For years, people viewed teacher quality through fairly narrow lenses: Did educators have the proper academic credentials? Did they know their subject well? Could they effectively use a variety of instructional strategies? Now, a growing body of research and practice has made the picture of teacher quality considerably more complex, focusing on the combination of knowledge and skills that actually help students learn.

This larger framework emphasizes how intricate the teaching process actually is. Effective teachers need more than a simple understanding of content and more than generic instructional skills. They need a mixture of both, known as “pedagogical content knowledge,” a particularly deep understanding of subject matter that includes knowing how students think about the subject and instructional skills that are specific to the subject.

STRENGTHENING PEDAGOGICAL CONTENT KNOWLEDGE

Two acclaimed WestEd math and science initiatives are making sure this complexity is reflected in professional development that mirrors actual classroom experience. Building on the pioneering work of Lee Shulman and colleagues, WestEd’s initiatives are based on the premise that teachers’ knowledge and skills need to bridge both content and pedagogy. In addition to strengthening teachers’ understanding of subject matter, the projects help teachers discover why students find certain topics especially hard to learn and figure out how to make those concepts comprehensible.

“We not only teach the science content for adults, but we focus on how children think about those science ideas, what typical instructional strategies or representations help kids, and what the tradeoffs are of those approaches,” explains Kirsten Daehler, codirector of WestEd’s Understanding Science Project. The project helps K–8 teachers learn major science concepts, examine how children make sense of those concepts, and analyze and improve their teaching practices.

(continued on page 5)
The deadline is fast approaching. Under the federal No Child Left Behind act, states must have highly qualified teachers in every public classroom by the end of this school year.

The pressure to shore up teacher quality comes from more than just legislation. Common sense and decades of research point to the uniquely important role that teachers play in improving student achievement.

WestEd is proud to have a long history conducting research, developing products, and offering services that help improve teacher quality. Our work impacts preservice education, new teacher induction and mentoring, ongoing professional development, and policies related to teacher quality.

This issue of R&D Alert shares what we are learning from a sample of our latest work, focusing on three points in the process: preservice, inservice, and teacher retention.

"Rethinking Teacher Preparation" is an excerpt from a recent WestEd Policy Perspectives report on bringing new teachers into the profession. Starting from the premise that current approaches are not producing enough high-quality teachers, particularly for the highest-need schools, the article outlines four different models intended to offer "creative and far-reaching solutions."

Ideally, once teachers make it into the classroom, they continue to grow professionally. Our lead article shares lessons about improving teacher quality through ongoing professional development. The article describes how two WestEd projects help teachers develop "pedagogical content knowledge," a blend of subject-specific knowledge and skills that research has shown to be key particularly for teachers helping students learn mathematics and science.

Too often, all the effort of preparing and supporting teachers is lost as high-quality teachers leave the profession early in their careers. A third article in this issue of R&D Alert focuses on what schools and districts can do to retain more of these teachers. In particular, the article describes the importance of work conditions (including an effective professional development system, administrative support, and a climate of collegiality) for keeping high-quality teachers on the job.

Ultimately, solving the teacher quality challenge will require a range of efforts well beyond those described in this newsletter. More information on all of our work related to teacher quality is available online – at WestEd.org – and by using the contact information at the end of each article. But we hope the articles here provide a useful starting point for your own efforts to ensure that every student reaps the lifelong benefits of learning from high-quality teachers.

Glen Harvey
Chief Executive Officer
In recent years, the debate over teacher quality and preparation has gained new urgency. Competing groups of partisans have dominated this debate: one seemingly eager to assail the nation’s education schools and to suggest that there is an insufficiently defined body of professional teaching knowledge, the other committed to advancing professionalism by ensuring that all teachers are prepared and licensed through a prescribed and formal training program. The conflict is suffusing research, confusing policymakers, and stifling potentially promising reforms.

Yet while policymakers and reformers tend to focus on disagreements, even those who approach the teacher quality challenge from very different directions agree widely on at least four fundamental points. First, the current system is simply not providing enough of the quality teachers we need. Second, current policies are particularly failing to provide the teachers we need in the troubled, high-poverty school districts that need them most. Third, teacher preparation programs may not be teaching important skills or weeding out unsuitable candidates. Finally, there is little prospect that, left to their own devices, either schools of education or school districts will be willing or able to correct these problems anytime soon.

While these points of agreement don’t necessarily provide a clear road map for reform, together they do suggest the need for an ambitious rethinking of the status quo. Governors and legislators will not meet the teacher quality challenge by fine-tuning current arrangements or by pushing more funding into teacher preparation or professional development. More creative and far-reaching solutions are required.

NEW DIRECTIONS

In the final section of A Qualified Teacher in Every Classroom?, four influential education thinkers provide policymakers with four purposefully different models for addressing the teacher quality challenge. Working from the presumption that states can

(continued on next page)
choose to regulate teacher preparation programs with a lighter or heavier hand and can establish credentialing requirements that are more or less restrictive for individual teachers, the authors explain how states can use various combinations of candidate and program regulation to promote teacher quality.

Gary Sykes, a frequent coauthor with Linda Darling-Hammond, explains the merits of a “professionalism” model in which states aggressively regulate both which programs may train teachers and who may apply for a teaching position. Suggesting that we cannot just look to the “marketplace” to solve issues of teacher quality, he argues “the case for a strong state role in regulating the teaching profession, including a staged system of licensure that extends into the early years of teaching, together with accreditation standards for the programs that prepare teachers.”

Kate Walsh, president of the National Council on Teacher Quality, makes the case for a “candidate-centered” model, in which the state holds individual prospective teachers accountable to demonstrate certain skills and knowledge via a series of well-timed assessments. The state would no longer regulate teacher preparation programs, nor would teaching candidates be required to complete such a program. Walsh bases her proposal on the fact that a significant number of teachers enter the profession “having demonstrated minimal academic competence in a higher education environment that is rife with open admissions policies, undemanding coursework, and facile licensure exams”; that these candidates “are nevertheless granted a state license to teach and do not appear to have much difficulty finding teaching positions”; and that “districts most in need of talented teachers mistakenly view licensure as an adequate measure of quality.” At the core of her proposal is that “states, institutions of higher education, and aspiring teachers would share the responsibility of implementing a strategy, programs of study, and a system of assessments targeted at improving teachers’ general knowledge.”

Finally, Michael Podgursky, a labor economist at the University of Missouri, Columbia, explains the merits of a fully “deregulated” model in which the state permits schools and districts to hire as they see fit and does not regulate either teacher preparation programs or who may teach. Taking a “labor-market” approach to issues of teacher quality, Podgursky concludes that while policy debates tend to focus on teacher training and licensure, “there is little research indicating that the types of licenses that teachers hold or the type of pedagogical training program they have passed through has a significant relationship to student performance.” Raising the bar in teacher licensing is only likely to make matters worse by reducing the size of the applicant pool. A strategy to improve teacher quality needs to be focused on performance incentives for existing teachers, not on

A strategy to improve teacher quality needs to be focused on performance incentives for existing teachers, according to labor economist Michael Podgursky.

Bryan Hassel, president of Public Impact, and Michele Sherburne, executive director of DonorsChoose NC, argue for a “portfolio-of-providers” strategy in which states cultivate and monitor a diverse portfolio of preparation programs. These would include not only “traditional purveyors of teacher education” but also “other entities such as nonprofit organizations and school districts.” This means taking an output accountability rather than regulatory approach to ensure the quality of preparation programs, but without substantially regulating teacher candidates themselves. The effect of such an approach would be “dynamic systems that can change over time in response to changing needs and to improvements in our knowledge about what works.” Acknowledging that a pure “market approach” to teacher quality is unlikely to gain traction, they argue that the portfolio approach can provide the “dynamism” of markets, with their mechanisms for customer feedback and supply response.
the credentials of the relatively small number of teachers who enter the profession each year. Accordingly, the focus should be on eliminating rigid salary schedules and tenure while linking pay to student performance.

GUIDANCE FOR POLICYMAKERS

One of the profound lessons for policymakers is that even these diametrically opposed analyses find common ground in agreeing that there is a need to do something radically different than what we’re currently doing. We don’t find the evidence to clearly dictate that any of these courses is necessarily the “right” one, either nationally or for any given state. There is no cookie-cutter model that all states would be wise to embrace. Rather, there are probably multiple ways to address the challenge, and the best policy answer depends on the resources, needs, and preferences of a given state.

We believe that three principles should guide policymakers as they weigh the merits of the various reforms. First, any certification requirements should be crafted with an eye to the possibility that they will dissuade some portion of otherwise qualified candidates. That fact calls for tailoring them to be as flexible as possible.

Second, if preparation programs are to be a required part of a licensure regime, it is essential that they provide quality control and teach candidates professional skills and knowledge. In theory, there should be no argument about the superior effectiveness of a graduate from a traditional program.

Third, the case for licensing teachers or regulating teacher training programs rests on the notion that there is a professional body of knowledge and skills that these programs teach and that the trained teachers have mastered. Today, that body of knowledge and skills is too often amorphous, vague, and unsupported by clear research. While clarifying and developing that body of skills and knowledge must be a central goal for those in the worlds of policy and education in the years ahead, today’s policies should reflect only what we can reasonably ascertain today, not what we might hope to know tomorrow.

For the many elementary and middle school teachers who do not have a strong background in math or science, these subjects can be particularly challenging. An elementary teacher who took a single biology course in college, for example, would hardly be prepared to teach a fourth grade unit on electricity.

By taking additional college courses, the teacher could gain more knowledge of science. By participating in targeted professional development, the teacher might also learn how to manage hands-on work with students or how to use questioning strategies to probe their understanding. But rarely does the teacher get the opportunity to critically reflect on subject matter, explore different representations of important concepts, and adapt the material to address students’ prior knowledge and misconceptions.

By contrast, WestEd’s math and science initiatives stress this integration of content and pedagogy. In science, teachers re-enact hands-on investigations and examine student work for evidence of errors in children’s thinking. Collaborating with colleagues, teachers also confront areas where their science knowledge is superficial and identify ways to close similar learning gaps for students.

Consider what happens when teachers examine how fourth-graders make sense of magnetism. Because children often have limited experience with magnets, they tend to think magnets work like adhesive tape — one side sticks, and the other doesn’t. In actuality, only opposite magnetic poles attract, while like poles repel. With an adhesive-tape notion, students struggle to make sense of how, when, and why magnets push away from each other. Some students even believe a magnet is broken when it doesn’t stick.

Through case discussions about classroom dilemmas that arise from these kinds of misunderstandings, teachers learn to identify where students got confused, what about their thinking might be logical but incorrect, and what instructional strategies could have contributed to their misunderstanding. Most importantly, teachers begin learning what might help students develop a more accurate way of thinking.

TAKING PROFESSIONAL DEVELOPMENT TO THE CLASSROOM

Alma Ramirez, codirector of WestEd’s Mathematics Case Methods Project, explains that teachers must learn to probe students’ understanding, show them how to recognize and avoid common mistakes, and ensure that they can apply their skills in multiple settings.
Across the country schools continue confronting the churn. A third of all new teachers leave the profession within the first three years, and half of beginning special education teachers — the hardest positions to fill — quit within five.

But while school leaders spend considerable resources recruiting and preparing replacements, few are changing the conditions that cause teachers to abandon their careers. As a result, they are neglecting one of their best chances of raising student achievement levels: developing the skills and experience of new teachers.

“Understanding why teachers leave is the first step in getting them to stay,” according to Keeping Quality Teachers — The Art of Retaining General and Special Education Teachers, a new collaborative report and technical assistance manual developed by WestEd’s Northeast Regional Resource Center (NERRC) and coordinated by WestEd’s Schools Moving Up initiative. “Teacher retention happens at the school level.”

The report doesn’t minimize the challenges that low salaries, restrictive school accountability measures, and other policy decisions present. Indeed, it stresses the importance of bringing together a broad range of stakeholders — including state education agencies, local school boards, and institutions of higher learning — to identify and remove structural barriers to retaining high-quality teachers. But Keeping Quality Teachers makes clear that new instructors are most likely to leave because of poor working conditions such as limited induction and mentoring programs, weak administrative support, and a climate that erodes collegiality. For the most part, schools have the power to fix these problems themselves.

“So much of what we have been hearing is that special educators are leaving because of too much paperwork. General educators are leaving because their pay isn’t commensurate with their educational training,” reports Karen Mikkelsen, a program associate with WestEd’s NERRC and a coauthor of the report. “Working conditions actually turn out to be something that’s fairly easily and comprehensively addressed if there’s a will.”

Do new teachers have adequate supplies, or are they forced to spend their own money for crucial classroom resources? Are beginning teachers given the least desirable classrooms and the most challenging students, or is there a multi-year induction and mentoring program that eases them into the profession? Do they have adequate planning time, consistent schoolwide discipline practices, and opportunities to develop leadership skills? Or, have administrators forgotten how a positive school climate contributes to professional satisfaction and growth?

Keeping Quality Teachers recommends that schools ask such questions as part of a self-assessment process that identifies critical needs and engages the full faculty in devising appropriate responses. One of the unique features of this technical assistance manual is a series of rubrics schools can use to evaluate their efforts in key categories.

To improve retention of special education teachers, for example, administrators can involve them in the broader school community instead of allowing them to become
isolated in their own departments. School leaders also can provide clerical support so new teachers don’t become overwhelmed with the paperwork required to monitor the progress of children with disabilities. And they can make appropriate class assignments to ensure that new teachers have the credentials and skills to be effective with all the students they teach.

“People go into special education because they believe they can make a difference,” says Dr. Phoebe Gillespie, director of the National Center for Special Education Personnel and Related Service Providers and a coauthor of *Keeping Quality Teachers*. "And they’re leaving because they are not given the supports they need to make that difference. Too many things get put in their way that prevent them from doing what they came here to do."

Eliminating these barriers is not just the right thing to do but also makes economic and education sense. For one thing, the process of recruiting, hiring, and developing new faculty members is expensive. Studies cited in *Keeping Quality Teachers* estimate that replacing each teacher can cost 20 percent to 200 percent of the departing instructor’s annual salary. Investing those same resources in workforce development would enable schools to retain high-quality teachers instead of repeatedly paying to replace them.

Second, teacher retention affects student achievement. According to *Keeping Quality Teachers*, research has shown that the single most important factor in learning is the quality of instruction students receive. Because new teachers typically need at least three to five years to become proficient in their jobs, schools that do not pay attention to the professional needs of faculty have a difficult time raising academic standards. The problem is most acute in high-poverty, low-achieving schools that tend to have the least qualified staffs, the least amount of supports, and, consequently, the highest rates of turnover.
That’s why policymakers at all levels must place teacher retention at the center of school improvement efforts, says Fred DeMay, coordinator of special education program development and policy for the New York State Department of Education. He was among those who identified the need for and contributed to Keeping Quality Teachers.

“Right now if we have a district performing poorly with reading scores or any other accountability measure, very seldom do teaching conditions such as school climate, leadership, and induction programs... get addressed,” DeMay says. “You can’t look at these issues in isolation.”

Implementing a well-developed induction and mentoring program for new teachers is one of the best ways to raise retention rates. Keeping Quality Teachers details how both new and veteran teachers benefit by learning and sharing effective instructional practices.

“People who are good teachers and who love children and who are smart, capable professionals are being lost to us because we’re not paying attention to what will keep them here,” Mikkelsen says.

For more information about Keeping Quality Teachers, contact Karen Mikkelsen at 802.951.8208 or kmikkel@WestEd.org.

The full report is available online: www.WestEd.org/nerrc/keepingqualityteachers.htm.

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“(continued from previous page)“Two things we’re trying to do,” Ramirez says about the K-7 math program, which provides supplementary lessons and problem-solving strategies for core topics in each grade level. “One is to deepen teachers’ own mathematical knowledge. But the other is to deepen their understanding of how to use that knowledge when they’re teaching. And how they use their knowledge is impacted by what they understand is essential for kids to know and difficult for kids to understand.”

To make a more direct and immediate impact in the classroom, Ramirez and project director Carne Clarke also created a set of materials for students and teachers. Known as Mathematics Pathways and Pitfalls, these materials bridge what teachers learn through courses or case discussion and bring this knowledge directly into the classroom through instructional materials for students.

The insights of this project are critically important in light of the No Child Left Behind (NCLB) act and other recent state and federal requirements that hold schools accountable for improving student achievement. Although policymakers recognize that bolstering teachers’ skills is central to this process, they may not realize which learning opportunities for teachers will produce the intended results for students.

“With professional development, you have to make it okay for teachers to talk about what they don’t know and to acknowledge that there’s more than one way to approach a problem or think about science,” Daehler says. “If you’re going to have teachers think about content, then they also must have opportunities to take their learning back to the classroom to think about what this means for students.”

(continued from page 5)
STRONG RESULTS

Matthew Ellinger, a former fifth-grade teacher from San Francisco, described how he and his colleagues improved their professional practice as a result of participating in WestEd’s Understanding Science Project. In a paper he wrote for a conference of science educators, Ellinger said he and other teachers he interviewed became more accomplished listeners by asking questions that revealed how students were thinking about the science. The teachers subsequently redesigned instructional activities to address common misunderstandings. They also became more reflective about their work, recognizing how the language, materials, and methods they chose affected students’ achievement.

Results from the Understanding Science Project and Mathematics Case Studies Project, both of which have completed longitudinal studies across multiple school districts, show significant increases in teacher knowledge and student achievement compared to non-participants. An especially encouraging sign is that low-performing students make the biggest gains.

Bolstered by these results, WestEd’s work in math and science is generating important lessons about improving teacher quality. First, teachers need deeper subject knowledge so they can analyze and respond to the different ways students think about the content. Without a sophisticated understanding of topics, teachers will likely stick to a fact-based curriculum that doesn’t clear up students’ misconceptions or help them to transfer skills.

At the same time, teachers need guidance and practice making good choices when conveying subject matter. “Effective teachers have more adaptive expertise,” Daehler says. “They have a flexibility of knowledge that enables them to analyze instructional strategies and invent new ones to meet students’ needs.”

Third, teachers don’t have time to create lessons that incorporate all the new research and techniques they explore in professional development. They benefit more from practicing, modeling, and refining lessons that are designed to help them meet their curricular and assessment goals.

“If we do a lot of professional development where teachers have to layer new strategies or new knowledge on top of what they already have to do, often they can’t because they lack the time or the pedagogical content knowledge,” Ramirez says.

By developing the Mathematics Pathways and Pitfalls materials that embed both the essential concepts and the instructional strategies that will help students learn these concepts, WestEd helps teachers use content in practice.

“Instead of having teachers, especially teachers of English learners, always adapting lessons and having to remember to front-load vocabulary or state the basic purpose of the lesson, we write it into the process of conducting these lessons,” Ramirez says. “We have videotapes that orient teachers to the materials and the structures. So, teaching the lesson with these pedagogical processes and content-rich structures becomes second nature.”

As recent research demonstrates, teacher quality is the single biggest factor in student achievement. If we are serious about raising academic standards, we must pay attention to how teachers and students learn together.

For more information on:

- WestEd’s Understanding Science Project, contact Kirsten Daehler at 650.381.6402 or kdaehler@WestEd.org or Mayumi Shinohara at 510.302.4247 or mayumi@WestEd.org;
- WestEd’s Mathematics Case Methods Project, contact Carne Clarke at 503.249.7297 or cbarnet@WestEd.org or Alma Ramirez at 510.302.4249 or aramire@WestEd.org.
WestEd has a number of resources addressing teacher quality issues. A few are summarized here. For additional related products, please refer to the WestEd Resource Catalog or visit www.WestEd.org/products.

**Rethinking Preparation for Content Area Teaching: The Reading Apprenticeship Approach**

Jane Braunger, David M. Donahue, Kate Evans, & Tomas Galguera (WestEd and Jossey-Bass, 2005)

*Rethinking Preparation for Content Area Teaching* illustrates how to effectively incorporate the Reading Apprenticeship® instructional model into secondary teacher preparation programs. Arguing that teacher education programs need to foster a broader understanding of adolescent literacy, especially if teachers are to help their students read in discipline-specific ways, the authors show how Reading Apprenticeship® can serve to strengthen content-based instruction, how elements of the model can be embedded in teacher preparation curricula, and what types of course activities enable new teachers to understand and practice this approach. The Reading Apprenticeship® framework has received national recognition as an effective, research-based instructional approach that supports all students in successfully engaging with and learning from academic texts.

320 pages / Price: $32 / Order #: RE-04-01L

**Teachers as Learners: A Multimedia Kit for Professional Development in Science and Mathematics**

WGBH Boston & WestEd (Corwin Press, 2003)

Based on the best-selling *Designing Professional Development for Teachers of Science and Mathematics*, this innovative multimedia kit offers first-hand examples of a variety of professional development strategies, including case discussions, study groups, coaching, immersion in content learning, and curriculum implementation that are all targeted to science and mathematics teachers. These strategies emphasize teachers as learners and how that can be translated into student learning. Viewers will experience professional development strategies in action, hear the logic and thinking of facilitators, observe teachers engaged in their own professional development as well as in real classrooms interacting with and getting feedback from students, and more. They will gain insights into how educators are designing and providing teacher professional development that strengthens mathematics and science education and increases teacher support for improvements in curriculum, instruction, and assessment. *Teachers as Learners* contains everything you need to prepare staff developers to design effective professional development activities.

Multimedia / Price: $399 / Order #: LI-03-02L

**Teacher Supply & Quality: The Changing Role of Community Colleges (Policy Brief)**

(WestEd, 2003)

States working to develop comprehensive systems for addressing teacher workforce demands, including the renewed emphasis on teacher quality under No Child Left Behind, must be creative — looking not only at traditional teacher preparation systems, but at alternative options as well. Emerging as one of the more promising of these options are community colleges, many of which have already moved into some aspect of teacher preparation and support. This brief explains why many believe these two-year institutions are logical candidates for the role; provides examples of how states, community colleges, and traditional four-year institutions are working together in this endeavor; and offers related policy guidance.

4 pages / Price: Single copy, free / Order #: PO-03-02L

**Comprehensive Teacher Induction: Systems for Early Career Learning**


What does it take to meet the wide-ranging needs of beginning teachers? Based on a three-year study, the authors describe how comprehensive teacher induction systems not only provide teacher support but also promote learning more about how to teach. For the past 10 to 25 years, Shanghai, France, Japan, New Zealand, and Switzerland have provided well-funded induction support that reaches all beginning teachers, incorporates multiple sources of support, typically lasts two or more years, and goes beyond survival skills to promoting learning about teaching. With National Science Foundation funding and under the auspices of WestEd’s National Center for Improving Science Education and Michigan State University, researchers conducted in-depth case studies of induction programs. This book calls for rethinking what teacher induction is about, whom it should serve, what the curriculum of induction should be, and which policies, programs, and practices are needed to deliver it.

420 pages / Price: $48 / Order #: NCISE-02-01L
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  - Distinguished Achievement Award for best interior design: Innovations in Education: Successful Charter Schools
  - Distinguished Achievement Award for best illustrations and graphics: Rethinking High School: Five Profiles of Innovative Models for Student Success

- Two top prizes for WestEd's 2004 Annual Report in the annual League of American Communications Professionals Vision Awards competition

- WestEd selected as one of the top 100 Best Places to Work in the Greater Bay Area by the San Francisco Business Times, the Silicon Valley/San Jose Business Journal, and Deloitte (the second consecutive year that WestEd has been so honored)

Inside High School Reform: Making the Changes That Matter
Jordan Horowitz & California Academic Partnership Program (WestEd, 2005)

What happens when some of the lowest-performing high schools in California make a commitment to reform themselves? This book goes inside the reform efforts of 28 high schools where educators collaborated to fundamentally change expectations for students — in effect, to prepare all students for postsecondary education. By challenging the status quo, teachers and administrators set out to strengthen their delivery of services so that all students, especially those traditionally denied access to college, would leave their care with more options for college and for life. In the words of the educators themselves and through the perspectives of advisors who monitored the reform programs, Inside High School Reform lays out some of the apparently universal lessons of making the reform changes that matter.

88 pages / Price: $15.95 / Order #: ER-05-01L

Resiliency: What We Have Learned
Bonnie Benard (WestEd, 2004)

This synthesis of more than a decade of resiliency research highlights the role that families, schools, and communities can play in supporting, and not undermining, children’s and youth’s natural capacity to lead healthy, successful lives. Of special interest is the evidence that resiliency prevails in most cases by far — even in extreme situations, such as those caused by poverty, troubled families, and violent neighborhoods. Benard also offers a practical and easy-to-read analysis of how best to incorporate the research findings in ways that support young people. Resiliency has received rave reviews, including a recent one from Education Review that recommends this book “to anyone searching for a positive approach to working with youth.”

148 pages / Price: $19.50 / Order #: HD-04-01L

Moving Leadership Standards Into Everyday Work: Descriptions of Practice
(WestEd, 2003)

High-quality student performance depends on high-quality school leadership. But what does this leadership look like? You will find some answers in these descriptions of practice (DOPs) for six widely accepted research-based leadership standards. The DOPs describe specific actions, attitudes, and understanding implied in each standard and depict what key aspects of each standard look like across a continuum of developing practice.

57 pages / Price: $15 / Order #: DOP-03-01L

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