edu/about_us.php

HIT is a partnership between the Houston Independent School District (HISD) and the University of Houston. Every year, HISD teachers may apply to become fellows in the HIT. HIT curriculum and content are designed by the fellows, and classes are taught by University of Houston faculty. Upon completion of the program, fellows receive a stipend. The hope of the HISD is that fellow teachers will return to their schools most equipped to mentor beginning and novice teachers in curriculum and pedagogy.

Cook, P. D. (2001). Generating teacher leadership. *On Common Ground*, 9. Retrieved May 19, 2009, from <http://www.yale.edu/ynhti/pubs/A22/Cooke.html>

This brief report tells the story of the Houston Teachers Institute. The document reports that teacher retention was satisfactory but not extraordinary. The author attributes these modest results to some design growing pains and the occasional sense that, in order to participate in the program, teachers were sacrificing energy and effort that could have been invested in their teaching practice.

Resource 72: *The Bridgeport Story*

Education Alliance at Brown University. (2002). *The Bridgeport story: What urban school districts need to know about school leadership teams*. Providence, RI: Author. Retrieved May 19, 2009, from http://www.alliance.brown.edu/pubs/pln/brdgprt_pln.pdf

This report traces the development of a school leadership team initiative in Bridgeport, Connecticut. The report includes Bridgeport's reasons for the initiative, sample guidelines and bylaws for the team, tips for communicating change to staff and the community, two checklists of team tasks, a self-assessment tool, and some lessons learned by the staff in Bridgeport.

Resource 73: Teacher Leadership

Hayden, K. (2007). *Teacher leadership by Danielson: How to stay in the classroom and find leadership opportunities* [Commentary]. Retrieved May 19, 2009, from http://recommended-non-fiction.suite101.com/article.cfm/seasoned_teachers_not_content

This editorial is a succinct summary and critique of Charlotte Danielson's book *Teacher Leadership that Strengthens Professional Practice*.

Danielson, C. (2006). *Teacher leadership that strengthens professional practice*. Alexandria, VA: Association for Supervision and Curriculum Development.

Real-Life Examples

Induction/Mentoring: Illinois Beginning Teacher Induction Pilot Program

Illinois state school officials have identified as a goal the retention of more new teachers and the improvement of their teaching effectiveness, as well as the bolstering the abilities of veteran teachers to serve as mentors. On February 20, 2009, Illinois State Superintendent Christopher A. Koch released a Request for Proposals for the next rounds of Beginning Teacher Induction Pilot Programs. In collaboration with The New Teacher Center and Learning Point Associates, Koch first made a call for proposals three years ago. Through this program, the state funded 10 beginning teacher induction pilot programs from 2006 to 2008. In February 2008, Illinois funded an additional 31 new pilot sites throughout the state. Each program varies in its format, but all include mentoring, formative assessments, and intensive professional development based in part on individual induction plans. Each pilot program is being evaluated as part of an overall assessment of the effectiveness of beginning teacher induction and mentoring.

Illinois Beginning Teacher Induction Pilot Programs

<http://intc.ed.uiuc.edu/isbesites/isbesites.html>

Request for Proposals: Grants for the Beginning Teacher Induction Pilot Program

http://www.isbe.state.il.us/certification/pdf/beginning_teacher_RFP.PDF

Working Conditions: Nevada Empowerment Schools

In 2007, Nevada passed legislation that provides for 29 “empowerment schools” across the state and allocates an additional \$400 per pupil in spending. In empowerment schools, principals, in collaboration with the faculty, control up to 90 percent of their school budgets, allowing educators to determine how best to meet the unique needs of their student populations. Clark County (Las Vegas) has eight of these schools, four of which opened in 2006–07. Under the legislation, schools will receive more autonomy in the areas of budgeting, staffing, employee incentives, time/calendar, and instruction; they also will be held accountable for meeting performance targets. Schools will create a school design team that puts together an empowerment plan approved by the board of trustees of the district. Plans will include budget, governance structure, an academic plan, intended student/teacher ratios, and a parental involvement plan. Each school will submit a quarterly report on progress. No data exist yet in regard to the program’s impact on teacher retention.

State of Nevada. Senate Bill No, 238—Committee on Human Resources and Education

http://www.leg.state.nv.us/74th/Bills/SB/SB238_EN.pdf.

Clark County School District Empowerment Schools

http://www.nvasb.org/07_conf_documents/lee.pdf.

Performance Pay: Columbus Teacher Advancement Program

In 2004, Ohio piloted a Teacher Advancement Program (TAP) model in the Columbus City Schools (CCS). Originally, the TAP was launched in four academically faltering schools as a school improvement strategy. Two of those schools closed after the 2005–06 school year, and two redesigned schools replaced them. In 2006, the Ohio Department of Education received a \$20 million Teacher Incentive Fund grant. Using these funds, the TAP program was further expanded to include four additional schools and provide incentive money for additional work, and awards became schoolwide. For the 2008–09 school year, eight Columbus schools featured the TAP model. Components of the CCS TAP program are based on those of the national model and include the following:

- Multiple career paths with differentiated duties and compensation for teachers who serve as either mentor or master teachers
- Ongoing job-embedded professional development
- Instructionally focused accountability through five to six annual teacher evaluations scored using rubrics based on TAP-developed performance standards and rubrics
- Performance-based pay

Teacher Advancement Program FAQs

<http://talentedteachers.org/action/action.taf?page=faq>

What Is TAP?

[http://www.columbus.k12.oh.us/website.nsf/0c6fc31e841022ec852573af00703e34/6af88da6178f8e2a852574e10055dd65/\\$FILE/TAP%20Newsletter%2010.07.08.pdf](http://www.columbus.k12.oh.us/website.nsf/0c6fc31e841022ec852573af00703e34/6af88da6178f8e2a852574e10055dd65/$FILE/TAP%20Newsletter%2010.07.08.pdf).

Career Differentiation: Teaching in Kansas Commission

In October 2008, the Kansas Educational Leadership Commission convened the Teaching in Kansas Commission task force. As a result, several recommendations were made to the state department of education regarding teacher leadership. Among them, the commission recommended that state officials add a standard to the Kansas Professional Education Standards that focuses on teacher leadership. Group members also suggested that teacher-leadership work at the school or district level be added to the list of domains for licensure renewal. In terms of policy, the commission recommended (1) establishing state policy that directs districts to develop opportunities for teachers to engage in collaborative work to enhance student learning and (2) creating centers throughout the state where educators can acquire the necessary skills to become teacher leaders. Finally, the task force team mentioned building indicators of teacher leadership quality into existing state accountability measures. Because this initiative has not yet been implemented, no data exist on retention.

Kansas Educational Leadership Commission Update

<http://www.kasa-ks.org/council/KELC%20update.pdf>

References

- Alliance for Excellent Education. (2005). *Teacher attrition: A costly loss to the nation and to the states* (Issue Brief). Washington, DC: Author. Retrieved May 19, 2009, from <http://www.all4ed.org/files/archive/publications/TeacherAttrition.pdf>
- Breaux, A. L., & Wong, H. K. (2003). *New teacher induction: How to train, support, and retain new teachers*. Mountain View, CA: Harry K. Wong.
- Clotfelter, C., Ladd, H., Vigdor, J., & Diaz, R. (2003, January). *Do school accountability systems make it more difficult for low performing schools to attract and retain high quality teachers?* Presentation given at the annual meeting of the American Economic Association, Washington, DC.
- Coates-McBride, A., & Kritsonis, W. A. (2008). The M&M effect—Assessing the impact of merit pay on teacher motivation: National implications. *National Journal for Publishing and Mentoring Doctoral Student Research*, 5(1), 1–6. Retrieved May 19, 2009, from <http://www.nationalforum.com/Electronic%20Journal%20Volumes/Coates-McBride,%20Alison%20The%20M&M%20Effect%20-%20Assessing%20the%20Impact%20of%20Merit%20pay%20on%20Teacher%20Motivation.pdf>
- Coggshall, J. (2006). *Prospects for the profession: Public opinion research on teachers* (TQ Research & Policy Brief). Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved May 19, 2009, from <http://www.tqsource.org/publications/October2006Brief.pdf>
- Darling-Hammond, L., & Sykes, G. (2003). Wanted: A national teacher supply policy for education: The right way to meet the “highly qualified teacher” challenge. *Education Policy Analysis Archives*, 11(33). Retrieved May 19, 2009, from <http://epaa.asu.edu/epaa/v11n33/v11n33.pdf>
- French, S. E., Seidman, E., Allen, L. & Aber, J. L. (2000). Racial/ethnic identity, congruence with the social context and the transition to high school. *Journal of Adolescent Research*, 15(5), 587–602.
- Ingersoll, R., & Perda, D. (2009). *The mathematics and science teacher shortage: Fact and myth* (CPRE Research Report No. RR-62). Philadelphia: Consortium for Policy Research in Education. Retrieved May 19, 2009, from http://www.cpre.org/images/stories/cpre_pdfs/math%20science%20shortage%20paper%20march%202009%20final.pdf
- Peske, H. G., Liu, E., Johnson, S. M., Kauffman, D., & Kardos, S. M. (2001) The next generation of teachers: Changing conceptions of a career in teaching. *Phi Delta Kappan*, 83(4), 304–311.
- Rockoff, J. E. (2004). The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*, 94(2), 247–252.