

McREL INSIGHTS

Standards-based Education: Putting Research into Practice

by Ravay Snow-Renner and
Patricia A. Lauer

McREL

Acknowledgments

The authors would like to thank the following for their assistance with this article: Dr. Brian Benzel, superintendent, Spokane Public Schools, Spokane, WA; Ms. Mary Ellen Isaac, chief academic officer, Wichita Public Schools, Wichita, KS; Dr. Norman Ridder, superintendent, Ms. Anita Kissinger, director of staff development, and Dr. Teresa White, associate superintendent, Springfield Public Schools, Springfield, MO.

This brief is based on the report, *The Influence of Standards on K-12 Teaching and Student Learning: A Research Synthesis*, written by Patricia A. Lauer, David Snow, Mya Martin-Glenn, Rebecca J. Van Buhler, Kirsten Stoutemyer, and Ravay Snow-Renner. The report is available online at www.mcrel.org.

For more information, contact McREL at

Mid-continent Research for Education and Learning

4601 DTC Boulevard, Suite 500

Denver, CO 80237-2558

Phone: 303.337.0990 Fax: 303.337.3005 E-mail: info@mcrel.org

Web site: www.mcrel.org

© 2005 McREL

This document has been funded at least in part with federal funds from the U.S. Department of Education under contract number ED-01-CO-0006. The content of this publication does not necessarily reflect the views or policies of the Department of Education nor does mention of trade names, commercial products, or organizations imply endorsements by the U.S. Government.

TABLE OF CONTENTS

Introduction	1
What the Research Says	2
How Districts Can Best Support Teacher Learning	6
Making Ambitious Instruction Available to All Students	17
Assessing the Effects of Assessments	19
Wrapping it Up	23



INTRODUCTION

Standards for K–12 education have been in existence for over a decade, and they are now utilized in almost every state in the country. In fact, by 2005, 48 states and the District of Columbia have established formal content standards in the four subject areas of mathematics, language arts, science, and social studies. The pervasiveness of standards has been further reinforced by the No Child Left Behind (NCLB) Act of 2001, which requires states to establish standards for student learning and to measure student progress using assessments aligned with those standards.

The common assumption underlying these efforts is that standards-based education improves teaching and student learning. What is the evidence that this is true? While many studies have addressed different aspects of K–12 standards and policies, only a few systematic reviews have examined the evidence that the implementation of standards improves education outcomes. Further, the research on standards influences has not been coherent.

At McREL, researchers addressed these issues in their 2005 research synthesis on the influence of standards on K–12 teaching and student learning. The synthesis used a systematic process to search for and evaluate research articles based on their quality and how well they addressed the ways in which the following three variables influence teaching and student learning: standards-based curriculum, standards-based instructional guidelines, and standards-based accountability assessments. We reasoned that these variables should affect teaching and learning, as shown in the conceptual model depicted in Figure 1.

This document highlights the key findings of McREL’s synthesis and the implications of these findings in efforts to improve teaching and student learning in today’s environment of standards-based education.

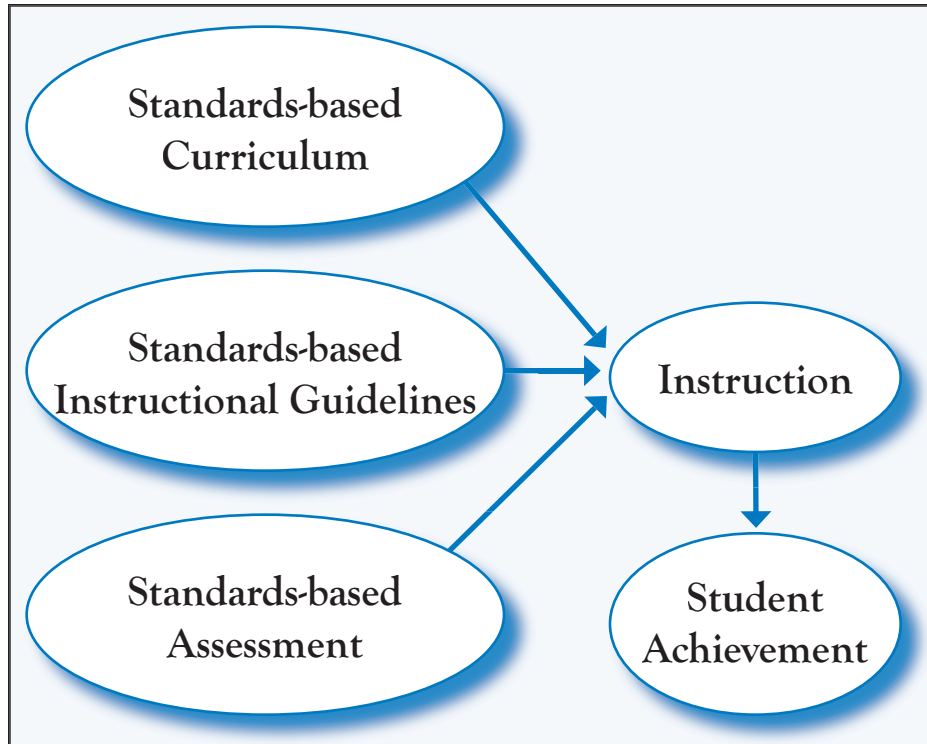


Figure 1. The Influence of Standards on Teaching and Learning

WHAT THE RESEARCH SAYS

McREL researchers examined 621 standards studies published since 1995 and narrowed the field to 113, based on the following criteria: Studies had to involve K-12 students; concern a core subject area; assess or document teacher instruction or student achievement; have connections to national, state, or local standards; and address standards-based curriculum, instructional guidelines, or assessment.

Most studies used descriptive research methods and also had to meet the following quality criteria for the methods used:

- Quantitative studies had to describe instrument development, report a response rate for surveys, describe the processes used for data collection and analysis, and include sufficient evidence of the results.
- Qualitative studies had to describe the processes used for data collection, describe the methods used for data analysis, include sufficient evidence of the results, and use a process to validate the results, such as a search for disconfirming evidence.

Studies on curriculum and instructional guidelines were predominantly focused on mathematics and science, while the research on assessment often addressed multiple subject areas, mainly mathematics and language arts. The studies came from a variety of sources, including journal publications, technical reports, conference presentations, dissertations, and books.

One thing that we needed to address in our review of the literature is that “standards-based” can have several different meanings:

- “Standards-based” can mean a policy approach that focuses on 1) broad goals for student learning, 2) definitions of student performance relative to those goals, and 3) assessment that provides feedback about learning. This definition makes no distinctions between standards that focus on higher-order learning and those that emphasize the learning of important basic skills.
- “Standards-based” can also mean “reform-oriented,” drawing on instructional reforms that are rooted in constructivist ideas about learning, including student-centered pedagogy, active learning, and cooperative grouping structures. This definition, based on the early efforts of groups like the National Council of Teachers of Mathematics (NCTM), emphasizes a learner-centered approach over a teacher-driven approach, and has clearer implications for pedagogy than the first definition.

Some of the research does not clarify which definition of “standards-based” is being used; therefore, we linked our research findings to the specific standards used in a study. In other instances, the research is clear about whether effects are linked to “reform-oriented” practices (in which students actively construct their own knowledge), and we have noted that where applicable.

In our examination of the research, we found that standards-based policies do influence teaching and student learning in K–12 classrooms. The specific nature of this influence, however, depends on how standards-based policies are perceived and implemented by teachers. This, of course,

SYNTHESIS FINDINGS AT A GLANCE

Standards-based curricula and standards-based instructional guidelines can have positive influences on student achievement. For this effect to be maximized, several things are key: teacher support and knowledge of the reforms and local policy support and alignment with standards.

Standards-based curricula and standards-based instructional guidelines can influence teachers to adopt reform-oriented instructional practices, but this is challenging and requires much local support. For teachers to teach in the ways envisioned by standards reformers, they need opportunities to learn reform-oriented strategies, practice them, and observe their effects on student learning.

Standards-based accountability assessments exert strong influences on classroom instruction. Depending on the particular assessment, teachers may broaden or narrow the content covered, emphasize more or less test preparation in their instruction, and use more or less reform-oriented instructional practices. Reform-oriented

instructional practices might include students working on open-ended tasks (with no set formula for how to solve them), students explaining how they have solved a particular problem and defending their explanations, inquiry-based science experiments, and a focus on higher-order thinking skills. Policy makers at various levels need to consider how to ensure test quality and how to encourage the desired effects of accountability assessments and to minimize their harmful effects.

At-risk students may experience less access to reform-oriented instruction than more advantaged students. The research shows that at-risk students can benefit from reform-oriented instruction, but that their access to it is not assured. Administrators and policymakers need to find ways to make instruction equitable among diverse groups of students if standards really mean high expectations for all students to learn.

Research results are dependent on how the outcomes are measured. Measures are limited; for instance, in the area of instruction, studies comparing teacher survey responses with observations of their teaching indicate that teachers who can “talk the talk” of standards may not be so easily able to “walk the walk.” When studying effects on achievement, disparity between a student achievement measure and the goals of a standards-based curriculum can negatively influence student scores. When examining research, practitioners need to consider the influence and limitations of the measures on how to interpret the outcomes.

The breadth and quality of research on standards-based education needs to improve. Now that America is entrenched in standards-based reform, the research should address not only the question of “Does this work?” but also “How can we make it work it better?”

is related to the ways in which local districts and schools structure support systems for standards implementation, including those for curriculum, instruction, and professional development.

The findings of the synthesis make it clear that teachers matter – and districts and schools matter. The question is: How can district administrators help teachers do their jobs relative to standards? Specific models and approaches can help to inform district officials about what’s helpful and what’s challenging. Thus, to find ways that districts and schools can best use standards, we interviewed a number of administrators in school districts noted for attending to instructional issues, as well as several assessment experts. We focused on district activities around three topics highlighted in the research synthesis:

- How districts can best support teacher learning
- Making ambitious instruction available to all students
- Assessing the effects of assessment

HOW DISTRICTS CAN BEST SUPPORT TEACHER LEARNING

According to the research we reviewed, standards-based curricula and standards-based instructional guidelines can have positive influences on student achievement and teacher instruction. However, implementation is challenging for a number of reasons. First, it requires a local approach to professional learning that enhances teachers’ content knowledge and their ability to apply new instructional techniques. Second, it requires policy and structural supports that are aligned with standards and student learning. Third, all the research indicates that substantive changes in teacher instruction take time, so a sustained focus at the district level is necessary. Finally, for teachers to teach in the ways envisioned by standards reformers, they need opportunities to learn reform-oriented strategies, practice them, and observe their effects on student learning.

The administrators that we talked with described specific elements of a district infrastructure that they see as essential to a teacher learning culture: 1) new teacher induction programs; 2) multiple examples of good standards-based instruction, 3) professional development focused on instruction and using achievement data, 4) ongoing coaching, 5) instructional learning opportunities for principals and other leaders, and 6) an ongoing commitment to continuous improvement, or a “learning systems” approach. All of these are aligned with content standards and student assessments.

DISTRICT ELEMENTS SUPPORTIVE OF TEACHER LEARNING

- **Induction supports linked to instruction and standards.** These programs help acclimatize new teachers to a variety of district and building norms but, through the use of mentors and/or coaches, emphasize the mastery of standards-based instructional techniques.
- **Multiple examples of good standards-based instruction.** It’s important that coaches can model good instruction and highlight appropriate evaluation materials and other documents that help teachers see what standards look like in the classroom. Concrete examples help teachers see and apply more general standards documents in classroom instruction.
- **Professional development that focuses on instruction and the use of achievement data.** Data used can range from classroom-level authentic assessments to district and state tests and are used diagnostically to help teachers adjust their instruction for all students relative to standards.
- **Ongoing support for learning at different levels.** Districts commonly hire instructional coaches who model ideal instruction and provide feedback about their current practice.

- **Instructional learning opportunities for principals.** With a shift in principals' roles toward being instructional leaders, it's important that principals know how to recognize – and support good instruction.
- **A learning systems approach.** Districts described goals about improving student learning linked to standards and systematically collected data that measured their progress toward those goals. Data were used to target and re-allocate resources, helping teachers to learn the skills they needed to improve student learning.

INDUCTION SUPPORTS FOR NEW TEACHERS

One of the most important investments a school district makes is bringing newly-hired teachers up to speed. This usually entails a core of professional development sessions for new teachers and an assignment of those teachers to mentor teachers who help them “learn the ropes.” Mentoring means different things to different schools. It can be anything from imparting procedures, e.g., providing new teachers with the copy machine code, to helping to improve instruction, e.g., observing their classrooms and modeling new techniques.

In Springfield, Mo., the public school district uses a combination of mentor teachers and coaches in an induction program called STEP UP, now in its second year. STEP UP matches all teachers with less than one year of full-time teaching experience with a full-time STEP UP coach and an experienced teacher-mentor, who typically teaches the same content and is assigned to the same building as the new teacher. In their first year, teachers receive instruction on different topics (e.g, classroom management, effective lesson cycle and implementation) and then get

focused coaching from STEP UP coaches and their mentors about how to apply that knowledge.

The program is targeted specifically toward streamlined instruction. According to Anita Kissinger, Springfield’s director of staff development, the program’s rationale is that “by providing thoughtful, sustained mentoring/coaching, new teachers will receive common language and common practices for effective teaching, thus reducing the high degree of variance in implementation and practice of effective teaching skills among new teachers.”

After the first year in the program, topics focus expressly on instruction. They include cooperative learning, ongoing improvement of instruction, differentiated instruction, and assessment. This instructional focus communicates the district’s priorities and central work. Initial findings are promising; Kissinger reports that, in the year since the district instituted STEP UP, attrition of new teachers has dropped from approximately 32% to 13.9%, indicating that this type of induction model may be a viable example for other districts to follow.

MULTIPLE EXAMPLES OF GOOD STANDARDS-BASED INSTRUCTION

Another element of supporting teacher learning is having multiple examples of what good standards-based instruction looks like in the classroom. The research literature indicates that policy has not always been helpful enough in providing specific examples for teachers. However, districts that focus on the implications of standards on instruction give teachers a number of concrete examples to use. These can include instruction modeled by district instructional coaches or mentors, as well as a variety of district-generated materials.

Such materials may include curriculum guides, specific vignettes of practice, rubrics for formal teacher evaluation, or other documents. For example, in Spokane, Wash., schools link specific grade level expectations

to classroom evidence of student learning, assessment measures, and instructional materials. These materials are posted on the district's Web site for broad access (<http://shareview.spokaneschools.org/guides/>).

Classroom Walk-Throughs (CWTs) are another useful tool for districts to communicate essential aspects of standards-based instruction. CWTs consist of a general observation protocol and are used by educators in regular, brief, relatively informal classroom visits. They can help to break down the usual culture of isolation in schools and may be used by principals, central office staff, and other teachers to help develop common expectations for practice. Although CWTs are often customized based on local needs and emphases, all of the ones we reviewed addressed the following: 1) the content covered; 2) the cognitive level of the teacher's demands on student learning; 3) the classroom context; and 4) the level of student engagement observed. Some CWTs also include a reflection phase, to support teacher learning.

Explicitly separated from any evaluation function, CWTs are designed to assist teachers in reflecting on their practice and be used in conjunction with professional development coaching. They're intended to be frequent (in some cases, every class is observed on a weekly basis) and brief, lasting perhaps several minutes.

Spokane Public Schools is using CWTs to shift the focus of the principal and district office leaders from management to instructional leadership. Dr. Brian Benzel, superintendent of Spokane Public Schools, noted that, although a number of instructional support staff use CWTs, principals have different levels of use for the process. To integrate their use more consistently through the district, Spokane conducts principal professional development – an approach echoed in other districts.

In Wichita, Kan., Mary Ellen Isaac, the district's chief academic officer, described her central office staff's use of CWTs as a valuable way to determine teachers' learning needs. For example, the CWTs spurred an

“aha” moment when they visited schools and realized the extent to which centrally developed and aligned standards were being left out of classroom instruction. With the information provided by the CWT observations, strategies for appropriate professional development could be developed.

A final effect of the CWTs has been to foster more collaboration among teachers, with less “closing the classroom door and doing whatever you want.” According to Springfield’s Kissinger, CWTs have been an important factor in breaking down a culture of isolation and building a more collaborative district culture focused on student learning.

PROFESSIONAL DEVELOPMENT FOCUSED ON INSTRUCTION AND ACHIEVEMENT DATA

Teachers need opportunities to learn how to incorporate standards in everyday instruction, but professional development that is isolated from their classroom experiences has long been shown to be ineffective. It’s vital that professional development occur in a context where teachers can apply what they’ve learned to their own teaching and assess its effects on their own students. Also, it’s important that the work have an overall focus on instruction.

Wichita’s progress, for instance, demonstrates a program that adjusted its emphasis to meet its teachers’ needs while maintaining, since 2000, a consistent focus on instruction. When the central office staff saw, with the assistance of CWTs, that their district standards weren’t making it into classroom instruction, “relentless” professional development got them to where teachers could work together on defining what good standards-based instruction looked like. Early on, they established a coaching structure and developed a common vocabulary and clear expectations for teachers and students, based on specific indicators of standards-based instruction. These changes have allowed teachers to move forward to using student assessment data to adjust instruction accordingly.

Using student assessment data is an important part of the process. All of the administrators we spoke with worked in districts that conducted extensive student testing for their own diagnostic purposes, above and beyond state testing. There were mixed feelings about state testing: Several decried the state test as being too cumbersome and slow to inform classroom instruction, while others had used state achievement results to conduct their own data studies. The use of district tests is not universally popular with teachers, either – many teachers use the tests to diagnose learning issues and change their instruction, but some teachers feel that the tests are an additional task, with little added benefit. However, this is changing over time, as teachers learn more about how they can use assessment results to inform their teaching.

ONGOING COACHING

The main strategy that districts described to provide ongoing support of teacher learning was hiring instructional coaches. Although coaches could be organized in different ways, generally, they worked out of central district offices, but could be assigned to different schools depending on need. Often coaches' duties may include assistance to principals in school improvement planning, in addition to providing instructional support for teachers.

In some cases, a core cadre of instructional coaches developed from a Title I-funded facilitator model. In the Spokane, Wash., Public Schools, the model emerged from a study of best practices that led to the inclusion of instructional coaching in professional development endeavors focused on improving teaching. Spokane's current coaching staff numbers over 100, with every school in the district having access to at least one coach. Coaches handle instructional needs in literacy, math, science, and technology at elementary, middle, and high school levels. Initially trained

by visiting consultants, instructional coaches are now “home-grown.” The coaches’ learning is maintained through bimonthly meetings in which they examine data and share strategies for helping their teachers learn.

SELECTED KEY VALUES FROM THE SPOKANE COACHING MODEL

- Student learning is at the heart of our work.
- Professional learning is about engaging in a continuous cycle of inquiry to strive to improve our capacity to increase student learning.
- All educators can and want to improve and refine their knowledge of effective teaching and learning.
- There are differences in learning needs and styles. One size does not fit all.
- Learning is most meaningful when it is embedded in an authentic context.
- The dialogue of collaboration promotes learning and assists in establishing a common vision.
- Mutual respect and relationships are keys to successful improvement.
- Learning and improvement are most likely to occur when the learner is initially given high degrees of support, then gradually assumes more responsibility for the new skills through guided practice and, finally, independent control of the strategy.
- Learners benefit from prompt feedback on their efforts.

The Wichita and Springfield districts have also developed similar coaching arrangements. Wichita staffs 22 full-time coaches that may be shifted from building to building, depending on particular building needs. Springfield works with a network of six Instructional Specialists for School Improvement (ISSIs) as well as other central office instructional staff, teacher mentors and coaches to help meet teachers' different learning needs.

Coaching is most effective when it is well-focused on particular values about student learning; for example, the Spokane Coaching Model reflects the district's emphasis on learning, collaborating, and developing professional learning communities. This model is available at: <http://www.spokaneschools.org/ProfessionalLearning/ICResources/Coachingmodel-Final.pdf>.

INSTRUCTIONAL LEARNING OPPORTUNITIES FOR PRINCIPALS

School principals, given their roles in formal teacher evaluation, assessing instruction through CWTs and aligning school-level resources for teacher learning, clearly play an important role. In districts that focus on helping teachers learn about how to implement standards-based instruction, principals are expected to be instructional leaders, and their own learning is addressed in a variety of ways.

In Springfield, for example, formal professional development consists of a two-day academy for new principals and all other instructional leaders. The district's "Principals as Partners" program helps principals know what to look for when observing classrooms, how to use the CWT protocols, and how to encourage teacher-coach relationships. This is reinforced by a district-wide expectation that every principal spend several hours a day visiting classrooms. Such an emphasis is reinforced and modeled from the very top – Dr. Norm Ridder, who became superintendent in July 2005, made and is keeping a commitment to visit and observe every classroom in the district by December 1, 2005.

A LEARNING SYSTEMS APPROACH

One characteristic of a learning systems approach is that data are regularly collected to assess progress toward goals. These data are used to scrutinize the effectiveness of current programs and to determine how resources are re-allocated so that all participants learn how to play their parts. Standards have helped to set the goals for these districts, but they, too, are subject to continuous scrutiny.

All three districts – Springfield, Spokane, and Wichita – are characterized by a commitment to using standards to improve student learning over a period of time through the development of professional learning communities. Leaders expressed support for standards, but as worthy interim goals, not ultimate destinations. In Spokane, Superintendent Benzel described the district approach to standards as addressing “fundamental sets of skills that every student needs to have to exit high school.” Similarly, Ridder noted that “standards have driven us, but they can limit us.” Both described their work as an ongoing process, with higher and higher benchmarks in the future.

In Springfield, Ridder is beginning to use the Baldrige Model as a useful approach to continuous, data-driven growth. This model addresses aspects of school leadership, planning, process management, and data collection and analysis, and continually gives feedback to improve organizational performance and student and teacher learning.

To sustain progress, these three districts have made an ongoing commitment to educating teachers about how to implement standards and using data to measure continuous progress and make future plans. In some cases, as in Kansas, the district has provided stability and a focus on standards that the state itself has lacked. Stable leadership is an important prerequisite for sustaining a district focus over time, particularly for the length of time that these types of changes seem to take.

Supporting educators' collaborative learning throughout the district may demand changes in workplace norms or in physical or scheduling structures. In Springfield, the district expects that the faculty will engage in problem-based study groups and that schools and teachers will conduct

PROFESSIONAL LEARNING: CHALLENGES AND LESSONS LEARNED

- To have an impact, professional development must have a core focus on instruction and improving student learning relative to standards. You can't stray too far from the focus, or people will get confused about priorities.
- Quality professional development is data-driven and responsive to staff and student needs. It's important to have information about where people are relative to where you want them to be so you can gear learning opportunities appropriately.
- To impact instruction so that it's more learner-centered, professional development also needs to be learner-centered. Professional development should model ideal instruction.
- To maximize scarce professional development resources, keep your staff at home. It's much more cost-effective to bring someone in to work with a core group of people than to send three people to off-site training or conferences.
- Trainer-of-trainers models can be cost-effective, as long as the second-tier personnel are all on the same page and have regular opportunities to continue their learning.
- Substantial change takes time. In the end, slower is better, but it can be a challenge to create the time and sustained support needed for adult learning. It can also be difficult to create community understanding about the time needed for learning.

their own action research – which drives professional development. In Spokane, administrators have negotiated with the local teachers’ union to carve out a weekly hour of common professional development time to facilitate cooperative learning.

Overall, this can lead to a sea change in district norms and attitudes. Says Ridder, “Anybody that’s working in a learning system needs to be learning. You can’t have people who only want to teach in a learning system. You need to create an appetite for learning throughout the system.” Standards help provide clear expectations for what students and teachers will be learning.

MAKING AMBITIOUS INSTRUCTION AVAILABLE TO ALL STUDENTS

In addition to supporting teacher learning, another area highlighted in the research is making ambitious instruction available to all students. At-risk students may experience less access to ambitious, reform-oriented instruction than more advantaged students. It’s important for administrators and policymakers to find ways to address these equity issues if standards are really to mean high expectations for all students to learn – and this appears to be very much a work in progress.

The district leaders we spoke with have taken the first step in this process. They are actively examining instruction in their districts, are doing CWTs, and are aware of the disparities between richer and poorer classrooms. According to the research, higher-performing and more advantaged classes get instruction clearly linked to particular standards and students are aware of the particular standards they’re learning. Plus, they are doing cognitively complex tasks. Meanwhile, classrooms in poorer schools – those most in danger of being reorganized under NCLB – are characterized by more reliance on worksheets, lower-level cognitive demands, and student ignorance about what they’re learning.

How are districts trying to address these issues? The first approach is the extensive investment in teacher learning that all three districts have undertaken, with some attention to professional development in differentiated instruction. Research shows that changes in instruction result in a modest positive effect on achievement, and that substantial increases in achievement take considerable time. NCLB has stepped up the improvement timeline for low-performing schools, so districts need to accelerate the process at those sites.

Some districts have implemented their own accountability policies in ways that funnel extra resources to low-performing schools. For instance, Springfield's accountability formulas take into consideration a number of student background variables in order to get a better measure of the school's impact on performance. These formulas are used to determine cash incentives (for higher performing schools) and to allocate additional ISSIs and more training support in lower-performing schools. Progress is not quick; in place since 1999, this system is just beginning to turn school performance around, according to district personnel.

One lesson learned in this process is that it's important to consider logistical limitations. For example, one district decided to hire more teachers in order to reduce class size at low-performing schools – but the schools lacked enough rooms for the new, smaller classes. “I don't know what the class size research says if there are two teachers and two classes in one room,” noted a district administrator.

In response to accountability policies, districts tend to take what Ridder calls a “M*A*S*H*-style” approach, or “educational triage” approach to setting priorities. The first priority is raising achievement. Benzel notes that, when the Washington state test, the WASL, went into effect in 1997, Spokane worked on aligning the written curriculum with the assessments. This effort merged into using classroom-based assessments that help predict and align daily instruction so students are not surprised by the

WASL test format when that time arrives. Spokane, like the other districts, is still working on the issue of ambitious instruction for all students.

It's apparent that teachers need to learn how to differentiate instruction so that all students can learn – and demonstrate their learning. Kissinger, in discussing Springfield's lower-performing schools, notes, "If the students don't have it (the knowledge of the standards) now, how they were taught previously isn't going to get them there."

According to Dr. Lorrie Shepard, a nationally recognized expert on student assessment and the dean of the Graduate School of Education at the University of Colorado, one way that districts can address the learning needs of their at-risk students is by ensuring that students have access to multiple representations of knowledge. That is, students can demonstrate what they know in different ways. This means that schools and districts should use a combination of different standards-based assessments, especially authentic, curriculum-embedded assessments, in addition to accountability assessments. To support meaningful learning experiences, these different representations need to be relevant to students' home cultures and experiences. It's possible that the extensive diagnostic testing we have seen in districts could help support such multiple representations, but not if diagnostic assessments are only in the format of standardized, multiple-choice tests.

ASSESSING THE EFFECTS OF ASSESSMENTS

According to the research, standards-based accountability assessments influence both what is taught and how it is taught. Tests matter – the content they cover, the format they use, and the use of their results all influence teacher behavior. Depending on the particular assessment, teachers may broaden or narrow their teaching curriculum, use more or fewer reform-oriented instructional practices, and emphasize more or less test preparation in their instruction. Therefore, the quality of these

assessments and the standards on which they are based is of enormous importance. Given the evidence that state standards-based assessment programs can have strong effects on instruction, we need to consider how policy makers at district and other levels can encourage desired effects and minimize those that are undesirable.

The leaders that we interviewed seem to take the quality of their states' accountability measures on faith. Perhaps this is because either state test quality is largely outside of their control, or these particular tests are very good. However, some leaders criticized state tests for being relatively cumbersome and not providing data in a timely enough matter to be useful diagnostically.

Overall, district leaders take an incremental approach to thinking about test quality. For instance, Benzel acknowledged that the WASL, the results of which are part of Washington's new graduation requirements, may not be demanding enough of students. However, he pointed out that, "Before, the *de facto* standard was whatever you could do to convince your teacher to give you a D."

To ensure the quality of district-level tests, districts have worked to ensure that they are aligned with district standards and that they map on to some extent to the state test. In that sense, district tests can be used, as is the case in at least one district, to identify whether student achievement is "on track" for the state test. In some cases, districts have adopted tests that have been informally pilot-tested by their Title I schools – and these are usually developed externally.

Some districts are developing their own testing measures, but this is a "painfully slow" process, according to Isaac, who has worked on mathematics assessment development in Wichita. Quality issues are important and establishing reliability and validity takes time, even in large districts with centralized capacity for psychometric support. External

organizations that sell customizable data banks may be a useful resource for districts, but these tend to be expensive.

At the district level, it is clear that accountability tests have a strong effect on when particular content is taught. All districts have developed centralized pacing and sequencing schedules, aligned with grade-level expectations for standards and designed with testing schedules in mind. While such approaches may lead to tension in the district, because teachers can perceive it as taking over their professional prerogatives, district leaders describe sequencing and pacing positively. It can help to more consistently address student learning needs for a highly mobile population, as in Spokane. Additionally, it can ensure that students have actually had the opportunity to learn tested content before the test is administered.

While there can be appropriate and educational examples of “teaching to the test,” a number of studies have shown that scores on accountability tests are highly “corruptible.” This means that they can be artificially inflated through coaching practices and that they don’t necessarily indicate deep learning. When this is the case, students cannot demonstrate any application of knowledge to alternate situations; they can only get items correct if they’re asked in a particular way, as on the accountability assessment. In these cases, high scores don’t translate into learning the standards. Generally, teachers need more examples of appropriate instruction that ensures application of tested knowledge in a variety of arenas.

The main safeguard these districts have against instruction that focuses exclusively on raising test scores (at the expense of learning in a broader sense) is their emphasis on teacher learning and ambitious instruction. However, success will depend on how well this learning equips teachers to appropriately negotiate the pressures of accountability testing.

Shepard provides some specific ways for districts to minimize inappropriate responses to accountability test pressures. For instance, to reduce



Figure 2. Mapping Content

Note: The image on the left shows considerably less overlap; if this were the case, one would expect teachers to spend a smaller proportion of instructional time on the tested content than with the image on the right.

curriculum narrowing, teachers can map the accountability test's content onto the district content using a Venn diagram (see Figure 2). Once the overlap is determined, teachers need to commit to teaching the full domain, with limited attention to specific test preparation. Attention to tested content should be addressed in proportion to its relative importance as a part of the larger content domain. This way, performance on the test more accurately reflects student learning of the content across the entire domain.

Shepard provides several other recommendations for teachers to maximize student learning so that it resonates beyond test scores:

- Teachers should help students to see the connection between what they'll be asked to do on the test and the larger range of ways that

they'll be asked to use this knowledge in school and in their lives. Districts can support this by helping teachers develop multiple ways of demonstrating knowledge, possibly through a constellation of problem-solving tasks and related assessments.

- Teachers need to be explicit with students about reading and writing for test-preparation as if it is another genre. This is analogous to the distinction between reading short stories as compared to plays, or between expository writing and narrative writing. These genres all have different rules of engagement and students need to learn them explicitly. Tests, similarly, have their own rules and, with explicit information about what those rules are, students are better prepared to select the appropriate ways of demonstrating their knowledge.
- Teachers and districts need to be articulate the types of knowledge and skills linked to standards that are left out on accountability tests. Additional sources of evidence about student learning (e.g., portfolios, authentic assessments, performance on district assessments) can be put to good use in demonstrating a fuller scope of learning linked to district standards.

WRAPPING IT UP

An examination of current research and discussions with administrators in Springfield, Spokane, and Wichita and various assessment experts have affirmed that standards indeed influence teaching and student learning in K-12 classrooms. It is also clear that, to utilize standards most effectively, districts need to find ways to support teacher learning, make ambitious instruction available to all students, and make assessments work for the teachers and students.

Districts have made considerable progress in supporting teacher learning by developing learning communities for teachers and other staff. They

have addressed a number of policies and focused learning opportunities on instruction. They've aligned resources to provide focused professional development and used a number of assessments to adjust teacher instruction and document progress. They've invested in instructional personnel who provide ongoing support for teachers in linking their instruction to standards, and have provided a variety of concrete examples of what "standards in practice" mean. They have also invested in principal learning to support a culture of ongoing growth and inquiry, where schedules and other resources are allocated to support learning.

However, making sure that all students have access to ambitious instruction is still very much a work in progress. The first step in the process is for districts to systematically examine instruction in all classrooms, using standards-related observation tools like CWTs. Providing training to teachers on differentiating instruction and studying the efficacy of various interventions, in terms of their effects on both student learning and classroom instruction, are the next steps.

How assessment affects learning is, similarly, a question that has just begun to be addressed. It involves questions of assessment quality and necessary learning supports for teachers. Again, however, districts that systematically examine instruction are a step ahead. What is certain is that building a strong teaching and learning community takes time and sustained focus. Accountability tests and other tests used, as measures of a learning system, should be subject to the same type of evaluation as other system elements. If tests are high quality and focus district attention and resources on ambitious instruction for all students, they are valuable to the system. If they drive lower-level instruction and do not relate well to other measures of learning, it's clear that their roles need to be re-examined.