SEDL Letter

Linking Research *and* Practice
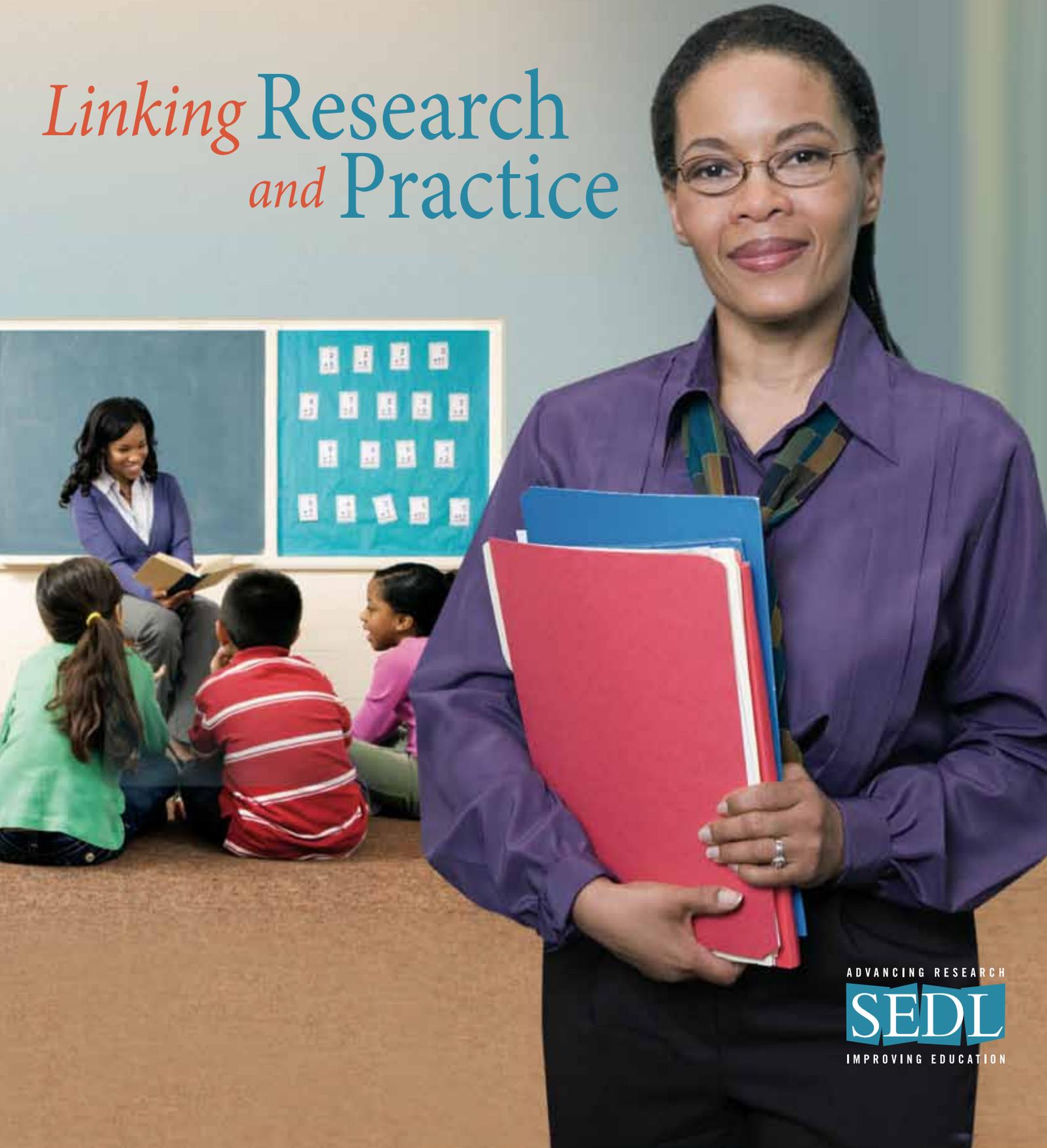
ADVANCING RESEARCH

SEDL

IMPROVING EDUCATION

Linking Research *and* Practice

The idea of using research and evidence to improve practice is not a new one. It has long been a driving factor in medicine, criminal justice, social services, and two of SEDL's key areas: education, and disability and rehabilitation. Indeed, moving research into practice served as part of the core mission when SEDL was created as a research organization nearly 45 years ago under the Elementary and Secondary Education Act (ESEA). Today, as we move toward the reauthorization of the ESEA, researchers, policymakers, and education leaders continue to strive to help educators do "what works" so that students can achieve their full potential.

Educators face new challenges and opportunities in the area of research use. Legislation has called for educators to use scientifically based research in their practices and has outlined more rigorous guidelines for education research. At the same time, technology is making it easier for researchers to disseminate findings and for practitioners to access research, collect data, and use the information to guide decisions.

In this issue of *SEDL Letter*, we explore several ways that practitioners are using research and evidence to inform their work. This includes a look at what researchers themselves have learned about the use of education research over the past several years, two articles about how the use of data is shaping instruction, an overview of knowledge translation in SEDL's Disability Research to Practice program, and an interview with the Institute of Education Sciences' communications director, Tracy Dell'Angela.

How has research changed the way you do your job? E-mail us at sedl-letter@sedl.org or post something on our Facebook page at www.facebook.com/sedl.org.

Research Update

The Current State of Research Use in Education

Researchers are examining the circumstances under which educators use evidence, what factors encourage and discourage the use of evidence, and how to create a school environment conducive to the use of evidence.

Since the passage of the No Child Left Behind Act of 2001 (NCLB), there has been an increased focus on using evidence-based practice to improve education and student learning. This movement encourages educators to use instructional strategies backed by scientifically based research—specifically, randomized controlled trials and other types of rigorous research that address questions of effectiveness. Educators are also encouraged to use student and other types of data to guide decisions. In short, educators are being asked to do "what works."

Because of the increased demand for evidence-based practices in education, the amount of rigorous education research has increased. Taking the next step, researchers have now begun looking at educators' use of this research. Specifically, researchers are examining the circumstances under which educators use evidence, what factors encourage and discourage the use of evidence, and how to create a school environment conducive to the use of evidence.

What Encourages and Discourages the Use of Evidence

Educators have reported a number of factors that influenced whether they were likely to use research. The factors listed here, although not comprehensive, include those mentioned in several research studies or literature reviews.

Availability of High-Quality Evidence. Although a large volume of education research reports has been produced since the passage of NCLB, educators reported that only a small proportion of the studies used rigorous research designs like randomized controlled trials or quasi-experimental designs. As a result, educators found little high-quality evidence to guide instructional practices (Hayward & Phillips, 2009; Nelson, Leffler, & Hansen, 2009).

Relevance and Ease of Implementation. Many educators expressed a desire for research studies that applied to their specific situation. In a number of studies, educators reported they were more likely to use research findings if they thought they could apply them directly to their work (Honig & Coburn, 2008; Nelson et al., 2009).

Timeliness of Research. Some educators expressed concerns about the timeliness in which research findings are disseminated. While research studies may take years to complete, these educators felt the pressure to begin using evidence-based instructional strategies and decisions in a much shorter timeframe (Honig & Coburn, 2008; Nelson et al., 2009).

Time Constraints. Educators reported that a lack of time in their busy schedules was a factor in whether they used research evidence. One literature review of evidence-based decision making concluded that "the
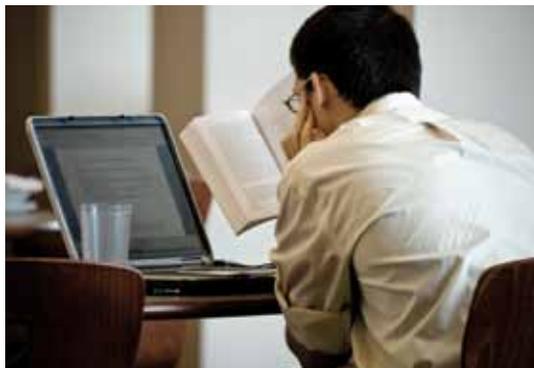
In the classroom, research is just one of many factors that influence a teacher's decisions and practices. Other factors include teachers' knowledge of their content area, how it is taught, curriculum and standards, and available resources.

sheer volume of [administrators'] responsibilities combined with limited time for accomplishing them . . . seems to significantly curb evidence use" (Honig & Coburn, 2008, p. 598; Nelson et al., 2009).

Biases and Incentives. Personal biases and incentives also played a role. For example, many educators stated they were more likely to believe a research report if it conformed to their personal experiences. Educators also reported that they needed an incentive before they would find the time to access evidence. Some studies found that educators only were willing to adopt a new practice, including one that was evidence based, if they were dissatisfied with their current practice (Millar & Osborne, 2009). Other studies found that educators often had ulterior motives in using research: for example, they had a program or practice they already wanted to use and were looking for evidence to support it (Honig & Coburn, 2008).

How Educators Use Research

The barriers to using evidence can paint a discouraging picture, but many educators are in fact accessing research and adopting or facilitating the adoption of evidence-based practices. Educators' use of research occurs within a specific context and as part of a larger process. In the classroom, research is just one of many factors that influence a teacher's decisions and practices. Other factors include teachers' knowledge of their content area, how it is taught, curriculum and standards, and available resources. Such myriad factors form the context in which educators use evidence. For example, educators often modify innovations to fit their setting and the practices with which they are familiar (Millar & Osborne, 2009; Norris, Phillips, & Macnab, 2009). As one report concluded, "Research is more likely to be adapted than adopted" (Nutley, Walter, & Davies, 2007, p. 303). Yet the question of the effectiveness of such adaptations remains.

Acknowledging these findings, many studies describe educators' implementation of evidence-based practices as a dynamic process rather than a single act. "Research can make a difference when teachers integrate new ideas or approaches into practice and then reflect on their own experiences to abstract and construct new understandings," observes one author. Evidence suggests that professional development sessions give educators the opportunity to try new practices and collaborate with colleagues as they reflect on the outcomes (Butler & Schnellert, 2008, p. 38).

Some studies have begun to place educators' use of evidence within the larger organizational change process. The decision to adopt a particular program is often made at the school, district, or state level, yet it is often up to the individual to implement research. Whether this happens depends on the organizational culture since barriers to using evidence often exist at the organizational level. It is up to the school or district to create a culture that promotes the use of evidence-based practices (Hemsley-Brown & Sharp, 2003; Nutley, Jung, & Walter, 2008).

What a Researcher-Practitioner Partnership Looks Like

SEDL has a rich history of helping educators identify and implement evidence-based practices.

- We guide schools and districts in adopting the Professional Teaching and Learning Cycle, an ongoing, job-embedded professional development approach in which teachers collaborate to plan and implement standards-based lessons. "Using Data" on page 10 describes this process.

- Through the Early Warning System Tool and Response to Intervention, we are helping educators collect and analyze student data. See stories on pages 6 and 10 for more details.

- We are conducting regional and national randomized controlled trials of literacy and math programs, including *Imagine It!* and *Everyday Math*.

Redefining the Researcher-Practitioner Relationship

In light of this information, researchers, educators, and policymakers are re-examining the researcher-practitioner relationship. Calls for greater collaboration between researchers and practitioners are encouraging researchers to seek educators' input early on to ensure that researchers are addressing relevant research questions and communicating findings in a way that practitioners can use.

Another emerging trend is the role of third-party organizations in helping educators connect research and practice. These organizations employ several strategies to help educators use evidence-based practices: They survey the broad range of research findings; present findings in shorter, user-friendly formats; help educators identify emerging issues; and build their capacity to collect, analyze, and interpret data. A number of educators report that they access information about evidence-based practices through trusted colleagues, conferences, professional development sessions, and professional membership organizations and publications (Honig & Coburn, 2008; Nelson et al., 2009; Hemsley-Brown & Sharp, 2003; Levin, 2004; Cooper, Levin, & Campbell, 2009).

As policymakers, researchers, and educators continue to negotiate the best way to connect research and practice, there are many indications that evidence-based practice will continue to play a crucial role in education. Just as educators and other stakeholders learn from the growing body of evidence, they are learning from the growing number of studies on effective dissemination practices.

Bibliography

Butler, D. L., & Schnellert, L. (2008, November). Bridging the research-to-practice divide: Improving outcomes for students. *Education Canada 48*(5), 36–40.

Cooper, A., Levin, B., & Campbell, C. (2009). The growing (but still limited) importance of evidence in education policy and practice. *Journal of Educational Change, 10*(2–3), 159–171.

Hayward, D. V. & Phillips, L. M. (2009). Considering research quality and applicability through the eyes of stakeholders. In M. C. Shelley, II, L D. Yore, & B. Hand (Eds.), *Quality research in literacy and science education: International perspectives and gold standards* (pp. 139–148). New York: Springer.

Hemsley-Brown, J. V., & Sharp, C. (2003). The use of research to improve professional practice: A systematic review of the literature. *Oxford Review of Education, 29*(4), 449–471. doi:10.1080/0305498032000153025

Honig, M., & Coburn, C. (2008). Evidence-based decision making in school district central offices: Toward a policy and research agenda. *Educational Policy, 22*(4), 578–608.

Levin, B. (2004). Making research matter more. *Education Policy Analysis Archives, 12*(56). Retrieved from http://epaa.asu.edu/ojs/article/view/211

Millar, R., & Osborne, J. (2009). Research and practice: A complex relationship? In M. C. Shelley, II, L. D. Yore, & B. Hand (Eds.), *Quality research in literacy and science education: International perspectives and gold standards* (pp. 41–59). New York: Springer.

Nelson, S. R., Leffler, J. C., & Hansen, B. A. (2009). *Toward a research agenda for understanding and improving the use of research evidence.* Portland, OR: Northwest Regional Educational Laboratory. Retrieved from http://educationnorthwest.org/resource/694

Norris, S. P, Phillips, L. M., Macnab, J. S. (2009). The gold standard and knowing what to do. In M. C. Shelley, II, L D. Yore, & B. Hand (Eds.), *Quality research in literacy and science education: International perspectives and gold standards* (pp. 603–620). New York: Springer.

Nutley, S., Jung, T., & Walter, I. (2008). The many forms of research-informed practice: A framework for mapping diversity. *Cambridge Journal of Education, 38*(1), 53–71.

Nutley, S. M., Walter, I., & Davies, H. T. O. (2007). *Using evidence: How research can inform public services.* Bristol, UK: The Policy Press.

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Reading the Warning Signs

Using Research to Prevent High School Dropouts in Texas

By Laura Shankland

Every school day, nearly 7,000 students across the United States leave school without a diploma and never return, amounting to 1.2 million dropouts annually (Wise, 2008). The impact of dropping out is severe—on both the individual and society. Over the course of a lifetime, a male high school dropout will earn approximately $322,000 less than a male high school graduate and approximately $1.3 million less than a male college graduate. Moreover, a high school dropout is more likely to commit crimes, rely on government health care, or use public services such as food stamps or housing assistance (Monrad, 2007). Although the dropout challenge is not new, many of the solutions educators are using are. In Texas, SEDL's Texas Comprehensive Center (TXCC), in collaboration with the National High School Center (NHSC) and the Texas Education Agency (TEA), is showing educators how to use data and technology to keep students on track for graduation.

Early Warning Signs

The dropout prevention resource that Texas educators are using is the Early Warning System (EWS) Tool, developed by American Institutes for Research (AIR) for the NHSC and customized for Texas by the TXCC. The EWS Tool is an application that tracks student data and, based on specific indicators, flags students who are at risk of dropping out. Researchers have identified ninth grade as a decisive year in a student's academic career, with attendance and course performance being most predictive of whether a student is at risk of dropping out (Allensworth & Easton, 2005, 2007; Balfanz & Herzog, 2005; Neild & Balfanz, 2006). If a student meets certain benchmarks for these "high yield" indicators, as they are known, he or she is considered off track for graduation. For example, a student's absenteeism rate—specifically, the number of days absent during the first 20 days, each quarter, and the first year of high school—provides information about whether he or she is likely to stay in school. A student who misses more than 10% of

instructional time during the first year of high school is considered off track (Allensworth & Easton, 2007; Heppen & Therriault, 2008).

In the area of course performance, researchers highlight course failures and grade point average (GPA) as areas to monitor, stressing that even one failed course or a GPA under 2.0 is a red flag. Combining these two indicators, two or more Fs in core academic courses or fewer than one-fourth of the credits necessary for graduation is a sign that a student is off track for graduation, or at risk of dropping out (Allensworth & Easton, 2005; Kennelly & Monrad, 2007). Based on the combination of indicators, students who were on track at the end of their freshman year were four times more likely to graduate than their classmates who were not on track (Allensworth & Easton, 2007).

Educators across the United States have been using the NHSC's EWS Tool to bridge the gap between research and practice. The tool tracks attendance and course performance—those high-yield predictors of dropping out that researchers have identified—and flags students who have reached a specific benchmark in these areas. "It was really obvious to us that the research out there was very clear and very comprehensive, . . . but there was a need for somebody to help translate that research into practice," says Mindee O'Cummings, an AIR senior research analyst and technical assistance liaison with the NHSC. The tool, which was released in version 2.0 in Fall 2010, also helps staff at the district and school level identify and focus on the same objectives. "One of the biggest problems in high school is that there's a lot of good stuff going on and a lot of positive pockets, but it very seldom is aligned and cuts across multiple programs," notes Joseph Harris, director of the NHSC and managing research analyst at AIR. "With the introduction of an early warning system based on the tool, everybody's focusing on the same thing at the same time."

Made for Texas

In Texas, a state with more than 1,200 school districts and myriad data-management systems, education leaders wanted to deploy the EWS Tool in a variety of settings. They looked to the TXCC to make this possible. "The original prototype that the High School Center developed was an Excel spreadsheet," explains Chris Caesar, a program manager with the TEA's Division of Dropout Prevention and College and Career Readiness Initiatives. "The

http://txcc.sedl.org/resources/ewst/

Ann Neeley shows Texas educators how to use student data to identify and provide support for students who are at risk of dropping out of school.
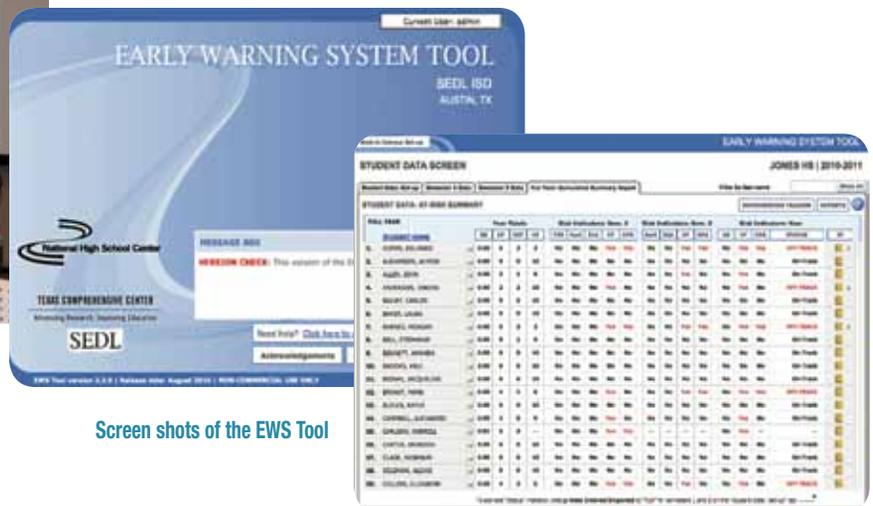
Screen shots of the EWS Tool

Texas Comprehensive Center folks turned it into a database, which has a bit more functionality and features on it." In addition to the high-yield indicators, the Texas version tracks some secondary indicators like disengagement and failure to be promoted to the next grade. "User feedback has shaped some of the updates we have made to the tool. The most recent version allows users to create graphs and record intervention data," says Eric Waters, a SEDL database development associate, who oversaw the creation of the desktop version of the tool originally developed by AIR and the NHSC.

The TXCC and TEA are providing user support for the database as well as professional development on implementing research-based interventions for students who are identified as being off track. "Tutoring, eighth-to-ninth-grade transition programs, these interventions can be effective or ineffective, depending on how you implement them," says Ann Neeley, a SEDL program associate who works with the TXCC. The team stresses the DIVA approach: using *data,* identifying a research-based *intervention, verifying* that the intervention is successful, and *adjusting* it if necessary.

Some of the Texas educators who have invested time and effort into mastering the tool are pleased with the results. "We have experienced a large increase in the percentage of ninth grade students who pass their classes," reports Lorena Molinar, a counselor at Fort Hancock High School in Fort Hancock, Texas. "Last year 67% [of freshmen passed], and this year 87% have." Although the tool alone did not boost student achievement, it helped educators at Fort Hancock identify which students were at risk. "Now, when they look at the data, [teachers] can instantly see who needs help," Molinar explains.

Like the tools' developers, Caesar sees the database as a way to help educators implement research about dropout prevention. "We don't need to send a principal down a rabbit hole, reading articles, because we're basing our programs on research

and connecting them to specific strategies." He also sees the ongoing collaboration as key. "I view our work with the Texas Comprehensive Center and the National High School Center very much as an innovative example of the kind of collaboration that can really help districts, . . . not just with the technical stuff, but to connect that technical assistance to programmatic interventions and strategies."

References

Allensworth, E., & Easton, J. Q. (2005). *The on-track indicator as a predictor of high school graduation.* Chicago, IL: Consortium on Chicago School Research.

Allensworth, E., & Easton, J. Q. (2007). *What matters for staying on-track and graduating in Chicago Public High Schools: A close look at course grades, failures, and attendance in the freshman year.* Chicago, IL: Consortium on Chicago School Research.

Balfanz, R., & Herzog, L. (2005). *Keeping middle grades students on-track to graduation: Initial analysis and implications.* Presentation at the second Regional Middle Grades Symposium, Philadelphia.

Heppen, J. B., & Therriault, S. B. (2008). *Developing early warning systems to identify potential high school dropouts.* Washington, DC: National High School Center.

Kennelly, L., & Monrad, M. (2007). *Approaches to dropout prevention: Heeding early warning signs with appropriate interventions.* Washington, DC: National High School Center.

Monrad, M. (2007). *High school dropout: A quick stats fact sheet.* Washington, DC: National High School Center.

Neild, R. C., & Balfanz, R. (2006). *Unfulfilled promises: The dimensions and characteristics of Philadelphia's dropout crisis, 2000–2005.* Baltimore, MD: Johns Hopkins University, Center for Social Organization of Schools. Retrieved from http://www.every1graduates.org/PDFs/Unfulfilled_Promise_Project_U-turn.pdf

Wise, B. (2008). *Raising the grade: How high school reform can save our youth and our nation.* Hoboken, NJ: Jossey-Bass.

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— Chris Caesar

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Knowledge for a Better Life
Ensuring Research Benefits People With Disabilities

By Joni Wackwitz

"If only I had known." We all know what it's like to learn too late information that could have helped us. In the disability and rehabilitation field, as in many health care fields, gaps between what we *know* and what we *do* exist too often. SEDL's Disability Research to Practice (DRP) program is using knowledge translation (KT) to close these gaps. "Our goal is to ensure that the best available evidence guides disability practice and policy," says John Westbrook, DRP program manager.

Using Knowledge Translation

For the 54 million Americans with disabilities— a number roughly equal to the combined total populations of California and Florida (U.S. Census Bureau, 2008)—research advances have the potential to transform lives. But, as in education, many pitfalls can prevent research from moving into practice. Knowledge users—practitioners, service providers, policymakers, and people with disabilities—may be too busy or lack the skills to locate and interpret research studies. Or dissemination methods may be ineffective in informing people about new evidence-based treatments (Straus, Tetroe, & Graham, 2009).

Knowledge translation involves actively and systematically working to overcome barriers to research use while also promoting the use of high-quality evidence. The process focuses on the entire knowledge cycle, from creation to application. KT activities address three main goals: (1) They improve the quality and relevance of research by encouraging researchers to use rigorous designs, incorporate knowledge users' input, and focus on real-world needs and problems. (2) They tailor research findings and dissemination methods to help specific groups access and understand the information. (3) And they promote the application of evidence-based knowledge through action or change—a new or best practice, a change in a policy or service, or the production of a new device or treatment (Murphy & Westbrook, 2010; Straus, Tetroe, & Graham, 2009).

Unlike traditional approaches to disseminating and supporting the use of research, "KT works to ensure the development and implementation of the best evidence-based interventions and policies available today," explains Westbrook.

Promoting High-Quality Research

Sam is a 3-year-old child who is eagerly exploring his world but not speaking. Speech pathologists describe children like Sam as late talkers and use various strategies to work with them. But little high-quality, evidence-based guidance is available about which strategies are most effective (Johnson, 2006).

Stepping in to help is a team of researchers at Purdue University. Led by Anu Subramanian, a clinical assistant professor in the Department of Speech, Language, and Hearing Sciences, the team is conducting a systematic review of research studies on interventions for late talkers. A key KT tool, a systematic review identifies, appraises, synthesizes, and interprets all available high-quality studies on a specific intervention or question. The process is one of the most rigorous ways to determine the best available evidence for a treatment or practice.

"Individual studies are usually not a sufficient basis for large-scale changes in policy or interventions," says Westbrook. "By looking across similar studies, systematic reviews can determine what we really know and how best to use the knowledge." In this case, the Purdue team hopes its review will help inform speech pathologists about which evidence-based practices are most effective in helping children with language delays.

The Challenge. Creating a high-quality systematic review is a time-consuming and exacting process. Researchers must follow a predefined, rigorous, and explicit methodology. And like other types of research, a poorly designed and executed review can produce invalid findings that could possibly lead to the use of ineffective and even harmful treatments.

The KT Solution. For assistance, Subramanian and her team have turned to SEDL's National Center for the Dissemination of Disability Research (NCDDR) and the Campbell Collaboration (C2). C2 is a nonprofit, international research group that supports the production and use of systematic reviews in the behavioral and social sciences. The two partners provide online courses on producing systematic reviews that meet the strictest international standards. The courses connect research teams from

around the world with leading experts in all aspects of developing and reporting systematic reviews. Subramanian says the course has allowed her team to "bounce ideas off of [experts] at every step of the way, so we're sure we're doing the right thing and the best quality research."

By participating in the course, the Purdue team is increasing the likelihood that its review will produce valid findings and be reported with sufficient depth for others to use it. Additional KT activities, such as providing a plain-language summary of the review and publishing the summary in online databases like the NCDDR KT Library and the C2 Library, will help users understand and access the results.

For speech pathologists, these activities increase the chance they will know and use the strategies that most benefit young children struggling with speech. For Sam, the hoped-for payoff is that he can one day talk with others about his explorations of his world.

Improving Services and Advocacy

In mid-2010, the unemployment rate for Americans with disabilities was 16.4%, compared with 9.5% for other Americans (Office of Disability Employment Policy, 2010). Wendy Wilkinson understands the challenges adults with disabilities face in finding and keeping jobs. As director of the Southwest ADA Center in Houston, Texas, she works to ensure that adults with disabilities have equal opportunities in the workplace and in public services.

The Southwest ADA Center is part of a network of regional Disability and Technical Assistance Centers (DBTACs) that inform individuals, businesses, and agencies about their rights and responsibilities under the Americans with Disabilities Act (ADA). The ADA prohibits discrimination based on disability in several areas. For instance, it requires employers to provide workers with disabilities with reasonable accommodations to perform their jobs. Accommodations may range from wheelchair access to a special computer keyboard. The centers do not enforce ADA compliance but rather expand understanding of the law through information dissemination, training, and technical assistance.

The Challenge. The DBTACs have been charged with improving knowledge translation by ensuring that their activities are evidence based and tailored to the needs and accessibility requirements of the people who use their services.

The KT Solution. To help meet this requirement, the Southwest ADA Center partnered with SEDL to conduct a survey of the people using their services who had both disabilities and recent work experience. "We sliced out what we thought was an important group . . . to see who they were and what their needs are," explains Wilkinson. The survey asked this group about their current employment status and job experiences. Kathleen Murphy, a SEDL project director, served as lead researcher, along with Vinh Nguyen, director of legal research at the Southwest ADA Center.

Among the results, the survey found that respondents were disproportionately white. This finding has led Wilkinson to improve the Center's outreach to underserved groups. "We know we're in a region that has a lot of people who are Hispanic, so we need to do a better job with our outreach," she says. Wilkinson noted that the survey also indicated that respondents who were working experienced a lot of issues related to disclosure of their disabilities. "That spoke to the need to . . . have more materials targeted to disclosure issues: when, where, and how to disclose your disability," explains Wilkinson.

For the Southwest ADA Center, KT activities are helping them better advocate for the rights of people with disabilities. For the people using their services, being better informed about their rights under the ADA could mean the difference between having a job and being unemployed.

Working to Improve Lives

SEDL facilitates and supports KT in disability and rehabilitation through resources, initiatives, networks, service systems, and partnerships. Our latest initiative is the Center on Knowledge Translation for Employment Research, operated in partnership with Virginia Commonwealth University. This initiative will incorporate KT to promote employment among people with disabilities.

References

Johnson, C. J. (2006). Getting started in evidence-based practice for childhood speech-language disorders. *American Journal of Speech-Language Pathology, 15*(1), 20–35. doi:10.1044/1058-0360(2006/004)

Murphy, K. M., & Westbrook, J. D. (2010). Knowledge translation. In: J. H. Stone & M. Blouin (Eds.), *International Encyclopedia of Rehabilitation.* Retrieved from http://cirrie.buffalo.edu/encyclopedia/article .php?id=157&language=en

Office of Disability Employment Policy. (2010). *July 2010 disability employment statistics.* Retrieved from http:// www.dol.gov/odep/

Straus, S. E., Tetroe, J., & Graham, I. (2009). Defining knowledge translation. *Canadian Medical Association Journal, 181*(3–4), 165–168.

U.S. Census Bureau. (2008). *Americans with disabilities: 2005.* Retrieved from http://www.census.gov/ newsroom/releases/archives/income_wealth/ cb08-185.html

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Using Data
to Guide Instruction and Improve Student Learning

By Dale Lewis,
Robyn Madison-Harris,
Ada Muoneke, and
Chris Times

A picture may be worth a thousand words, but in education, information speaks volumes. Data analysis can provide a snapshot of what students know, what they should know, and what can be done to meet their academic needs. With appropriate analysis and interpretation of data, educators can make informed decisions that positively affect student outcomes.

Research has shown that using data in instructional decisions can lead to improved student performance (Wayman, 2005; Wayman, Cho, & Johnston, 2007; Wohlstetter, Datnow, & Park, 2008). No single assessment can tell educators all they need to know to make well-informed instructional decisions, so researchers stress the use of multiple data sources. Generally, schools collect enormous amounts of data on students' attendance, behavior, and performance, as well as administrative data and perceptual data from surveys and focus groups. But when it comes to improving instruction and learning, it's not the quantity of the data that counts, but how the information is used (Hamilton et al., 2009).

SEDL's Southeast and Texas Comprehensive Centers offer technical assistance and professional development throughout their respective regions to help educators use data effectively. This data-use support includes helping teachers use assessment results and student work samples to identify and address learning difficulties and academic needs. It also has included training on approaches such as Response to Intervention and the Professional Teaching and Learning Cycle to help school staff identify areas for improvement and modify practices.

Louisiana: Professional Learning and Instructional Planning

During 2009–2010, SEDL staff worked with district and school leaders in St. Helena Parish School System to sustain systematic improvement and ongoing staff development processes. Data analysis was an integral part of this work. St. Helena's superintendent had requested that technical assistance focus on literacy instruction, and SEDL confirmed that this was the appropriate target area by reviewing student assessment data and observing teacher planning meetings.

The team's objectives for data use included that all teachers would

- engage in quality professional learning at least weekly to ensure delivery of effective instruction for students, and

- collect student data from several sources—responses on standardized tests, writing samples, and projects—and meet weekly to analyze, interpret, and use the data to adjust instruction and plan lessons.

SEDL staff provided training during which district staff from all content areas learned how to properly implement research-based literacy instructional strategies. In addition, SEDL staff regularly participated in teacher planning meetings and observed classroom instruction to assess the effectiveness of the literacy strategies and provide feedback for improvement.

For the 2010–2011 school year, the district leadership team chose Response to Intervention (RtI) to address students' diverse needs and foster school improvement. Designed for use in the general classroom, RtI uses graduated levels, or tiers, of support, individualized goals, and frequent

monitoring to tackle students' specific learning and behavioral problems. SEDL staff assisted district and school staff with using student assessment data to designate reading tier placement for each student in the elementary school and all content area placement for high school students. Using 2009–2010 initial, intermediate, and final DIBELS (Dynamic Indicators of Basic Early Literacy Skills) assessment results, district and school leaders and staff set up reading intervention groups, or RtI tier placements, for elementary students. All students will receive Tier 1, or core, instruction. Students scoring "some risk" were placed in Tier 2 and will receive additional targeted instruction to supplement the core instruction. Students scoring "at risk" were placed in Tier 3, where they will receive small-group or one-on-one intensive interventions in addition to core instruction. For high school students, SEDL staff helped district staff use student scores from the Louisiana Graduation Exit Examination to establish RtI tier placement for each content area.

Ongoing data collection and analysis are an important part of RtI, so SEDL staff helped teachers incorporate this process into their weekly planning meetings. "Student work can be an extremely informative type of data," explains SEDL program associate Robyn Madison-Harris. "A work sample often points directly to a specific academic standard, and teachers can often see where students are struggling to understand a concept." For example, if a teacher notices that a student successfully writes the beginning sound of a word but does not complete it correctly, the student likely needs instruction in learning letter correspondences for all the letter sounds for the whole word. "Teachers can learn a lot about students' reading skills and difficulties by analyzing work samples," explains Kathleen Theodore, a SEDL program associate who provided professional development on literacy instruction in St. Helena Parish.

Texas: Analysis of Data, Instruction, and Interventions

During 2009–2010, SEDL assisted Lyford Consolidated Independent School District in implementing RtI in its elementary, middle, and high schools. The plan involved two phases: districtwide analysis of data and professional learning sessions. In Phase 1, SEDL staff met with leaders to examine three major categories of data by student groups, grade levels, and campuses:

1. Demographic data: student population, participation, attendance, and least restrictive environment for students with disabilities

2. Student learning data: Texas Assessment of Knowledge and Skills in reading/ELA (English language arts) and mathematics, adequate yearly progress (AYP) in reading/ELA and mathematics, and beginning- and end-of-year data from the STAR Reading assessment and the Texas Proficiency Reading Inventory

3. Disciplinary: office disciplinary referrals, suspensions, and disciplinary alternative education program

Through data analysis, the following trends emerged: (1) The elementary school consistently met AYP; however, staff were concerned that test scores had either plateaued or dropped slightly, particularly reading scores for some grades. (2) The high school had failed to meet AYP in mathematics for 2 consecutive years. (3) An analysis of office referral data and teacher reports helped educators identify students who displayed consistent behavior problems.

Based on this analysis, Lyford's leadership targeted elementary reading, high school mathematics, and behavior at all grade levels for improvement. They had selected RtI as the intervention strategy for achieving their goals. In Phase 2, SEDL provided districtwide professional development that was designed to increase teacher knowledge of RtI, the use of high-quality instruction and interventions tailored to state content standards, student progress monitoring, and the use of data to make educational decisions. SEDL also provided more targeted training on research-based instructional strategies for reading and mathematics, working with English language learners and students with disabilities, providing positive

When it comes to improving instruction and learning, it's not the quantity of the data that counts, but how the information is used.

St. Helena Parish
School System
Greensburg, Louisiana

Lyford Consolidated ISD
Lyford, Texas

Georgetown County
School District
Georgetown, South Carolina

Lancaster County
School District
Lancaster, South Carolina

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behavioral supports, and analyzing student work. "Examining student work during staff meetings allowed teachers to gather data to guide common instructional planning and adjustments," says SEDL program associate Ada Muoneke.

South Carolina: Capacity Building of Teacher Teams

In South Carolina, SEDL has spent the past year working with two school districts—Georgetown and Lancaster—to strengthen collaborative professional learning and show teacher teams how to analyze student work and data to improve instruction. SEDL staff have used the Professional Teaching and Learning Cycle (PTLC) to structure this work (Cowan, 2009; Tobia, 2007). PTLC is an ongoing, job-embedded professional development approach in which teachers collaborate to plan and implement standards-based lessons. SEDL staff facilitated Georgetown and Lancaster teachers in using this process to examine content standards, develop common assessments to gauge student learning, analyze results from these assessments and others to determine student success, and plan how to refine instruction to scaffold or enrich student understanding.

"In our work with teacher teams, we've observed that collaboration centered on building a common understanding of content standards prior to the planning of instruction and assessment has resulted in greater consistency in expectations for student performance," explains SEDL program associate Dale Lewis. "When teams return to review student work products based on these shared expectations and common understandings, discussion about how to improve future instruction is more focused." Using interim assessment information to adjust instruction is a central feature of PTLC. Teams analyze data such as student work samples and brainstorm adjustments to instruction to meet both the enrichment needs of high-achieving students and the intervention needs of struggling students (Jacobson, 2010; Tobia, 2007). Recently, SEDL staff facilitated professional learning on analyzing student work samples.

"One student's sample was particularly troublesome, displaying great difficulty with the writing process," says Lewis. "The teacher expressed frustration at having tried a variety of approaches and

strategies with the student to no avail. The team was able to brainstorm instructional supports that might provide a scaffold to support skill progression and bring the student closer to proficiency. Later that day, the school principal told SEDL staff that the teacher had come to her in excitement a few hours after the team meeting. She had selected a strategy and supports suggested by her teammates and, for the first time, the student had experienced success with the writing task," says Lewis.

References

Cowan, D. (2009). Creating a community of professional learners: An inside view. *SEDL Letter, 21*(1), 20–25.

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Jacobson, D. (2010). Coherent instructional improvement and PLCs. Is it possible to do both? *Phi Delta Kappan, 91*(6), 38–45.

Tobia, E. (2007). The Professional Teaching and Learning Cycle: Implementing a standards-based approach to professional development. *SEDL Letter, 19*(1), 11–15.

Wayman, J. C. (2005). Involving teachers in data-driven decision-making: Using computer data systems to support teacher inquiry and reflection. *Journal of Education for Students Placed at Risk, 10*(3), 295–308.

Wayman, J. C., Cho, V., & Johnston, M. T. (2007). *The data-informed district: A district-wide evaluation of data use in the Natrona County School District.* Austin, TX: The University of Texas.

Wohlstetter, P., Datnow, A., & Park, V. (2008). Creating a system for data-driven decision-making: Applying the principal-agent framework. *School Effectiveness and School Improvement, 19*(3), 239–259.
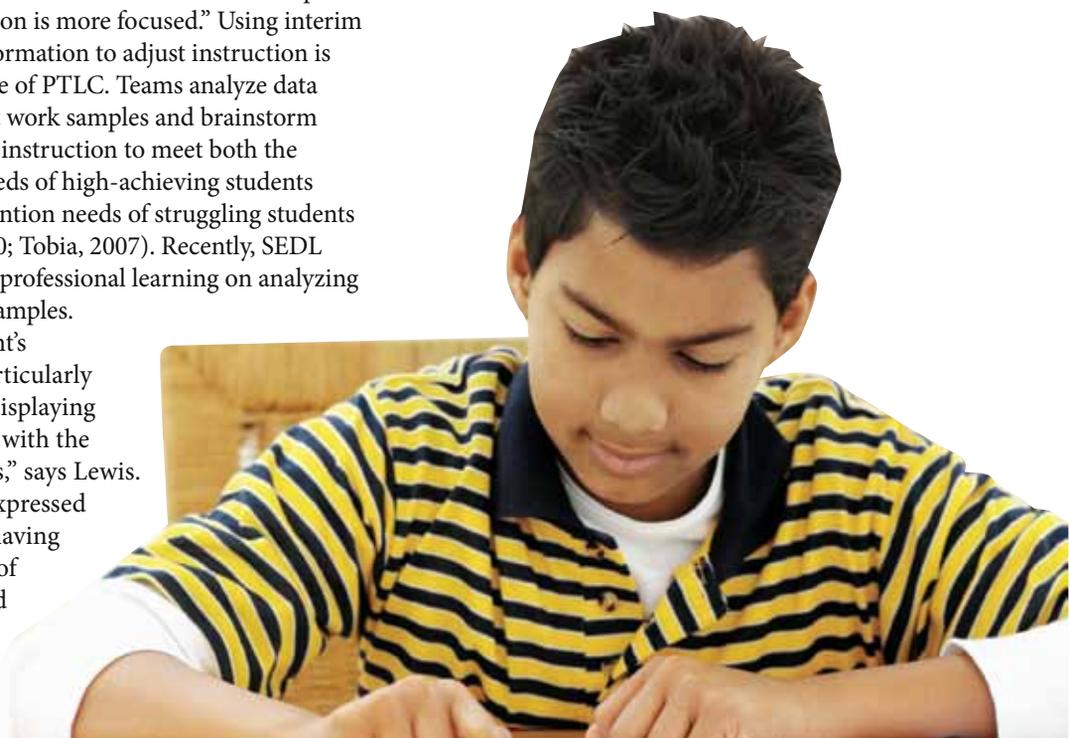
Research to Practice: What It Means at the Institute of Education Sciences
Q&A With Tracy Dell'Angela

Tracy Dell'Angela became director of outreach and communications for the Institute of Education Sciences (IES) in mid-2009. In this role, she works to enhance external and internal communications by striving to make the work of IES more accessible to practitioners, policymakers, and the general public.

By Christine Moses-Egan

Q. Research plays a much more prominent role in education practices than it did 10 years ago. What are some of the benefits and challenges of this change?
A. I think educators are no longer looking for fixes based on their gut instincts, on "what they just know to be true." And I think policymakers are moving away from this notion that there is one big fix out there that is going to cure everything wrong with the American school system. The benefit, of course, is that education reformers are increasingly looking to researchers to provide them with these evidence-based solutions. The challenge for researchers is that they need to be asking those policy-relevant questions, and they need to be able to provide support and findings on an ongoing basis, not at the end of a 5-year study. Another challenge will be providing evidence that is nuanced, that anticipates implementation issues based on school culture and organizational challenges. It's not enough to ask whether or not a particular program works or doesn't work; we need to understand why it works, how it works, for whom, and under what conditions.

Q. What are some of the ways that education leaders can bridge the gap between research findings and what is happening in the classroom?
A. Actually, I think we need to flip that question and think about how researchers can bridge the gap between research findings and what is happening in the classroom. Too often, the onus falls on practitioners

> *"Researchers need to help principals, teachers, and district leaders understand how to use the research to improve their schools. That means they need to think about how to take complicated ideas and make them understandable—to write and present findings in an accessible way for an audience of practitioners who don't live and breathe regression models and effect sizes."*
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> —Tracy Dell'Angela

About Dell'Angela

Tracy Dell'Angela's office is helping IES develop new and deeper relationships with the regional centers that work most closely with practitioners to put IES research into practice. She came to IES from the Consortium on Chicago School Research (CCSR) at the University of Chicago, where she worked with John Easton (now IES director) to bring CCSR's research directly to practitioners in Chicago schools. Dell'Angela spent most of her career as a newspaper reporter, including 12 years at the *Chicago Tribune*, where she covered national education issues and the Chicago Public Schools.

If researchers want their work to be relevant to school improvement efforts, their connection to schools needs to go far beyond just gathering data and observing students and teachers.

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to make sense of research, to figure out how it applies to their work. I would argue that the research community needs to do more to meet educators on their own turf—not just at the end of a research project when they want schools to use their findings, but from the very beginning to ensure they are asking questions that are relevant to schools and policymakers. Too often, researchers do a study on something they are interested in, drop the findings on schools, and say: "Here are some good findings you need to use." Well, it doesn't work that way. Researchers need to help principals, teachers, and district leaders understand how to use the research to improve their schools. That means they need to think about how to take complicated ideas and make them understandable—to write and present findings in an accessible way for an audience of practitioners who don't live and breathe regression models and effect sizes.

Q. What are some ways that researchers and educators can collaborate to improve education?
A. When researchers listen to the voices of practitioners and policymakers throughout the research cycle—from planning and designing studies to interpreting findings and working through the implications for policy and practice—folks on the ground are more likely to respond to findings and adopt them in schools. If researchers want their work to be relevant to school improvement efforts, their connection to schools needs to go far beyond just gathering data and observing students and teachers. They need to spend time in schools talking with administrators and teachers before and after studies about the challenges they face. They need to reach out to policymakers. And they need to collaborate with researchers outside their own expertise.

What is the IES vision for promoting partnerships between researchers and educators?
A. As I mentioned above, it starts with asking

the questions that matter most for practice and policy. IES has already taken a few steps to foster these partnerships. We rewrote our post-doctoral grants to make it clear we are explicitly seeking trained scientists interested in engaging with practitioners and asking more of the relevant questions that really matter to schools. We built language into our Request For Application competitions that encourage—and in some cases require—collaboration between researchers and schools. We just launched a major initiative out of our National Center for Education Research—the Reading for Understanding Research Network, a $100 million commitment that will bring together 130 researchers working in partnership with teachers and school leaders to tackle a critical need: improving reading comprehension for all students from preschool through high school. And a new project out of the National Center for Education Evaluation and Regional Assistance— the evaluation of the impact of the American Recovery and Reinvestment Act (ARRA), the federal stimulus funds for education—will demand a new responsiveness and regular communication with policy leaders, states, and districts. We will be conducting impact studies of school turnarounds and evaluating the Teacher Incentive Fund programs, and our goal is to turn these reports around more quickly than we have in the past, so we can help the department and states make mid-course corrections as needed.

Q. Schools and districts have access to more data than ever before. What are some strategies that can help them create meaning out of the numbers?
A. We can harness our vast resources and experience, particularly with data systems, to help states make productive use of the ocean of data in which they are now swimming . . . or drowning, as the case may be. In May, we announced grant awards totaling $250 million to 20 states for the design and implementation of these systems. These grants, funded through ARRA, will promote the linking of data across time and databases, from early childhood into career, including matching teachers to students. Up until now, the states' focus has been on building these systems, not using the data to drive improvement at the policy level and at the school level. So there are increasingly robust and rich data systems out there that a lot of users simply don't know how to use best. We can play a big role in developing partnerships—perhaps through training grants or our regional labs—with district and state data experts that will support their efforts to provide timely, descriptive, and analytic feedback to their schools.

SEDL News

SEDL Hosts Regional Forum on School Improvement

On July 21–22, 2010, the Southeast Comprehensive Center and Texas Comprehensive Center at SEDL hosted a regional forum—Turning Around Low-Achieving Schools: A Blueprint for Reform—for state department of education staff from the six states the centers serve and other stakeholders. About 100 participants gathered to learn more about the ESEA blueprint from a presentation and discussion by Carl Harris, deputy assistant secretary for policy and strategic initiatives in the Office of Elementary and Secondary Education (OESE), and Kandace Jones, special assistant for school turnaround, OESE of the U.S. Department of Education. In addition, attendees participated in interactive events targeting the priority areas of the blueprint as well as research on and strategies for turning around chronically low-performing schools.
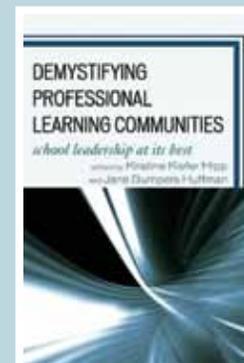
Learn more at www.sedl.org/blueprint.

Former Board Member Leads Native American Initiative

Maggie George, former SEDL board member, was recently appointed as executive director of the White House Initiative on Tribal Colleges and Universities with the U.S. Department of Education. The initiative ensures that the nation's 36 federally recognized Tribal Colleges and Universities are more fully recognized and have full access to federal programs benefiting other higher education institutions. George is a member of the Diné Nation and has nearly 3 decades of experience developing, managing, and researching programs in American Indian higher education. She served on the SEDL board of directors from 2009 to 2010.

Project Director D'Ette Cowan Published in New Book on Professional Learning Communities

SEDL project director D'Ette Cowan contributed "The Professional Teaching and Learning Cycle: A Strategy for Creating Professional Learning Communities," to the recently published book *Demystifying Professional Learning Communities: School Leadership at Its Best.* The book outlines an approach to school improvement that uses professional learning community practices—embedding leadership in the entire school community rather than making it the responsibility of one person. Cowan's chapter describes the Professional Teaching and Learning Cycle (PTLC), which helps educators implement professional learning communities as something more than a group of teachers meeting from time to time. The PTLC shows how to create and sustain professional learning communities that focus on the alignment of curriculum, instruction, and assessment to state standards.