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for Educational Policymakers

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1900 Spring Road, Suite 300
Oak Brook, Illinois 60523-1480
(800) 356-2735

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Teacher Quality
Annotated
Bibliography

October 2, 2000

Mr. John Buxton
White House Fellow
Domestic Policy Council
The White House
Washington, DC 20502

Dear Mr. Buxton:

It is with great pleasure that we share with you the enclosed research-based materials on teacher quality. As you know, the issue of teacher quality has gained tremendous national attention in recent years. As our country grapples with the critical teacher shortage, there is an increasing need to attract qualified candidates into the profession, recruit well-trained teachers to our schools (especially to our rural and urban schools), and to sustain teachers' professional development to ensure high levels of teaching and high levels of learning for all students. The Midwest, in particular, is challenged to attract teachers in technology, physics, music, and special education. The briefing materials we have put together in this packet address these issues from multiple perspectives and through innovative and tested strategies. Enclosed, you will find:

- A step-by-step guide for how to use NCREL's award-winning Pathways to School Improvement Internet Server to gain more information and relevant links on teacher quality
- Two articles on the Tennessee Value-Added Assessment System which has produced interesting findings on the association between competent (and incompetent) teachers and student achievement both in the short- and longer-term
- An annotated bibliography of articles and web sites that address a wide range of teacher quality issues; and
- Articles that describe the hallmarks for ensuring teacher quality and their implications for policy and practice.

We hope you will find these materials helpful to you in your work. We know that you are wrestling with issues of teacher quality. NCREL stands ready to serve as a resource for you. Additional questions on this or any other education issue can be directed to the NCREL Resource Center at info@ncrel.org or by calling 1-800-356-2735. Please let us hear from you on the usefulness of this packet, and how we can support you further.

Sincerely,



Gina Burkhardt

Executive Director, NCREL



TEACHER QUALITY ANNOTATED BIBLIOGRAPHY

American Federation of Teachers. (n.d.). *Teacher quality* [Online]. Available: <http://www.aft.org/edissues/teacherquality/index.htm>

This Web site discusses different aspects of teacher quality, including recruitment, education, licensure, and professional development. It also includes the resolution on improving teacher quality, which was passed in 1998 at the annual AFT convention.

Archer, J. (1999, May 5). Sanders 101. *Education Week on the Web* [Online]. Available: <http://www.edweek.org/ew/vol-18/34sander.h18>

Dr. Sanders is well known for his work with the Tennessee Value Added Assessment System. This article discusses that topic and also provides a clear description of Bill Sanders' work as a statistician. Through his work, he has shown a students' academic performance is linked to the educators' performance. Links to other related stories are included.

Barth, P. (Ed.). (1998, Summer). Good teaching matters. *Thinking K-16*, 3(2).

This issue focuses on teacher quality and its relationship to student achievement. Research from Tennessee, Dallas, Boston, and the National Center for Educational Statistics is presented. This research appears to present a strong link between qualified teachers and student success.

Center for the Study of Teaching, University of Washington. (n.d.). *Center for the Study of Teaching (CTP)* [Online]. Available: <http://depts.washington.edu/ctpmail/>

CTP is a consortium of five universities. They are investigating the relationship between excellent teaching and policymaking at national, state, and local levels.

Collinson, V. (1999). Redefining teacher excellence. *Theory into Practice*, 38(1), 4-11.

This article is from a special issue that redefines teacher quality. It discusses a study that examined 81 exemplary secondary school teachers' conceptions of their work. The results of the study indicated that these teachers seem to be developing a triad of knowledge. This triad includes content knowledge, interpersonal knowledge, and intrapersonal knowledge. These three types of knowledge are similar to research on intelligence.

Darling-Hammond, L. & Rustique-Forrester, E. (1997). Investing in quality teaching: State-level strategies. *ECS Perspective...Teachers*. (Report ECS TE-97-1). Denver, CO: Education Commission of the States. (ERIC Document Reproduction Service No. ED 412 186).

Policymakers can have an impact on the quality of the teaching force if they look at several aspects of teaching. This includes redesigning teacher standards, teacher education, professional development, and hiring and recruiting teachers.

Darling-Hammond, L. (2000, January 1). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, 8(1) [Online]. Available: <http://epaa.asu.edu/epaa/v8n1/>

This study, using data from 50 states, examines how teacher qualifications and other school inputs are related to student achievement.

Editorial Projects in Education. (2000). Quality counts 2000: Who should teach? *Education Week on the Web* [Online]. Available: <http://www.edweek.org/sreports/qc00/templates/article.cfm?slug=contents.htm>

This special report on teacher quality contains articles on teacher competency, salary, and incentives, as well as information on state policies.

Johnson, D. (1999, April). What is quality teaching? *Teachers Discuss* [Online]. Available: http://oeri3.ed.gov:8000/Teachers/nonmembers/index.cgi?do=listmsgs&conf=Teach.What_

This U.S. Department of Education site begins with an article that discusses the meaning of quality teaching and then provides a place for readers to add their own comments on the topic.

Martinez, J. G. R., & Martinez, N. C. (1999). Teacher effectiveness and learning for mastery. *Journal of Educational Research*, 95(5), 279-285.

This article discusses what makes mastery learning work. Mastery learning is instruction that is organized to emphasize student mastery of a specific learning objective. The article examines the relation of mastery learning to having an effective teacher.

Mizell, M. H. (1999). Link staff learning to student learning. *Journal of Staff Development*, 20(2), 47.

This brief article provides a short discussion of two major issues regarding staff development and student achievement.

National Center for Education Statistics. (1999). *Teacher quality: A report on the preparation and qualifications of public school teachers* [Online]. Available: <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=1999080>

This national profile of teacher quality focuses on teachers' learning and the environment in which they work. It also includes information about their education, certification, teaching assignments, professional development, collaboration, and support work environment.

Rodriguez, E. M. (1998). *Preparing quality teachers: Issues and trends in the states* (Abstract) [Online]. Available: <http://www.ecs.org/ecs/ecswb.nsf/e2addb66bd0b131587256770005fd465/7e00c0794a9f4fde872566a6006f1293?OpenDocument>

The abstract of this report, by the State Higher Education Executive Officers (SHEEO), provides an overview of the major issues in teacher-preparation reform in the states. The information is based on selected national and state studies and initiatives.

Ruenzel, D., Carlos, L., & Perry, M. (with Miller, B. & Madison, A.). (1999). *Strengthening Teacher Quality in California*. Palo Alto, CA: EdSource.

In California educators want to ensure that pushing for accountability in education doesn't obscure the goal of strengthening the performance of teachers. The focus of professional development programs is discussed along with the topic of effective evaluation of professional development

St. John, E., Ward, J., & Laine, S. (1999). *State policy on professional development: Rethinking the linkages to student outcomes*. Oak Brook, IL: North Central Regional Educational Laboratory.

This paper develops a preliminary framework that policymakers can use to guide them as they consider requests to fund more professional development opportunities for teachers. Five questions will help them focus on how increased spending on programs supporting professional education of teachers will improve student achievement.

Sanders, W. (1998). *Tennessee Value-Added Assessment System* [Online]. Available: http://www.shearonforschools.com/TVAAS_index.html

This site explains what TVAAS is and how it works. Dr. Sanders' research with TVASS indicates that the most important variable in a student's academic progress is having an effective teacher. It provides links to other articles and reports on the topic as well as to Tennessee's Report Card data.

Sanders, W. (1998). Value-added assessment. *School Administrator*, 55(11), 24-27. Available online: <http://www.aasa.org/SA/dec9801.htm>

The Tennessee Value-Added Assessment System measures effects of the system, the school and the teacher on how well students progress. This articles discusses how this testing works and the research findings. The connection between effective teachers and academic growth has been studied and these findings are reported.

Schalock, H. D., Schalock, M. D., & Myton, D. V. (1998). Effectiveness--along with quality--should be the focus. *Phi Delta Kappan*, 79(6), 469-470.

This article discusses the idea that student learning should be the gauge by which teachers are measured.

Snyder, J. (2000, Winter). New Haven, California's teaching quality system: What states can learn from one district's success. *The State Education Standard*, 7-11.

The New Haven Unified School District in California has a reputation for excellent schools. Even though it is a low-wealth district, schools at all levels have been recognized as exemplary by the U.S. Department of Education. One of the factors contributing to the school's success has been the emphasis placed on quality teaching. This article discusses some of the aspects of teacher quality that New Haven emphasizes.

U.S. Department of Education. (1998). *Promising practices: New ways to improve teacher quality* [Online]. Available: <http://www.ed.gov/pubs/PromPractice/index.html>

This document profiles six promising practices for improving teacher quality: recruiting talented and diverse people into the teaching profession, improving teacher preparation, raising licensing and certification standards for teachers, providing professional support to beginning teachers during their initial teaching years, improving professional development practices, and improving teacher accountability and incentives.

Vann, A. S. (1999, Winter). Four steps to improve teacher quality. *Educational Horizons*, 77(2), 59-60.

The author suggests four steps that can be taken now to improve the quality of teacher education graduates.



North Central Regional Educational Laboratory

"Applying Research and Technology to Learning"

NCREL's award winning site, *Pathways to School Improvement*, is a valuable source of information on many educational topics. To guide you through the Web site and help you find further information on Teacher Quality, this tool has been developed.

PATHWAYS PLANNING TOOL TEACHER QUALITY

I. Overview of Pathways to School Improvement

- Go to the *Pathways* home page (<http://www.ncrel.org/sdrs/pathwayg.htm>) and click on the "Getting Started" button.
- This will take you to Getting Started: Questions and Answers (<http://www.ncrel.org/sdrs/starting.htm>). Read that material for an overview of how to use *Pathways to School Improvement* as part of the school improvement cycle.

II. Topic Selection

- Open to the *Pathways* home page (<http://www.ncrel.org/sdrs/pathwayg.htm>). Bookmark that page so you can return easily.
- At the present time, *Pathways* does not offer a critical issue (major topic) on teacher quality, but provides information through the following links.
 - Issues of Supply and Demand: Recruiting and Retaining Quality Teachers - Policy Publication, 1999
<http://www.ncrel.org/policy/recruit.pdf> (requires Adobe Acrobat Software)
 - Professional Development: Staff Learning for Student Results
<http://www.ncrel.org/pd/>
 - New Leaders for Tomorrow's Schools, Spring 1998 Special Edition: Terry Roberts: The Paideia Program (This program's focus is on the relationship between teacher and student and looks closely at improving the quality of teaching)
<http://www.ncrel.org/cscd/pubs/lead52/52robert.htm>
 - New Leaders: Professional Development and Success
<http://www.ncrel.org/cscd/pubs/lead31/31prodev.htm>

- State Programs for Funding Teacher Professional Development
<http://www.ncrel.org/reprc/statfund.pdf> (requires Adobe Acrobat Software)
- Professional Development
<http://www.ncrel.org/sdrs/areas/pd0cont.htm>

III. Additional Online Resources

- Quality Counts 2000: Who Should Teach? - *Education Week on the Web*
<http://www.edweek.org/sreports/qc00/>
- Teacher Quality Clearinghouse - *The Thomas B. Fordham Foundation and Education Leaders Council*
<http://www.tqclearinghouse.org/>
- Teaching Quality - *Education Commission of the States*
www.ecs.org
- Southeast Center for Teaching Quality
<http://www.teachingquality.org/>

IV. Internal Search Engine

- From the home page, click on "Search."
- Follow the directions to conduct a search for additional information on your area of concern.

V. Post a Message

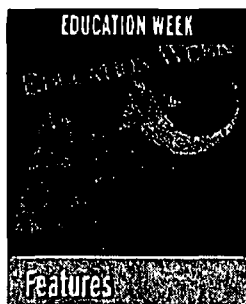
- From the home page, click on Users' Corner.
- Click on the "Can We Talk" section and post a question for response from others.

Looking for classroom resources, software, or testing resources?

MAY 5, 1999

EDUCATION WEEK on the WEB

IN CONTEXT	THE ARCHIVES	TEACHER MAGAZINE	THE DAILY NEWS	SPECIAL REPORTS	PRODUCTS & SERVICES
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Sanders 101

By Jeff Archer

Knoxville, Tenn.

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Read the
accompanying
stories, "Putting
'Value Added' Data
to Good Use," and
"Research Notes,"
in This Week's
News.

William L. Sanders has always leaned more toward the research side of academia. In fact, it's been seven years since the statistician last taught a course here at the University of Tennessee.

And yet, in recent months, the balance of his work has tipped heavily toward instruction, and the demand for his teaching has spread far beyond this hilly campus in East Tennessee.

Instead of the graduate students who used to make up his statistics classes, the 58-year-old professor is increasingly being called on to lecture state school boards, legislators, governors, teacher groups, and district officials.

In the past month alone, he has packed up his overheads and jetted off to Florida, Ohio, Delaware, and Kansas. "Sanders 101" has become a very popular course.

"Students' Fortunes
Rest With Assigned
Teacher," Feb. 18,
1998.

It's hardly surprising that his work has struck such a chord. By carefully tracking student progress over time, Mr. Sanders claims to have come up with a way to gauge academic performance--and educators' effects on that performance--that is more accurate and fair than earlier measures.

In the current craze for accountability in education, that's like inventing a state-of-the art mining tool during a gold rush.

"We've absolutely seen an interest from the states in the whole discussion he's started," says Kathy Christie, a policy analyst for the Denver-based Education Commission of the States. "Policymakers are looking for the most viable leverage points."

"A Question of
Value," May 13,
1998.

Closer to home, Volunteer State lawmakers were so impressed with Mr. Sanders' presentation in 1992 that they made his Tennessee Value-Added Assessment System a centerpiece of their school improvement efforts.

Though a visitor may distract him from further research, Mr. Sanders doesn't mind taking time to explain his work. A personable, natural storyteller with an easy drawl, he's been forced in recent months to perfect the arts of analogy and metaphor.

"Bad News About
Bad Teaching,"
Feb. 5, 1997.

To be sure, his work is complicated, and even if people can't grasp its alphabet-soup equations, he wants them to know the concepts on which it's built. But he also knows that if his methods are misunderstood, people

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it's built. But he also knows that if his methods are misunderstood, people will distrust them. Like the splitting of the atom, his work is seen by some as useful, but potentially dangerous.

"I don't try to convince everybody," Mr. Sanders says. "What I try to do with any group is to appeal to the thinkers, because I'm betting that they will become the conduits."

Ever So Humble

Given the attention Mr. Sanders is drawing, two things are striking about his Value-Added Research and Assessment Center here.

One is its unlikely location in an administrative office at the University of Tennessee's Institute of Agriculture. The brick building sits on a hill near the Tennessee River, cut off from the main campus by a highway. Along one wall inside, an Agricultural Hall of Fame honors the founders of the country's "first cooperative livestock marketing association," and the man who discovered the "hog cholera serum."

The second is the less-than-plush interior of the center itself, which Mr. Sanders affectionately calls "our little shoe shop."

The walls, made of an artificial walnut paneling, don't quite reach the ceiling, eliminating the need for an intercom. The furniture--much of it gray metal and green plastic--dates from the early Space Program period.

Atmosphere aside, though, many agree there's nothing shabby about the work that's produced here.

"Sanders himself is a top-notch statistician, and he has really good people working with him," says Richard Wolfe, who heads the computing department at the Ontario Institute for Studies in Education at the University of Toronto. Mr. Wolfe helped carry out an external review of TVAAS, pronounced "tee-vass," for the Tennessee comptroller's office in 1996.

Says Mr. Wolfe: "Statistically, I think the thing he's come up with is impeccable."

It has also yielded some striking findings. Mr. Sanders has concluded that teachers are the single most important influence on student progress, an even greater determining factor than socioeconomic status. Simply put, he has found that the effects of a bad teacher, or two consecutive bad teachers, can stick with a child for years. Conversely, the influence of a good teacher can still be seen years down the road.

At the same time, he's found that highly effective teachers can push students to make significant gains, regardless of their schools' location.

Some experts see such findings as an important departure. For decades, research on the factors influencing educational success built on the work of the late sociologist James S. Coleman, who began examining such effects in the 1960s.

Though Mr. Coleman's work has been interpreted in different ways, "the general message taken from Coleman's findings is that socioeconomic

status largely determines student achievement," says Kati Haycock, who directs the Education Trust, a school improvement effort based in Washington. "And that what schools do doesn't matter very much, because in the end poor kids learn very little, and rich kids learn a lot."

Gaining Control

Mr. Sanders arrived at nearly the opposite conclusion by using a remarkably simple concept. While other researchers have spent years struggling to control for differences in students' backgrounds--such as family income and parents' educational levels--Mr. Sanders lets each student act as his or her own control.

To do that, he focuses on gains, instead of on raw scores, so that each student's performance is compared not with that of similar students, but against his or her own past performance.

The idea is that--even if all students don't achieve at the same levels--schools and teachers should at least be adding "value" to each student's performance. Hence the borrowing of the term "value added" from manufacturing, in which each stage of the production process is said to add value to the raw materials.

This approach makes for a fairer evaluation system, Mr. Sanders argues, than one that expects every student to pass over the same bar at the same time.

"I believe that school districts, schools, and individual teachers should never be held for solving all of society's problems," he says. "But I believe equally strongly that the educational community is responsible for taking each kid as they find that kid and allowing each student, each year, to make academic progress from where he or she is."

The value-added approach also gives schools with inadequate resources a chance to demonstrate success, even if they don't ultimately perform as well as other systems. Conversely, it exposes schools that are satisfied to rest on their laurels--what Mr. Sanders calls "slide and glide" schools.

Though the concept is easily explained, putting it into practice in a way that attributes gains to individual schools and teachers presents major challenges.

First, it means testing students in each grade, in each subject, every year. Many states only test students at certain levels, such as grades 4, 8, and 10. Fortunately for Mr. Sanders, Tennessee started assessing public school students in grades 2-8 in 1990, and has since only made minor changes in the test instruments. High school tests are now beginning to be used.

The second challenge is reality. Students transfer in and out of districts, educators take breaks for family or medical leave, and teachers do things like team-teach--all of which make it harder to determine who's responsible for what. And even without those complications, Mr. Sanders says, educators simply don't teach enough students each year to yield

accurate predictions of future performance--at least not using traditional statistics.

It's in describing how he deals with this problem that Mr. Sanders must stretch his powers of explanation. The tool he uses is called mixed-model methodology. Though written into the Tennessee school code, its exact operation is nearly incomprehensible to a layperson. Mr. Sanders is happy if people grasp what it does.

As he explains it, if a teacher taught just one student for one year and that student made poor progress, then traditional statistics would predict that the teacher's next student would falter as well. Based on only one past result, however, the possibility of error in that prediction would be huge.

Built-In Protection

But mixed-model methodology would take that single result and predict that the next student would make gains that were only slightly worse than the average for all teachers' students. In effect, it's a weighting of results based on how much information one has. The magic actually performed is called "shrinkage estimation," and what it yields is termed a Best Linear Unbiased Predictor, or BLUP.

"What we've attempted to do," says Mr. Sanders, pointing to the low end of a growth curve he has just drawn, "is engineer a process to eliminate, as much as humanly possible, the possibility of someone being put down here just because of some freakishness."

The price he pays is that the estimates of high gains are similarly conservative, he says.

With so many calculations, and so much cross-referencing of data on schools, students, and teachers, the process creates what Mr. Sanders calls "a computing hog," but one that is manageable with software his team has written. Not surprisingly, his center boasts one of the most powerful computers of any department at the University of Tennessee.

"I have told people I've baked cakes with far more complicated recipes," he says. "I've just never had to use a cake pan this big."

For someone on the cutting edge of research on schooling, most of Mr. Sanders' career has been spent outside education.

After earning a doctorate in biostatistics and quantitative genetics, in 1968 he went to work at the federal government's Oak Ridge National Laboratory, the once-secret facility that refined uranium for early atomic weapons. By the time he got there, much of the lab's research had turned toward the effects of radiation on living organisms, and statisticians were in high demand.

In 1972, he moved back to the University of Tennessee, his alma mater, where he began running a center that did statistical analysis for agricultural-research scientists. Says Sanders, "Those people were constantly trying for better ways to take performance data, and to better

partition genetic influences from environmental influences, such that they could improve the breeding efficiencies of plants and animals."

So agriculture, as he explains it, is a breeding ground for statistical innovation. A joke in the field goes, "Statistics was raised and reared on the farm." Still, when Mr. Sanders started claiming to see parallels in education, critics sometimes lampooned his background.

But "all science borrows from other sciences," says Willis D. Hawley, a former director of the center for education policy at Vanderbilt University in Nashville.

"Most of the statistics that are used in education are derived from other fields, like sociology or economics," says Mr. Hawley, who now directs the National Partnership for Excellence and Accountability in Teaching, a Washington-based group working to improve teacher quality. "So the fact that he's an agricultural statistician doesn't seem to be relevant. The question is: Is the methodology sensible? And it seems to make sense to me."

Mr. Sanders' first attempts to prove his work's utility, however, went nowhere. In the early 1980s, he learned that then-Gov. Lamar Alexander of Tennessee was seeking a way to award merit pay for teachers. When Mr. Sanders heard someone say it was impossible to do that fairly, he accepted the challenge.

Working with another UT statistician, he completed his first analysis using mixed-model methodology in 1984, drawing on three years of test data from the Knox County schools. The study yielded estimates of teacher effectiveness that were relatively consistent from year to year, and school administrators confirmed that the data jibed well with their own impressions of which teachers were most effective.

But the results failed to spark much interest, Mr. Sanders recalls, and a value-added component never made it into Mr. Alexander's reforms.

Consequences

In 1992, it was a different story. Prodded by a state supreme court order to make Tennessee's school finance system more equitable, state policymakers were looking for ways to increase funding while also holding educators accountable for results. This time, the legislature bought into the Sanders approach, and his value-added assessment system became an integral part of Tennessee's Educational Improvement Act that year.

As a result, the state now annually releases to the public the most recent three-year-average gains made by each school and district on the Tennessee Comprehensive Assessment Program, or TCAP, the state's nationally normed assessment.

State intervention can be triggered if district- or school-level gains persistently fail to meet the national gains. So far, one district has been placed on probation; the law allows for dissolving local school boards as a last resort.

One of the most powerful and controversial aspects of Mr. Sanders' system is that it can reach beyond the school level to produce a measure of an individual teacher's effectiveness.

One of the most powerful and controversial aspects of Mr. Sanders' system is that it can reach beyond the school level to produce a measure of an individual teacher's effectiveness, based on how well the students in his or her classroom perform each year.

In Tennessee, such information is shown only to school officials and to the teachers themselves. State law allows administrators to use the scores in teachers' formal job evaluations after three years of data have been collected. Naturally, that makes some educators edgy.

"You can't walk into a hospital and look at the mortality rates of heart patients and tell who's an excellent physician," says Al Mance, the executive director of the Tennessee Education Association, a National Education Association affiliate. "Sometimes, the best physicians also get most of the patients who are the worst off. So you have to look at each physician's practice, at his or her skills. Human systems are very difficult to pigeonhole."

Mr. Sanders counters that he may not know why certain teachers are more effective than others, but his system identifies which ones are getting results. And lest anyone doubt the importance of knowing teachers' effectiveness, he points to research he has carried out showing the lingering impact ineffective teachers have on student performance.

In 1996, Mr. Sanders used data from two Tennessee districts and divided their teachers into five groups--from least effective to most effective. As in TVAAS, each teacher's effectiveness rating was based on students' gains. The researcher found that, on average, students who had been taught by three of the least effective teachers in a row scored below the 50th percentile in mathematics by the end of the third year. By contrast, those who had had three highly effective teachers scored above the 80th percentile.

"The evidence is overwhelming that the percentage of teachers that are just ridiculously ineffective is much smaller than people think--I would judge that to be maybe 3 to 5 percent," Mr. Sanders says. "But I feel very strongly that even *those* folks should be given some assistance and some time to become more effective, or they should be encouraged to seek employment elsewhere. Because they're harming kids."

'Shed Patterns'

Teacher quality aside, some educational researchers are coming to see Mr. Sanders' methodology as a potentially powerful tool for identifying effective instructional techniques, such as block scheduling and cooperative learning. Mr. Sanders himself says he is less interested in weeding out bad teachers than he is in helping teachers who--though not at the bottom--aren't getting the results they want. And he's got a hypothesis on what the problem often is.

In many urban schools, he has noticed a pattern in which students with the lowest past performance make the greatest gains, but those who start

with higher scores make little headway. A graph of such gains against past performance creates a downward sloping line from left to right. He calls these "shed patterns," referring to the sloped roof of a tool shed.

And what they tell him is that a school is focusing on the students at the bottom, while failing to push other children. That emphasis, Mr. Sanders notes, won't show up in overall performance averages for all the students in a school.

That has implications for state accountability efforts. A criticism of some state systems is that by emphasizing a school's percentage of children achieving at or above a certain level, they encourage schools to focus too heavily on certain students at the expense of others.

"It's a lead-pipe cinch that the pace of instruction is going toward the kids with the lowest previous achievement levels, and that the other kids are being held back," Mr. Sanders says. "In the inner-city schools, a black kid has got a much better chance of being in this pattern than the general population."

No more desirable, however, is a steep "reverse shed pattern," suggesting a disproportionate amount of energy being put into teaching the highest achievers. Mr. Sanders would be happy if all students from all levels were at least making gains equal to the national-norm gains--a pattern that would show something close to a horizontal line.

But choosing the right pattern raises fundamental questions about what the ultimate goal of education should be. This is where Ms. Haycock of the Education Trust warns that Mr. Sanders' work may be dangerous.

"He argues that the goal of a teacher, a school, or a system, is that each kid should gain approximately the same amount, and that anything else is unethical," she says. "I think *that's* unethical--to say we will take kids from where they are, and that if at the end there's still a gap, that's OK."

Which isn't to say, she adds, that there isn't some benefit in a value-added approach. "The interesting question from all of this is, can we marry the idea of standards with the idea that each kid should make gains each year into something that doesn't lose the advantages of each?" Ms. Haycock says.

In the 2001-2 school year, in fact, Tennessee plans to begin requiring all high school students to pass "gate keeper" tests before receiving a state-approved diploma. In the meantime, many are betting that Mr. Sanders' system will push schools and teachers enough to ensure that students will be able to pass over that bar.

"When you get to the bottom line and passed all the mixed metaphors," he says, "it's about giving more kids more opportunities in life. That should be the target for all of us."

PHOTO: William L. Sanders of the University of Tennessee has drawn national attention for his work in assessing the effects of schools and teachers on the performance of individual students.

--University of Tennessee

Principal Joel Giffin has used test data to improve achievement at Maryville (Tenn.) Middle School.

At Maryville Middle School, teacher Janet Dunn works with students Randall Johnson, seated, and Chad Bryant on mathematics problems. Test scores have risen substantially since the school added an extra math period.

--Benjamin Tice Smith

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Issues of Supply and Demand:

Recruiting and Retaining Quality Teachers

This multimedia School Development Outreach Project package on teacher quality is designed to provide you with perspectives on an emerging education policy issue from national, state, and local leaders. The package contains a set of two audiotapes and this accompanying booklet. The following introduction may be a helpful guide as you use these materials.

The Issue

Due to such factors as rising student enrollments, accelerated retirements, high rates of teacher attrition, and increased demands for improved student performance and reduced class size, we need to develop a new, professional approach for improving the quality and commitment of our teachers. Our highest need areas—content (math, science, special education, and multicultural education), location (the most urban and most rural schools), and population (diverse cultures and languages)—are all becoming increasingly short on the quantity and quality of teachers. How then do we resolve the issues of quantity and quality at the same time? This booklet and accompanying audiotapes present and discuss these issues as they relate to teacher recruitment and teacher retention and, in particular, the beginning teacher induction process.

This article is taken from, "Issues of Supply and Demand: Recruiting and Retaining Quality Teachers," 1999, North Central Regional Educational Laboratory. The audio/print package is available at <http://goal.ncrel.org/catalog/default.asp>

**A new report by
the Center for
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the University of
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identifies key
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to teacher supply
and demand in
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Sunbelt and fast-growing states are scrambling to fill already—existing openings as well as future projections based on swelling enrollment. States with universities offering licensure programs may have a large pool of teachers to recruit from, but the teachers may not be certified in the needed subject areas. To alleviate this problem, some districts (e.g., in Chicago) are developing their own strategies to certify teachers in needed areas. Recruiting New Teachers, Inc., a Massachusetts-based nonprofit organization, conducted a study of the nation's largest school districts. Their findings indicate that 92 percent of the districts reported an immediate need for teachers of color; 80 percent for special education teachers; 66 percent, math and bilingual education teachers; and 85 percent, more male teachers (Recruiting New Teachers, 1998).

The employment picture within states is also unequal. Desirable districts have hundreds of teachers applying for jobs, while other districts with lower pay scales and incentives have few. Urban and

rural districts are particularly hit hard by shortages, while wealthier and suburban districts that enjoy higher property tax bases can lure teachers with overall better working conditions and salary packages (NCTAF, 1996).

About half of the nation's public schools are considered to be in rural areas and small towns, employing about 40 percent of the nation's public school teachers (National Education Association, 1998). In September 1998, the National Education Association (NEA) posted an online report focusing on the status of public education in rural areas and small towns. Here are a few of their findings on teaching in rural schools:

- Teachers in rural schools are generally younger and less well educated, and receive lower pay and benefits than their nonrural counterparts.
- Rural school teachers are less likely to be first-time teachers.
- Thirty percent of rural schools have inadequate buildings.
- Rural schools have lower rates of Internet access and use of telecommunications to access information, keep records, and communicate with parents.

Academic performance of rural students has reached the national average, surpassing the performance of urban students, but still lagging behind that of suburban students. Still, many teachers leave rural areas for better-paying jobs elsewhere (Appalachia Educational Laboratory, 1998).

Insufficient attention to the matter of a teacher shortage puts standards-based reform and various other education reforms at

“Much of what we have blamed on children and their families for decades is actually the result of things we have done to them. As a nation, we have deprived our neediest students of the very ingredient most important to learning: a highly qualified teacher”

risk—improved student performance relies on effective teaching. A growing number of researchers, education organizations, and school reformers are backing their beliefs with research that says that good teaching matters (Sanders & Rivers, 1998). Large-scale studies are beginning to chip away at longstanding beliefs that point to insufficiencies in home life and child rearing as the primary reasons for putting children at risk of academic failure. Kati Haycock, executive director of The Education Trust (1998), writes, “Much of what we have blamed on children and their families for decades is actually the result of things we have done to them. As a nation, we have deprived our neediest students of the very ingredient most important to learning: a highly qualified teacher” (p.10).

Studies show that quality teaching has not been distributed equitably across the nation’s schools. Linda Darling-Hammond, executive director of the National Commission on Teaching for America’s Future (NCTAF), believes she knows why good curriculum has been rationed among students: “It’s because we haven’t had the teaching force to be able to teach at the necessary level for all students.” Inexperienced teachers are far more

often assigned to subjects outside of their fields of expertise, stretching a slim skill set and zapping energy and commitment. (In the NCREL region, 61 to 81 percent of teachers hold degrees in the subject areas they teach (*Education Week on the Web*, 1999.) Add to this, little collegial support, feelings of isolation and low pay—and you have an equation for teacher attrition (personal interview, 1999).

Expanding the pool and improving the pipeline into teaching: Recruitment

According to the American Association for Employment in Education (1998) there are surpluses of some kinds of teachers in some geographic areas of the nation and shortages in others. For example, the Rocky Mountain states have considerable shortages in computer science and English-as-second-language teachers, but they have surpluses of elementary teachers. Midwest states have some surpluses of elementary teachers but are in need of technology, physics, music (instrumental and vocal), and special education teachers. Elementary school teachers are the most abundant in the nation, but there are shortages of them in California, Nevada (one of the fastest growing states), and Arizona.

Part of the reason for this distribution problem is that newly certified teachers tend to stay close to the districts where they attended universities and where they completed their student teaching. They have developed relationships with district personnel and have integrated into school communities. Another influential factor is that in a two-income family, a teacher's pay is often viewed as a secondary income, and if the teachers relocate, where they move is more dependent on their spouses' new

jobs. Given these few examples, it is clear that a variety of strategies and incentives need to be in place to lure new and continuing teachers to more challenging workplaces.

Strategies

Educators and policymakers are recognizing the need to expand recruitment efforts and are responding with a range of programs to entice potential candidates into the field. These efforts fall into five categories (Berry, et al., 1998): (1) precollege recruitment; (2) programs to enhance recruitment and retention in universities; (3) articulation pathways into four- and five-year universities for students in community colleges; (4) programs that tap paraprofessionals and teacher aides; and (5) initiatives that attract mid-career candidates.

Precollege Recruitment Strategies

One strategy for recruitment is to develop interest in the profession early, targeting high school juniors and seniors. The South Carolina Teacher Cadet program does just that. It is a precollege recruitment initiative designed to recruit academically able students and engage them in a yearlong college credit-bearing course focused on the craft of teaching and learning. It includes sections devoted to child development, cognitive learning, pedagogy, and the future of the teaching profession. Students engage in seminars, group projects, and discussions with educators. They observe classrooms, teach practice lessons, and tutor other students. Studies of the program are promising, showing that just shy of 60 percent of a random sample of students claimed that as a direct result of the program they were more likely to become teachers (Berry, et al., 1998).

Similarly, North Carolina has created the Teaching Fellows Program. This program provides scholarships as incentives to attract interested high school graduates (including significant numbers of young men and people of color) into the field and forgives the loans if teachers stay in the field. Four hundred eligible seniors receive a \$20,000 scholarship (sponsored by the legislature at a cost of \$8 million a year) to enroll in a four-year teacher education program. If the Fellow teaches for four years, he or she is freed from the obligation to repay the fellowship loan. To date, 75 percent of the Fellows have completed their obligation and are still teaching in public schools (Berry, et al., 1998). Follow-up research on the program shows that many of the early Fellows are still in education, either in the Principals Fellow program (a similar principal incentive program), in graduate schools, or in the classroom.

One strategy for recruitment is to develop interest in the profession early, targeting high school juniors and seniors.

Community College Options

Community colleges are a largely untapped source of potential candidates. In a few states, four-year colleges have worked to create articulation agreements with community colleges so students can begin to take coursework for their credentials. This streamlining process transfers courses completed toward certification in a four-year college. These programs are in their infancy, so little is known about their success, but the potential is great as community colleges serve 40 percent of the nation's postsecondary enrollment (Berry, et al., 1998).

Alternative certification programs that streamline the process for mid-career candidates to enter the teaching workforce are perceived as a controversial strategy to recruit teachers.

At issue is the decline in teacher quality as the push increases to move nonteaching professionals into classrooms.

Certifying Existing School Personnel

Paraprofessional and teacher aide programs are further supporting people already attracted to teaching. The purpose of these programs is to capitalize on the experience that participants bring from prior work in schools. Candidates know what they are getting into and possess a higher degree of readiness. In Los Angeles, the Latino Teacher Project (LTP) is increasing the number of Latino teachers by creating a career track for practicing Latino teacher assistants in the Los Angeles Unified schools. Students are put into cohorts with peers for a mix of university and classroom experiences and are assigned a mentor. They receive a small stipend. As it is a new project, research on effects is limited; however, LTP is an example of a project that is leveraging potential candidates who are already working in schools.

Alternative Certification

Alternative certification programs that streamline the process for mid-career candidates to enter the teaching workforce are perceived as a controversial strategy to recruit teachers. At issue is the decline in teacher quality as the push increases to move non-teaching professionals into classrooms. Studies show that 11 percent of those hired entered the field without a license, and an additional 16 percent received a substandard license. Some programs reduce the requirements for state licensure, providing emergency certificates to fill classrooms. These underprepared teachers are more likely to end up in disadvantaged schools teaching students who need experienced educators (Berry, et al., 1998). Many of these fledgling teachers drop out of teaching after a year, pointing to the lack of immersion in the field. These programs use mentoring as a way to support teachers, but few districts have strong mentoring programs in place. Many of these programs have mentors who are overburdened and unable to be of much assistance.

In Illinois, Golden Apple Teacher Education (GATE) has developed the first alternative teacher education program to offer a dramatic shortcut for professionals with a bachelor's degree who want to teach in urban schools such as those in Chicago (Martinez, 1999). The Chicago Public Schools' chief, Paul Vallas, is also seeking legislative approval to recruit the brightest postgraduate and graduate students in specified fields to become teachers in three to four months with provisional certificates.

University-based programs that build on the prior degrees of potential candidates are likely to be successful. These programs meet licensure requirements through more flexible preparation at

the post-baccalaureate level and take into account the existing knowledge and experience of the candidate. At Indiana University, Dr. Kim Metcalf directs the Teacher as Decision Maker Program. Mid-career professionals spend a total of 14 months pursuing a teaching license. Taking previous experience into account, student coursework is tailored to their professional goals, while participating in peer mentoring, videotaping, observing exemplary teachers, and ongoing seminars.

Retention: How to keep good teachers when you get them

Sociologist Richard Ingersoll believes that retention of quality teachers has had less attention nationally than the push to fill demands. Turnover comprises 50 to 75 percent of total new demand (Berry, et al., 1998). "Most reform efforts are still increased-supply-type approaches, when you could also be decreasing demand by dealing with turnover," says Ingersoll (Archer, 1999, p. 7). Frustrated educators working in school systems with few supports are drawn to the private sector (especially math and science professionals) where salaries are significantly higher and overall working conditions better. According to Ingersoll, 6 percent of teachers leave the profession in a typical year; another 7.2 percent switch schools. Surveys show that almost half cited either job dissatisfaction as the main reason for leaving or the desire to pursue another career (Ingersoll, 1999). Earlier estimates by the National Commission on Teaching and America's Future (1996) point to the fact that as many as 30 percent of new teachers leave the profession within their first five years. Urban districts are hardest hit with a 30 to 50 percent loss of new teachers in the first few years.

There is a growing recognition of teacher needs for support and assistance, and attention to induction is gaining as a vehicle for weeding out unfit teachers, reducing attrition, and encouraging teachers to stay in the classroom. A soon-to-be-published report from Recruiting New Teachers, Inc., (in press) states that as of 1997, 27 states have legislated induction programs, but only 7 states have both financed and managed them. Only Indiana in the NCREL region currently has a required *and funded* new teacher induction program. However, Minnesota and Wisconsin are initiating new efforts. Mississippi is considering plans for a pilot mentor program; Nebraska is designing a statewide support plan; and

Wisconsin has allocated \$500,000 annually for training up to 1,000 master teachers to mentor new recruits (Archer, 1999).

California's looming teacher shortage spurred policymakers to create the California Commission on the Teaching Profession. This task force gave rise to the California New Teacher Project, which produced local induction programs that support many beginning teachers. Begun in 1992, California's Beginning Teacher Support and Assessment Program (BTSA)—run jointly with the state Department of Education and the Commission on

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Teacher Credentialing—has proved to be successful in retaining teachers and lowering the rate of attrition from 37 percent to 9 percent for beginning teachers (Hirsch, Koppich, & Knapp, 1998). Districts are not required to join, but the state aid incentive has spurred other districts to start their own or participate in joint ventures across districts.

Realizing that induction programs build a bridge for new teachers, the U.S. Department of Education has recently conducted a study on the

effective characteristics of such programs. New teachers have the passion and motivation to teach, but many districts provide a “sink or swim” atmosphere that new teachers must overcome. Induction programs build a bridge for new teachers, resulting in staying power in the field. Characteristics of strong mentoring and support programs include:

- One-on-one mentoring between a novice and master teacher. Substitutes (although increasingly difficult to come by) free mentor teachers to conduct model lessons and occasional classes for new recruits. Observation and discussion between the mentors and teachers deepen the knowledge base about what constitutes good teaching. New teachers also visit classrooms of veteran teachers and are observed by mentors for a similar dialogue about the craft of teaching.

-
- Mentors who are compensated and receive opportunities for their professional growth such as becoming adjunct faculty at college campuses.
 - Summer intensives—orientation programs and training workshops for first-year teachers conducted before the school year begins. They provide a boost to new teachers who need some extra time and assistance to get started and become comfortable in their classrooms and subject matter.
 - Program designs aligned with state standards that include the knowledge and skill sets necessary for novice teachers.
 - An induction program that satisfies licensure and certification requirements and provides assistance with daily classroom issues.

(U.S. Department of Education, 1998)

Recruiting quality teachers is competitive. New teachers, recognizing that they are in demand, are looking for places to work that have support mechanisms that help them continue their education. Induction programs are clearly an important district strategy to recruit and retain new teachers. One example of a program that is gaining ground with everyone involved in it—teachers, mentors, principals, district administrators and university professors—is the Cincinnati Initiative for Teacher Education (CITE). In collaboration with the University of Cincinnati, the school district established nine “professional practice schools” and created a special intern designation at half pay in the salary schedule. Students in the fifth year of UC’s teacher education program teach half-time in one of the professional practice schools under

the supervision of mentor teachers and continue their education with coordinated seminars and other classroom activities. The CITE program is discussed further in the accompanying audiotapes.

Professional development schools have swelled to 600 in the last ten years (Berry, et al., 1998). There are varying definitions and different concepts of what they do and how they serve schools and districts. Some of them form collaborations between school districts and local schools of education. Some of them focus on professional preparation for novice and veteran teachers, while others research teaching methods and practices that raise achievement. If fully developed, these schools could support the entire career continuum for professional development.

The Mayerson Academy in Cincinnati, Ohio, may be among the most well-known examples. It is the official staff development provider for the Cincinnati Public Schools, offering both state-of-the-art training and facilities. The goal of the academy is to help teachers and principals become better at what they do and to facilitate districtwide reform efforts. Mayerson is for all teachers. It has programs that focus on mentoring Cincinnati's newly hired teachers. The academy also contracts the facility out to other organizations striving to make a difference with teachers in schools.

Once your district has a strong mentor program and is actively recruiting teachers, what strategies can be employed to find teachers? First, be proactive by strengthening partnerships with colleges and other regional sources to create outreach systems for recruiting teachers. Second, urge universities with schools of education to create Web pages that contain resumes of prospective applicants. Likewise, create a Web page that streamlines the

hiring process for applicants including submitting resumes and references online.

Quality is a reciprocal process

Obviously, all of these induction and retention programs take a fair share of resources to develop, implement, and assess their effectiveness.

Quality is an expensive target, but worthwhile in the long run. In the NCREL region, four of the seven states have adopted new teacher standards. Since education is competing with other careers for bright, dedicated people, districts have a responsibility to do the best job possible to attract strong candidates and support them in becoming highly qualified teachers. Here are a few places to begin or strengthen teacher quality, based on the research:

Since education is competing with other careers for bright, dedicated people, districts have a responsibility to do the best job possible to attract strong candidates and support them in becoming highly qualified teachers.

The District Role

- Create a funding pool for trained mentors to work with new hires.
- Given that 44 percent of all schools have no minority teachers (National Center for Education Statistics, 1992),

ensure that teacher recruitment and induction programs include cultural diversity. Teachers need the skills to respond to the growing diversity in the nation's schools.

- Review (or study) Connecticut's Beginning Educator Support Training Program. They created a content-based performance assessment of teaching modeled on the portfolio assessments of the National Board for Professional Teaching Standards (NBPTS) to be used as the basis for granting a professional license.
- Provide incentives to teachers to obtain certification from NBPTS (according to NBPTS, as of 1998 574 teachers from the NCREL region are board certified).
- Lower the numbers of teachers teaching out of field. Either don't place new teachers in the most difficult schools or provide them with topnotch support systems.
- Create financial incentives to attract and retain teachers: raise salaries, create loan forgiveness programs with universities, provide reimbursement for moving costs for out-of-state hires.
- Provide Internet access and communication tools for teachers in rural areas.
- Finally, and most important, uncover and address the conditions of schooling in your community that cause quality teachers to leave your district.

Much of this booklet and accompanying audiotapes have been about building human capacity. Supporting new teachers as they enter the profession enhances their ability to better serve students and to remain in the field that serves districts in the long run.

However, building and maintaining quality in education is a two-way process. School districts that are inefficient in their hiring processes will turn away teachers who are ready to commit to the district. Lack of professionalism in district personnel policies—as evidenced by not returning phone calls, cumbersome hiring procedures, lost files and portfolios, demeaning treatment, and untimely action—turns energetic new teachers off. Hiring less-qualified teachers in these cases is a function of the hiring practices rather than labor shortages (NCTAF, 1996). First impressions are a two-way street.

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A role for policymakers

Teacher quality is a major component of successfully reforming education. Researchers say that policymakers can take an active role in shaping and supporting efforts at strengthening teacher quality:

- Commission an audit on teacher quality in your state. Survey districts for current areas of shortage and surplus, and for future projections based on enrollment, retirements, class-size reduction policies, and turnover. Analyze the policy barriers standing between attracting the teaching force needed in your state. Such policies include reciprocal cross-state licensure, pension portability, and accrual of experience in other districts.

-
- Pass legislation that strengthens teacher licensure programs and align them with state standards. Legislate clear standards for rigorous teacher preparation and licensing. Use the Interstate New Teacher Assessment and Support Consortium (INTASC) standards as a model (33 states are now working with INTASC to create performance-based licensure standards).
 - Create incentives (1) to ensure the equitable distribution of teachers across districts, (2) to fill gaps where teacher shortages have been pinpointed, (3) to support innovative programs for paraprofessionals and mid-career professionals to enter the field, and (4) to encourage teachers to teach in high-risk schools.

The messages in this booklet and accompanying audiotapes should be clear. District and state efforts that target the hiring, retention, and induction of teachers will work to create a highly qualified teaching force that will have the capacity to meet standards of educational excellence. If the desired outcome is a quality teaching force, the conditions and organizational structures that support it must be provided. Teachers will benefit from it. So will students.



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Resources

Al Baas, Assistant Superintendent
North Branch District
320 Main Street
North Branch, MN 55056
Ph: 651-674-1016

Joe Nathan
Center for School Change
The Hubert Humphry Institute
The University of Minnesota
309 19th Avenue South
Minneapolis, MN 55455
Ph: 612-626-1834

Carolyn Kelley
Consortium for Policy Research in Education
University of Wisconsin-Madison
1025 West Johnson Street
Madison, WI 53706
Ph: 608-263-3614

Martin Haberman
The National Center for Alternative Teacher
Certificate Information
4018 Martinshire Drive
Houston, TX 77025
Ph: 713-667-6185

National Programs and Organizations

Education Trust

Kati Haycock, Executive Director
17225 K Street, NW, Suite 200
Washington, DC 20006
Ph: 202-293-1217
www.edtrust.org

Interstate New Teacher Assessment and Support Consortium (INTASC)

Jean Miller, Director
Council of Chief State School Officers
One Massachusetts Avenue, NW, Suite 700
Washington, DC 20001-1431
Ph: 202-336-7048
www.ccsso.org/intasc.html

National Board for Professional Teaching Standards (NBPTS)

300 River Place
Detroit, MI 48207
Ph: 313-259-0830
www.nbpts.org



National Commission on Teaching for America's Future
(NCTAF)

Linda Darling-Hammond, Executive Director
Box 117
Teachers College, Columbia University
525 West 120th Street
New York, NY 10027
Ph: 212-678-3204
www.tc.columbia.edu/-teachcomm

Organizations Concerned about Rural Education
(OCRE)

1201 16th Street NW, #510
Washington, DC 20036
Ph: 202-822-7638
www.ruralschools.org

Indiana Professional Standards Board

Marilyn Scannell, Executive Director
251 East Ohio Street, Suite 201
Indianapolis, IN 46204-2133
Ph: 317-232-9000

Recruiting New Teachers, Inc

Michael Haselkorn, Director
385 Concord Avenue
Belmont, MA 02178
Ph: 617-489-6000
www.rnt.org

Rural Challenge

Paul Nachtigal, National Director
P.O. Box 1569
Granby, CO 80446
Ph: 970-887-1064
www.ruralchallenge.org

Rural Challenge Policy Program

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P.O. Box 68
Randolph, VT 05060
www.ruralchallengepolicy.org

Teacher Education Programs

Alverno College

Kathy Lake, Director
3401 South 39th Street
Milwaukee, WI 53234-3922
Ph: 414-382-6356

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Dr. Linda Taylor,
Division Head of Teacher Education
College of Education
603 Teachers College
University of Cincinnati
Cincinnati, OH 45221-0002
Ph: 513-556-2327
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Indiana University, School of Education
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Golden Apple Foundation
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Suite 700
Chicago, IL 60603
Ph: 312-407-0006
www.goldenapple.org

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Gladys Graves, Director
Public School Forum of North Carolina
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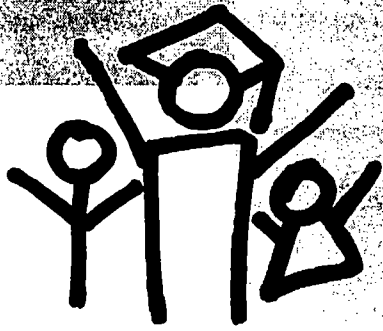
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www.mayacad.org





Thinking K-16

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GOOD TEACHING MATTERS HOW WELL-QUALIFIED TEACHERS CAN CLOSE THE GAP

For decades, educators, educators-in-training and the public more broadly have been relentlessly fed the same message about achievement among poor and minority students: "Because of poverty and other neighborhood conditions, these students enter school behind other students. As they progress through the grades, the deficits accumulate, leaving them further and further behind other students." Their conclusion? Nothing schools do makes a very big difference.

As an organization, we have questioned the prevailing explanation for some time. "If poverty always overwhelms everything else," we ask, "what explains the 89% pass rate on the Texas state assessment by the Loma Terrace School in El Paso where almost 90% of the children are poor? Or what about the 95% fourth grade pass rate on the same exam by the entire Mission Independent

School District with a 94% poverty rate? And why, if schools really don't make a difference, are the low-income students in Community School District #2 in New York City performing so much higher now than were their counterparts a decade ago?"

Always, the response is the same. "It's that superstar principal/superintendent (choose one). We can't expect those kinds of feats from the mere mortals who lead most of our schools."

But what if that answer is wrong? What if these schools are succeeding not on the force of someone's personality, but simply by teaching students what they need to know to perform at high levels? What if, in other words, poor and minority students are performing below other students not because something is wrong with them or their families, but because most schools don't bother to teach them what they need to know?

By now, those of you who are familiar with our work know that we are absolutely convinced—by both research and extensive experience in classrooms all over the country—that poor and minority youngsters will achieve at

continued next page

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Inside Thinking K-16

Good Teaching Matters

... A Lot
Karl Haycock

Who Teaches Whom
A State by State
Analysis

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If we only took the simple step of assuring that poor and minority children had highly qualified teachers, about half of the achievement gap would disappear.

the same high levels as other students if they are taught at those levels. In our groundbreaking report,

Education Watch: The Education Trust National and State Data Book, we document the clear relationship between low standards, low-level curriculum, under-educated teachers and poor results. We argue, further, that if states and school districts work hard on these three issues, they can close the achievement gap.

Most of the time, we have felt as Ron Edmonds undoubtedly felt: surrounded by researchers clinging to dog-eared copies of the Coleman Report and arguing that nothing works.

Recently, however, a number of large-scale studies provide convincing proof that what we do in education does matter. Schools—and especially teachers, it turns out—really DO make a difference. Earlier educational researchers just didn't have very good ways of measuring the variables.

We have chosen to focus this issue of Thinking K-16 on what all of the studies conclude is the most significant factor in student achievement: the teacher. We focus here not because we think improvements in teachers' capabilities or changes in teacher assignment patterns are, by themselves, a silver bullet, but because such changes are clearly more important to increasing student achievement—especially among poor and minority students—than any other.

We focus on teacher qualifications here also because this is an issue within our power to change. If we but took the simple step of assuring that poor and minority children had teachers of the same quality as other children, about half of the achievement gap would disappear. If we went further and assigned our best teachers to the students who most need them (a step, by the way, that makes sense to most people outside of education), there's persuasive evidence to suggest that we could entirely close the gap.

Thought provoking, yes? Read on.

—Kati Haycock

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ABOUT THINKING K-16 AND THE EDUCATION TRUST

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Editor, Patte Barth
Editorial Assistant, L. Karen Mora
Data Analyst, Pablo Ruiz

The Education Trust was created to promote high academic achievement for all students at all levels — kindergarten through college. While we know that all institutions could better serve their students, our work focuses on the schools and colleges most often left behind in efforts to improve

education: those institutions serving Latino, African American, Native American and low-income students. The Education Trust works alongside policymakers, parents, education professionals, and community and business leaders, in districts across the country, who are trying to transform their schools and colleges into institutions that genuinely serve all students.

Thinking K-16 is published with the intent to share lessons learned in these communities with policymakers as well as with educators and members of the public concerned with the quality of education provided our neediest young people.

STAFF:

Director, Kati Haycock
Principal Partners, Nevin Brown, Ruth Mitchell, Stephanie Robinson, Paul Ruiz; *Senior Associates*, Eleanor Dougherty, Amy Wilkins; *Senior Program Manager*, Patricia J. Martin; *Program Specialist*, Reese M. House; *Manager, Meetings and Publications*, Wanda Robinson; *Chief Financial Officer*, Wendy Batkin; *Manager, Administrative Operations*, Sonya Wilson; *Policy Analyst*, Hilda Jackson; *Communications Manager*, Jeanne Brennan; *Secretary*, Michelle Pointer.

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GOOD TEACHING MATTERS ... A LOT

by Kati Haycock

Director, The Education Trust

Parents have always known that it matters a lot which teachers their children get. That is why those with the time and skills to do so work very hard to assure that, by hook or by crook, their children are assigned to the best teachers. (That is also at least part of the reason why the children of less skilled parents are often left with the worst teachers, but more on that later.)

Professional educators typically reject these notions.

When parents ask for their children to be assigned to a particular teacher, or to be moved out of the classroom of another, most principals counsel them not to worry. "Your child will learn what he or she needs to from any of our teachers."

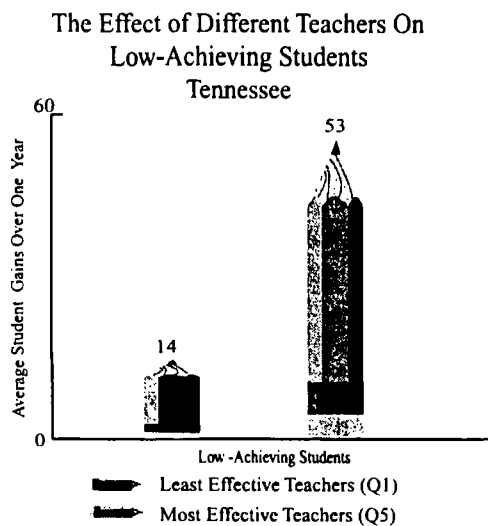
Recent research from Tennessee, Texas, Massachusetts and Alabama proves that parents have been right all along. They may not always know which teachers really are the best, but they are absolutely right in believing that their children will learn a lot from some teachers and only a little from others—even though the two teachers may be in adjacent classrooms. "The difference between a good and a bad teacher can be a full level of achievement in a single school year," says Eric Hanushek, the University of Rochester economist notorious for macroanalyses suggesting that virtually nothing seems to make a difference.¹

TEACHER EFFECTS: TENNESSEE

Tennessee is one of the few states with data systems that make it possible to tie teachers to achievement in their classrooms. Moreover, the state's value-added approach for assessing student achievement allows observers to look at the gains students make during a particular school year.

William L. Sanders, director of the Value-Added Research and Assessment Center at the University of Tennessee, Knoxville, has studied these data extensively. By grouping teachers into quintiles based on their effectiveness in producing student learning gains, his work allows us to examine the impact of teacher effectiveness on the learning of different types of students, from low- to high-achievers.

The chart adjacent shows the effect teachers from different quintile levels have on low-achieving

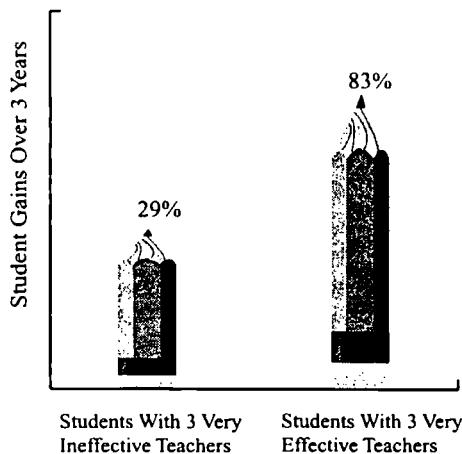


Sanders, William L. and Rivers, Joan C. "Cumulative And Residual Effects of Teachers on Future Student Academic Achievement," 1996, Table 1, p. 9.

students. On average, the least effective teachers (Q1) produce gains of about 14 percentile points during the school year. By contrast, the most effective teachers (Q5) posted gains among low-achieving students that averaged 53 percentile points.

The Tennessee data show dramatic differences for middle- and high-achieving groups of students, too.

Cumulative Effects of Teacher Sequence on Fifth Grade Math Scores: Tennessee



Sanders, William L. and Rivers, Joan C., "Cumulative And Residual Effects of Teachers on Future Student Academic Achievement," 1996, Figure 1, p.12

For example, high-achieving students gain an average of only 2 points under the direction of Q1 (least effective) teachers but an average of 25 points under the guidance of Q5 (most effective) teachers. Middle achievers gain a mere 10 points with Q1 teachers but in the mid-30s with Q5 teachers.

There is also considerable evidence that, at least in Tennessee, the effects of teachers are long-lived, whether they advance student achievement or squash it. Indeed, even two years after the fact, the performance of fifth-grade students is still affected by the quality of their third-grade teacher. The chart above shows the examples of different patterns of teacher effectiveness for one metropolitan system.

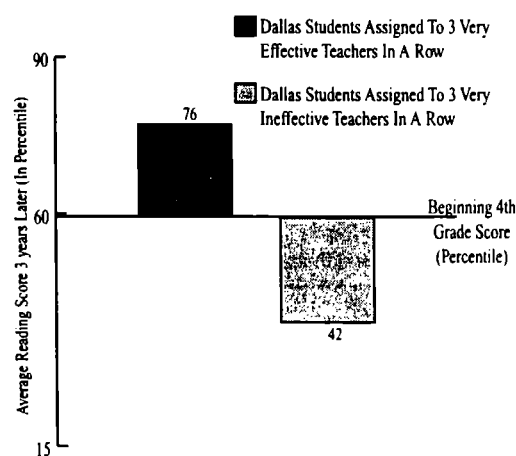
As Sanders points out, students whose initial achievement levels are comparable have "vastly different academic outcomes as a result of the sequence of teachers to which they are assigned."² Differences of this magnitude—50 percentile points—are stunning. As all of us know only too well, they can represent the difference between a "remedial" label and placement in the "accelerated" or even "gifted" track. And the difference between entry into a selective college and a lifetime at McDonald's.

TEACHER EFFECTS: DALLAS

A variety of recent studies in Texas show similar differences in achievement between students taught by teachers of differing quality. Borrowing from some of Sanders's techniques, researchers in the Dallas Independent School District recently completed their first-ever study of teacher effects on the ability of students to perform on assessments. In sharing their findings, Robert Mendro, the district's executive director of institutional research, said, "what surprised us the most was the size of the effect."³

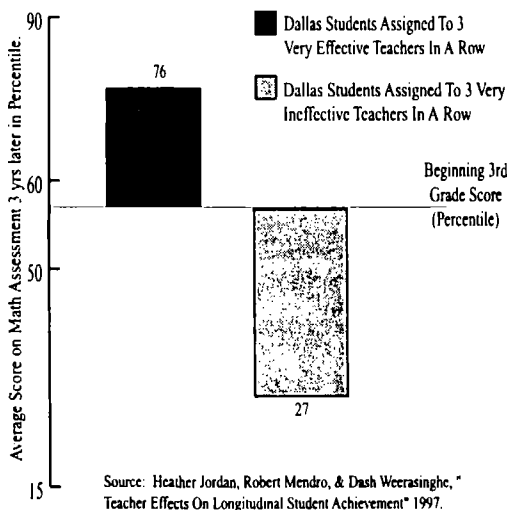
For example, the average reading scores of a group of Dallas fourth graders who were assigned to three highly effective teachers in a row rose from the 59th percentile in fourth grade to the 76th percentile by the conclusion of sixth grade. A fairly similar (but slightly higher achieving) group of students was assigned three consecutive ineffective teachers and fell from the 60th percentile in fourth grade to the 42nd percentile by the end of sixth grade. A gap of this magnitude—more than 35 percentile points—for students who started off roughly the same is hugely significant.

Effects On Students' Reading Scores In Dallas (Grades 4-6)



Source: Heather Jordan, Robert Mendro, & Dash Weerasinghe, "Teacher Effects On Longitudinal Student Achievement" 1997.

Effects On Students' Math Scores In Dallas (Grades 3-5)



The impact of teacher effectiveness is also clear in mathematics. For example, a group of beginning third-graders in Dallas who averaged around the 55th percentile in mathematics scored around the 76th percentile at the end of fifth grade after being assigned to three highly effective teachers in a row. By contrast, a slightly higher achieving group of third graders—averaging around the 57th percentile—were consecutively taught by three of the least effective teachers. By the conclusion of fifth grade, the second group's percentile ranking had fallen to 27th. This time the youngsters, who had scored nearly the same as beginning third-graders, were separated by a full 50 percentile points just three years later.

TEACHER EFFECTS: BOSTON

The Boston Public Schools are taking a serious look at factors that influence student learning, including the effectiveness of their teachers. A recently released study by Bain and Company conducted on behalf of the district shows the correlation between high school teachers and their students' academic growth in math and reading. The authors examined classrooms of BPS tenth-graders whose average scores were approximate-

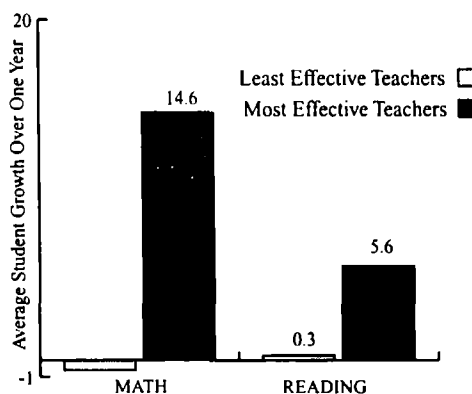
ly the same and charted their progress over the year by teacher. The differences were dramatic. In reading, they found that although the gains of students with the top third teachers were slightly below the national median for growth (5.6 on average compared to 8.0), the students with teachers from the bottom third showed virtually no growth (0.3). The math results were even more striking. The top third teachers produced gains on average that exceeded the national median (14.6 to 11.0 nationally), whereas the bottom third again showed virtually no growth (-0.6).

Altogether, this means that one-third of BPS teachers are producing six times the learning seen in the bottom third. As one frustrated headmaster put it, "About one-third of my teachers should not be teaching."

WHAT MAKES FOR TEACHER EFFECTIVENESS?

None of these studies has yet advanced to the obvious next step: identifying the qualities that make for an effective teacher. But other researchers have used Texas's extensive database on both teachers and students to examine the impact of specific teacher characteristics on student achievement. Together with work from Alabama and North Carolina, this research helps us to get underneath the matter of teacher effectiveness.

Boston Students With Effective Teachers Showed Greater Gains



Source: Boston Public Schools, "High School Restructuring," March 9, 1998.

Students' test scores can mean the difference between a remedial label and the gifted track — or between entry into a selective college and a lifetime at McDonald's.

1. Strong Verbal and Math Skills

The first thing that is clear when you look across the various studies is the critical importance of strong verbal and math skills. Harvard's Ronald F. Ferguson, for example, has looked closely at the relationship between student achievement and teacher performance

on a basic literacy examination (the Texas Examination of Current Administrators and Teachers, which was administered to all teachers and administrators in Texas in 1986). Ferguson found a significant positive relationship between teacher test scores on TECAT and student scores on the Iowa Test of Basic Skills (ITBS), with higher scoring teachers more likely to produce significant gains in student achievement than their lower scoring counterparts. Indeed, a change of one standard deviation in a district's teacher scores produced a corresponding

change of .17 standard deviation in student scores, when other differences were controlled.⁴

Ferguson got similar results in an analysis of the impact of teacher and classroom qualities on student achievement scores in Alabama. As in the Texas studies, he found a strong positive relationship between teacher test scores (in this case, ACT scores) and student achievement results.⁵

2. Deep Content Knowledge

There is also considerable research showing how important teachers' content knowledge is to their effectiveness with students, especially at the middle and senior high school levels. The data are especially clear in mathematics and science where teachers with majors in the fields they teach routinely get higher student performance than teachers who did not. Goldhaber and Brewer examined this relationship using data from the National Educational Longitudinal Study of 1988 (NELS), an ongoing survey of individuals who were in eighth grade in 1988. Goldhaber and Brewer found a significant positive relationship

between teachers' degrees and students' achievement in technical subjects. They concluded that "in mathematics and science, it is the teacher subject-specific knowledge that is the important factor in determining tenth-grade achievement."⁶

The data are less clear in English and social studies; in these subjects students taught by majors don't show consistently better scores than students taught by teachers who majored in something else. However, other evidence suggests that content is no less important in these two disciplines. For example, a recent study in Hawaii asked social studies teachers to rate their own level of understanding about various historical periods and teaching methods, then compared teacher expertise to student achievement. Not surprisingly, there was an almost perfect match: students performed best in the domains where teachers indicated the most expertise.⁷

3. Teaching Skill?

All of this seems to beg the question: what about teaching knowledge and skills? Is content knowledge really sufficient for effective teaching? Clearly not. One only has to spend a few semesters in higher education to see that the deep content knowledge inherent in the Ph.D. doesn't necessarily lead to effective teaching.

That said, the large-scale studies we have reviewed are not particularly helpful in identifying ways to quantify teaching expertise. Neither education courses completed, advanced education degrees, scores on professional knowledge sections of licensure exams nor, interestingly, years of experience seem to have a clear relationship to student achievement. Perhaps the work going on at the National Board for Professional Teaching Standards or Lee Shulman's work on "pedagogical content knowledge" at the Carnegie Foundation for the Advancement of Teaching will advance our understanding of—and options for developing and measuring—teaching knowledge and skill.

In the meantime, we suggest that educational leaders not get sidetracked: there is more than sufficient evidence about the importance of deep content knowledge and strong verbal skills to serve as a foundation for immediate action. At the very least, we know

enough to call the question with faculty in the arts and sciences, who, after all, are responsible for developing both content knowledge and verbal skills among intending teachers. It is also enough to justify a second look at hiring and assignment criteria. If good teachers matter, we need to be sure that we are getting the best we can.

INEQUITIES IN DISTRIBUTION

Our emerging understanding of the critical importance of good teachers has especially profound implications for poor and minority youngsters. For no matter how quality is defined, these youngsters come up on the short end. While the teaching force in high-poverty and high-minority communities certainly includes some of the most dedicated and talented teachers in the country, the truth is that these teachers are vastly outnumbered by under- and, indeed, unqualified colleagues.

These patterns are clear in national data tabulations on out-of-field teaching specially prepared for the Education Trust earlier this year by Richard Ingersoll, a professor at the University of Georgia. As is evident in the table above (as well as in the state tabulations on pp. 8-9) minority and poor youngsters—the very youngsters who are most dependent on their teachers for content knowledge—are systematically taught by teachers with the least content knowledge.

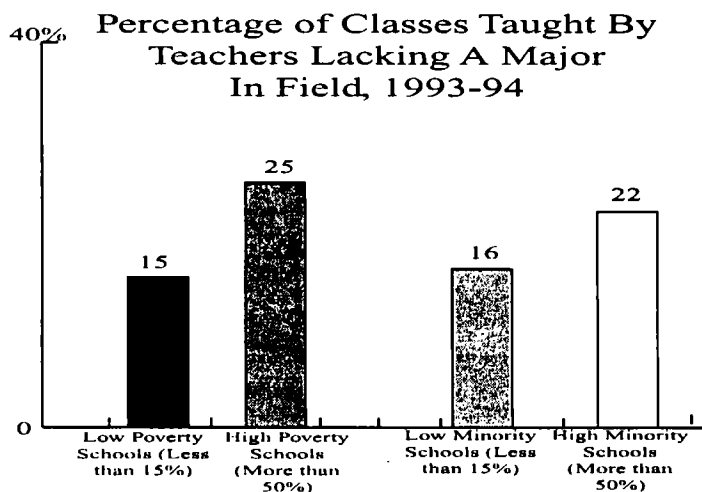
Similar inequities show up at all grade levels in the state-level studies described above, and many more. For example, in Tennessee, black students are almost twice as likely to be taught by ineffective “Q1” teach-

ers as are white children, and are considerably less likely to be taught by the most effective teachers.

The patterns look quite similar in Texas, where, according to researchers John Kain and Craig Singleton, African American and Latino children are far more likely to be taught by teachers who scored poorly on the TECAT examination. Indeed, as the percentage of non-white children in the school increases,

the average teacher score declines.⁸

Finding the same patterns in his analysis, Ferguson wrote that “[i]n Texas, and certainly in other places too, attracting and retaining talented people with strong skills to teach in the districts where black students are heavily represented is part of the unfinished business of equalizing educational opportunity.”⁹



Source: Richard Ingersoll, University of Georgia, Unpublished, 1998.

RACE MORE THAN CLASS?

Contrary to the assumptions that many people may make, inequities in the distribution of teacher expertise are not driven wholly by finances. If they were, we would expect that poor minority children would have teachers of about the same quality as poor white children. But such is not always the case.

In their analysis of Texas data, Kain and Singleton found disturbing differences. Poor white children, it turns out, appear to have a higher likelihood of having well qualified teachers than poor black children.¹⁰

Similar patterns are evident in teacher quality data from other states. In the chart on pages 8 and 9, for example, it is clear that students who attend predominantly minority secondary schools in Virginia are more likely to be taught by underqualified teachers than stu-

continued page 10

STATE INVESTMENT IN WELL-PREPARED TEACHERS

The most important educational investment a state can make is in highly qualified teachers. When teachers have too little knowledge of the subjects that they teach, their students are denied the most basic learning resource. There are several ways to examine teacher quality. This chart shows one: the percentage of secondary school classes taught by teachers who lack a college major in the subject area.

The chart shows, by state:

- the overall percentages of classes taught by teachers who do not have a major in the subject that they teach; and
- the percentages of classes taught by teachers who do not have a major in the subject that they are teaching in high-poverty schools/high-minority schools (schools in which more than 50% of the students are low-income or non-white) vs. low-poverty schools/low-minority schools (schools in which fewer than 15% of the students are low-income or non-white).

In reviewing the chart, the reader will see a stark and troubling pattern: low-income students and students of color are less likely than other students to be taught by teachers with a college major in the subject area that they are teaching.

The data used to build this chart are drawn from the Schools and Staffing Survey conducted by the National Center for Education Statistics (NCES) in school year 1993-94. Richard Ingersoll of the University of Georgia conducted the analysis. While the Schools and Staffing Survey is large scale, in some states the data are inadequate to support stable estimation for certain kinds of schools so we have not printed a percentage. There are other cases where the sample meets normal standards, but the Education Trust staff cautions the reader with an "*" that these samples are "on the smallish side" and advises further research.

We have ranked states on the overall quality of their teachers. The fewer underqualified teachers, the better the rank. We also rank states according to disparity in assignment of underqualified teachers. "Disparity by poverty", for example, is the difference between the percentage of classes in high- and low-poverty schools that are taught by underqualified teachers.

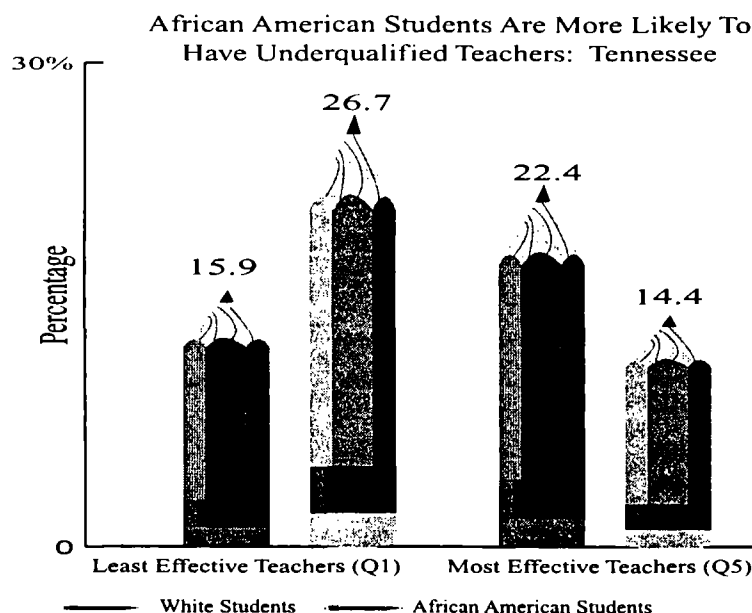
Percentage of secondary school classes taught by teachers lacking a major in field by state, 1993-1994

	Overall (Rank)	By School Poverty			By School Minority Population		
		Low	High (Rank)		Low	High (Rank)	
Alabama	17% (21)	14%	23% (19)		17%	16% (7)	
Alaska	29 (51)	20	48 (33)		23	41 (29)	
Arizona	26 (49)	17	37 (31)		26	29 (13)	
Arkansas	14 (8)	11	11 (5)		15	14 (7)	
California	27 (50)	28	29 (6)		26 *	27 (12)	
Colorado	20 (33)	17			20	24 * (15)	
Connecticut	13 (6)	12			12	15 (13)	
Delaware	24 (43)					25	
D.C.	17 (21)					17	
Florida	18 (28)	22	19 (4)		24	17 (2)	
Georgia	21 (36)	15	33 (29)		25	19 (3)	
Hawaii	24 (43)	13				25	
Idaho	20 (33)	15			19		

	Overall (Rank)		By School Poverty			By School Minority Population		
			Low	High	(Rank)	Low	High	(Rank)
Illinois	16%	(15)	13%	24%	(24)	13%	25%	(25)
Indiana	13	(6)	10	15 *	(11)	12	26 *	(27)
Iowa	12	(4)	7	17	(23)	12		
Kansas	15	(12)	15			14		
Kentucky	24	(43)	20	29	(19)	24		
Louisiana	23	(40)	9	28	(30)	21	21	(10)
Maine	22	(38)	19			21		
Maryland	17	(21)	13			14	20	(18)
Massachusetts	16	(15)	13	28 *	(28)	15	20	(17)
Michigan	17	(21)	14	18	(10)	18	13 *	(4)
Minnesota	10	(1)	11	6 *	(3)	9		
Mississippi	25	(47)	24 *	29	(11)	25	22	(6)
Missouri	14	(8)	12	18 *	(15)	14		
Montana	16	(15)	11	35	(32)	16	32 *	(28)
Nebraska	14	(8)	16	8 *	(1)	14		
Nevada	15	(12)	13			28 *		
New Hampshire	14	(8)	13			15		
New Jersey	20	(33)	16	25	(19)	16	24	(22)
New Mexico	22	(38)	21	24	(8)		23	
New York	12	(4)	8	22	(27)	7	18	(24)
North Carolina	19	(31)	11	41	(35)	15	24	(23)
North Dakota	11	(3)	10	17	(17)	11	17 *	(18)
Ohio	19	(31)	16	45	(34)	16	42	(30)
Oklahoma	17	(21)	13	18	(11)	17	23	(18)
Oregon	23	(40)	18			26		
Pennsylvania	16	(15)	15	22	(17)	14	26	(26)
Rhode Island	10	(1)	13 *			10		
South Carolina	23	(40)	20	25	(11)	25	21	(5)
South Dakota	16	(15)	14	17	(8)	15		
Tennessee	25	(47)	19	30	(24)	31	19	(1)
Texas	18	(28)	19	21	(7)	19	18	(7)
Utah	16	(15)	18			16		
Vermont	17	(21)	12			16		
Virginia	21	(36)	14	20	(15)	24	24	(10)
Washington	24	(43)	23	32	(19)	24	28	(15)
West Virginia	18	(28)	22	16	(2)	17		
Wisconsin	17	(21)	16	27	(24)	18	25 *	(21)
Wyoming	15	(12)	15			14		

* Interpret with caution

continued from page 7



Source: Sanders, William L. and Rivers, Joan C. "Cumulative And Residual Effects of Teachers on Future Student Academic Achievement," 1996, Table 1, p.

dents who attend high-poverty secondary schools. The same is true in Pennsylvania and Oklahoma: students in high-minority secondary schools are more likely to be taught by teachers without a college major in the subject they are teaching.

The problems in central cities are particularly acute, according to a 1995 report from the National Governors Association. "Emergency hiring, assignment of teachers outside their fields of preparation, and high turnover in underfunded schools conspire to produce a situation in which many poor and minority students are taught throughout their entire school careers by a steady stream of the least qualified and experienced teachers."¹¹

A MORE EQUITABLE DISTRIBUTION OF TEACHER EXPERTISE

What would happen if minority and poor children had teachers of the same quality as other children? A large part of the gap would simply disappear. The estimates vary somewhat depending upon the statistical model used, but in no case is the effect minor.

- Ferguson's modeling for several metropolitan Alabama districts suggests that an increase of 1 standard deviation in the test scores of teachers who teach black children would produce a decline of about two-thirds in the black/white test score gap in that state.¹²

- Strauss's study of student achievement in North Carolina suggested that a 1% relative increase in teacher scores on the NTE would bring about a 5% relative decline in the percentage of students who fail standardized competency exams.¹³

In other words, much of what we have blamed on chil-

dren and their families for decades is actually the result of things we have done to them. As a nation, we have deprived our neediest students of the very ingredient most important to learning: a highly qualified teacher.

In his analyses of the Texas data base, Ferguson found a small number of school districts that are exceptions to the general pattern (see below chart). A look at how their youngsters benefit from a steady diet of higher performing teachers gives us a glimpse of how the national data for poor and minority students *could* look...if we had the will.

ASSURING QUALIFIED TEACHERS FOR ALL OF OUR CHILDREN

These findings have profound implications for states and communities that are striving to get vastly larger numbers of their students to high standards of achievement. If education leaders want to accomplish this goal in the near term, they are far more likely to do so if they focus, first and foremost, on quality—quality in

teacher preparation, recruitment, hiring, assignment, and ongoing professional development.

This goes doubly for schools and communities with concentrations of poor and minority children. Rather than continuing to accept the crumbs, these schools and communities must insist on the very best teachers for their children. After all, poor and minority children depend on their teachers like no others. In the hands of our best teachers, the effects of poverty and institutional racism melt away, allowing these students to soar to the same heights as young Americans from more advantaged homes. But if they remain in the hands of underqualified teachers, poor and minority students will continue to fulfill society's limited expectations of them.

What, then, are the elements of a strategy to assure highly qualified teachers for all young Americans?

We don't yet have all the answers. But we know enough to start the conversations. Here are the more powerful ideas we have gleaned from our work with leading states and cities:

1. Standards for entry into the profession.

A number of states are raising the standards for entry into the profession. Virginia, for example, has raised both course requirements in the arts and sciences and cut scores on the Praxis examinations for aspiring teachers. Massachusetts has devised new and much more rigorous examinations, especially in the content areas.

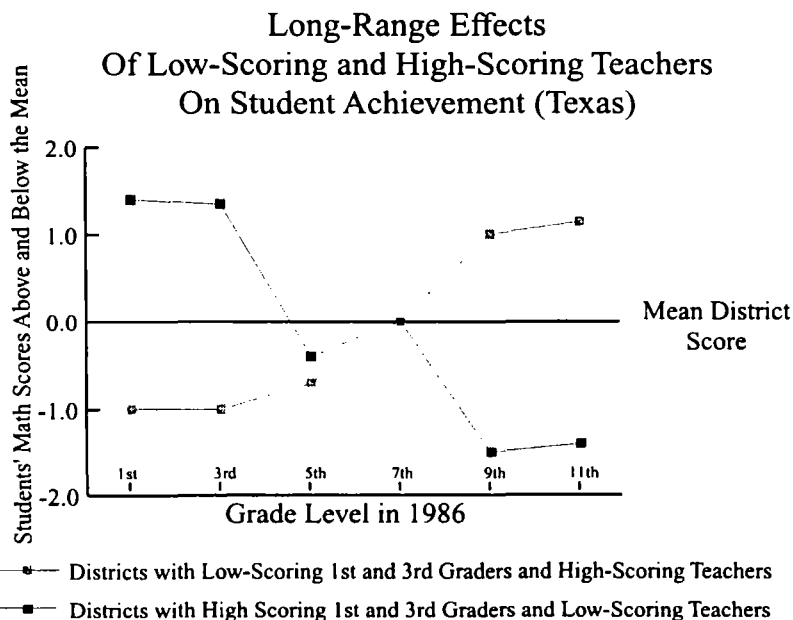
While these attempts are commendable, it is also important to make sure that the measures for teacher content knowledge are solid and aligned with K-12 standards.

Preliminary information suggests that existing examinations may be too low: an analysis of a widely used test for prospective high school physics teachers, for example, featured content that one reviewer described as "appropriate for a rigorous ninth-grade physical science course." If this is correct, these tests are wholly insufficient either to assure adequate content knowledge of individual teachers or to use for accountability purposes with arts and sciences departments.

Any discussion about raising entry standards for teachers should include an examination of how well the standards align with the K-12 content candidates will have to teach, and the assessments used to find out if candidates can teach this content.

2. Accountability measures for colleges and universities that prepare teachers.

In Texas, for example, colleges that have pass rates below 70% (soon to be 75%) on the state's teacher licensure exam will lose the right to prepare teachers. To be sure that its intentions are understood, the legislature spells out precisely what it means: 70% of the



If education leaders want to close the achievement gap, they must focus, first and foremost, on developing qualified teachers.

white graduates, 70% of the Latino graduates, 70% of the black graduates and so on. Not a single group can be left behind. Moreover, if aspiring math teachers,

for example, cannot pass the exam, then the math department loses the franchise. Other states are heading in this direction, as well. Universities, together with their nearby school districts, could take the lead from such state-level actions: decide on what intending teachers need to know in their subjects and hold academic departments accountable for getting them there before they graduate.

3. Professional development for existing teachers.

Teacher effectiveness is not forever fixed. Through careful development, teachers can build their effectiveness over time. In Community School District #2 in New York City, Superintendent Tony Alvarado has invested generously in the professional development of his principals and teachers. Focusing initially on reading, and then moving to mathematics, Alvarado made sure his teachers, in particular, got lots of on-site coaching from experts. As a result, student achievement has climbed steadily over the past 10 years. University of Michigan researcher David Cohen's recent study of professional development in California also shows its impact on student achievement when professional development focuses on new curricula and the content that undergirds it.¹⁴ Similar results are evident in broad achievement gains in the three El Paso school districts, where more than 50 full-time teacher-coaches provide in-school assistance to teachers as they strive to improve student achievement.

These successful strategies differ in important ways from many professional development programs and initiatives. Far from the three-hour workshop about isolated topics, these strategies are ongoing, on-site and focused on the content that students should learn.

4. Assurance that poor and minority children have teachers that are at least as qualified as the ones that teach other students.

Actually, if we had our druthers, we would push for a policy requiring that, for the next two decades or so, these students should systematically be assigned our best teachers. Achieving either goal, though, would require careful attention to:

- Just who we are preparing to teach—where they come from and where they want to teach, in particular;
- Interdistrict differences in salaries for beginning and mid-career teachers;
- The practice of concentrating beginning teachers in school buildings with concentrations of poor children;
- District policies—often gained through collective bargaining—that reward senior teachers with the “right” to transfer to “easier” schools;
- Practices within schools, where teachers fight over who has to teach whom, with the senior, better educated teachers often winding up with the most advanced children; and
- The absence of clear incentives and prevalence of disincentives for teachers to work with poor and minority children.

These practices have been around for so long that they seem beyond change. But some school districts are beginning to make headway on rooting out these inequities. In San Antonio, for example, new policies on teacher assignment have begun to balance the distribution of teachers within the district. In other districts, special targeting of more highly compensated “mentor” positions is beginning to even out teacher expertise. Energetic principals can also reverse the normal pattern. For example, in the Los Angeles unified School District, where uncertified and out-of-field teachers are the norm, Principal Lupe Simpson of the all-minority Nimitz Middle School has a mathematics department full of fully certified, mathematics majors. How? By working her contacts with local universities.

5. "Parent Right to Know" policies.

Parents deserve to know when their children are being taught science by history majors or history by physical education grads. To be sure, this knowledge has been available to some, mostly affluent parents through their community grapevines. But nowhere has there been a systematic way of letting all parents know that their child's teacher has enough background in the subject to teach it so their students will understand it. When parents know where the needs are greatest, they can become partners in local efforts to secure an adequate number of well-qualified teachers for all their students.

6. Recruitment and rewards to attract the best into teaching.

We worry that, instead of seeking out the very best, too many teacher preparation programs simply make do with what walks in the door. That's not good, because SAT and other data suggest that the high school seniors who aspire to become teachers are among the least able of all prospective college students. It's also not good for communities with concentrations of minority and poor students because few of those who aspire to become teachers either grew up in or want to teach in such communities.

Many leaders in teacher preparation programs say that they're doing the best they can—that low salaries and lower prestige make it impossible to attract able candidates, especially minorities, to the teaching profession and higher standards will make it worse. We remain unconvinced. If these claims are correct, then why does Teach for America, which has far higher standards than most education schools, routinely attract far more qualified graduates than it can place? And why, among Teach for America's way-above-average corps members, are there more than twice as many minorities as there are in education schools?¹⁵ The same would appear to be true for alternate certification programs that cater to young or mid-career professionals from other fields: no lack of smart or minority applicants.

These experiences and others tell us that we can produce the highly qualified teachers that we need by combining:

- High entry standards;
- Rich incentives like generous scholarships and loan forgiveness for highly able professionals who want to teach in high-poverty schools;
- Accountability systems that reward departments and campuses for the numbers of their top students that enter teaching; and
- Non-traditional, yet still rigorous, routes into the profession.

These are just some of the pieces of a solution to the vexing problem of assuring that we have teachers to match our goals. Solving this problem requires concerted action from policymakers, leaders in both K-12 and higher education, teacher unions, and parents. No single party can win the battle alone. All must be involved and at the table if we are to craft sound policies that will succeed.

But we must also understand that we cannot wait until every piece of this puzzle is in hand. Our inability to answer every question about teacher effectiveness right now shouldn't make us reluctant to use the devices we do have to begin to lure the best in, screen others out, and intensively develop the rest. And it certainly shouldn't deter us from doing what it takes to

assure that poor and minority youngsters get at least their fair share of effective, well-prepared teachers.

We cannot wait until every piece of this puzzle is in hand. We must use the devices we have to lure the best teacher candidates in, screen others out, and develop the rest.

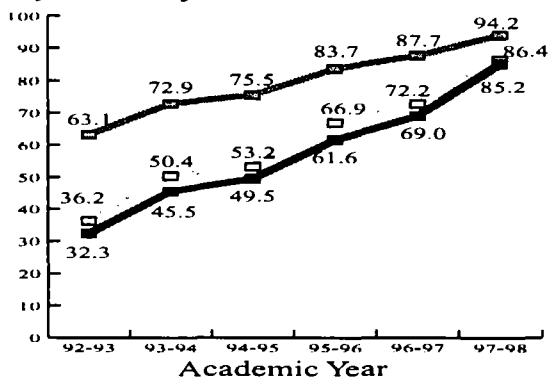
El Paso Closing the Gap

In 1992, leaders at the University of Texas-El Paso and the three El Paso-area school districts—El Paso, Ysleta, and Socorro—came together to create the El Paso Collaborative, a comprehensive effort to raise student achievement kindergarten through college. Their goal was to prepare every young person in this highly impoverished border city to be able to enter college without remediation, and the El Paso Standards they set reflected that goal.

Over the next five years, they focused hard on what matters most: excellent teaching. Through the Collaborative, El Paso teachers received intensive assistance in improving instruction, including summer institutes and regular on-site coaching, funded through a combination of NSF dollars and a redirection of federal and state funds. Meanwhile, leaders at the University made major changes in the way they were preparing teachers, to make sure that such teachers were fully prepared to teach to the El Paso standards.

The results of their hard work are clear in the data above: improved achievement and a narrower gap between groups. This is a refreshing change from the national picture of flat achievement and a widening gap between groups. Investing in teachers really does pay dividends!

% Of Students Passing TAAS Math
By Ethnicity - Combined 3-8 & 10



White Hispanic African American
The El Paso Collaborative for Academic Excellence, 1998.

NOTES:

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4. Ronald F. Ferguson. "Evidence That Schools Can Narrow the Black-White Test Score Gap," 1997, p. 32
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6. Dan D. Goldhaber and Dominic J. Brewer, "Evaluating the Effect of Teacher Degree Level on Educational Performance," in *Developments in School Finance*, 1996, p. 199
7. Eva L. Baker, "Report on the Content Area Performance Assessments (CAPA): A Collaboration

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14. Robert P. Strauss and Elizabeth A. Sawyer. "Some New Evidence on Teacher and Student Competencies," *Economics of Education Review*, 1986, p.41
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Vivienne Collinson

Redefining Teacher Excellence

SEVERAL COMPELLING FACTS SUPPORT the importance of a more comprehensive understanding of teacher excellence in the coming decade. First, the United States will experience its largest and most diverse student enrollment in history; second, school districts are expected to hire unprecedented numbers of new teachers within a short period of time; and finally, public sentiments are at an all-time high to "create a rising tide of excellence in our nation's classrooms if our children are going to succeed" (National Commission on Teaching and America's Future, 1996, p. 21).

Teacher excellence has long been an elusive concept. In the search for "expert" teachers and theories of teaching (e.g., Berliner, 1986; Brophy, 1989), researchers have generally focused on technical, observable aspects of teaching. Various theories of cognitive development (see Reiman & Thies-Sprinthall, 1998), as well as Goleman's (1995) model of "emotional intelligence" and Perkins's (1995) vision of "reflective intelligence," have provided insights into the dispositions, values, and thinking associated with human excellence. However, knowledge and theories to explain the complex nature of teacher excellence remain limited.

My own experience as a teacher indicates that practitioners tend to avoid the term excellence,

perhaps because it disturbs the strong egalitarian tradition among teachers. Nevertheless, given the paucity of theories to explain teacher excellence, it seemed logical to turn to excellent teachers for their own explanation of what they are trying to accomplish.

In this article, I summarize a sample of practitioners' conceptions of their work and present the results as the development of a triad of knowledge: professional knowledge (knowledge of subject matter, curriculum, and pedagogy), interpersonal knowledge (relationships with students, the educational community, and the local community), and intrapersonal knowledge (teachers' ethics and dispositions). Redefining teacher excellence in this way differs significantly from earlier definitions that concentrated on teachers' technical expertise in the classroom. I also indicate briefly how this redefinition of teacher excellence is similar to recent scholarly work on intelligence that may eventually provide more adequate theoretical frameworks for understanding teacher excellence.

A Profile of the Participants

The study that provides an illustration for this article extends an earlier study of exemplary elementary school teachers (Collinson, 1996) by adding a national sample of 81 secondary school teachers. I used the reputational method of selection to identify the teachers (Hunter, 1953). Participants from

Vivienne Collinson is an adjunct professor at Michigan State University and an education consultant and researcher.

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urban, suburban, and rural school districts across the United States were nominated as excellent teachers by groups of peers in their region (see Ellett, Loup, Evans, & Chauvin, 1992 concerning validity of peer nomination). Each teacher participant completed an informational survey and then participated in an individual, 3-hour guided interview. As themes and possible interpretations emerged from the data, member checks were conducted to test reliability and validity of the analysis.

Of the 81 teachers in the secondary school sample, 58 are female and 23 are male. Eighteen are minority teachers: African-American, Hispanic (Mexican, Filipino, and Cuban), and Native American. The majority of the teachers have taught in public schools 15 or more years. Their subject areas include the full spectrum of secondary school curricula and their schools range from under-equipped to state-of-the-art. The teachers are diverse in personal ways as well. Some are introverted, others are extroverted; some entered teaching after high school, others after another career; many volunteered unsolicited information about their religion (Christian, Jewish, Islamic, Buddhist, agnostic).

The teachers' interest in learning is evident in their collective pursuit of formal schooling. Of the 27 (33.3%) whose highest degree is a bachelor's degree, 14 have continued to take university courses beyond the bachelor's degree. Forty-nine of the teachers (60.5%) have earned a master's degree. Seven of the latter hold two master's degrees and six have taken courses beyond the master's degree, including two who are at the dissertation stage of the doctoral degree. Five (6.2%) have completed a doctoral degree. By comparison at the national level, 43.6 percent of public school teachers have a bachelor's degree as their highest degree, 54.5 percent hold a master's degree or 6 years (beyond high school), and 1.7 percent have earned a doctoral degree (National Education Association, 1997).

The teacher participants have also pursued teaching opportunities beyond their assigned duties: 42 percent have taught in tertiary institutions (universities, colleges of education, and community colleges), and 44 percent have taught in other settings such as after-school workshops, the military, churches or synagogues, and the community (e.g., YMCA). Individually, the teachers are involved in professional organizations as members

and/or leaders, in statewide committees or task force groups, and in school leadership (e.g., as team leaders, department chairs, and committee members). Additionally, they are active in extracurricular activities for students, particularly those related to their discipline, honor societies, and student governance and leadership.

Practitioners' Descriptions of Teacher Excellence

There is little doubt that excellent teachers are recognizable (e.g., Dewey, 1929; Ellett, Loup, Evans, & Chauvin, 1992; Jackson, 1968/1990; *What Teachers Should Know*, 1994). As Cross (1987) points out, "The myth that we cannot tell an excellent teacher from a mediocre or poor teacher is as pernicious as it is false" (p. 501). What is more difficult to understand is what makes excellent teachers recognizable.

The remainder of the article draws on data from the sample of secondary school teachers (pseudonyms are used) to elaborate the triad of knowledge the teachers appear to be developing: professional knowledge, interpersonal knowledge, and intrapersonal knowledge. Their overarching goal as teachers is student learning. They seem to integrate the three forms of knowledge so they can structure their classes in ways that improve student learning. (Also see Stephenson, Ling, Burman, & Cooper, 1998, for depictions in countries outside the United States.)

The article also briefly indicates how this triad of knowledge, derived from practitioners' descriptions, is similar to Goleman's (1995) and Perkins's (1995) research on learnable aspects of intelligence. The scope of the article cannot do justice to their work, but it can point out some significant similarities emerging in both educational research and research on intelligence.

Professional knowledge

In 1986, Shulman proposed that "expert" or professional knowledge for teachers should include subject-matter knowledge, curricular knowledge, and pedagogical knowledge. This best-known form of knowledge, long the mainstay of teacher education, is recognized as necessary for competent teaching. What it has come to represent, however, particularly through methods classes for preservice

teachers and workshops for inservice teachers, is a technical "how to" version of knowledge that has lulled many into believing that competence through professional knowledge is sufficient for producing teacher excellence.

The teachers in the secondary school sample appear to accept the acquisition of professional knowledge as a given for teacher excellence. As noted earlier, they tend to pursue graduate school courses and are active in professional organizations. They are adamant about the importance of learning for their students and appear to "practice what they preach."

In life, some people make things happen, other people watch what happens, and some people wonder what will happen. I want to educate kids who will make things happen. . . . I want them to get turned on to learning. . . . I want [them] to do critical thinking, in-depth thinking, [and ask] why. (Douglass)

The teachers' visions extend far beyond simply teaching the official curriculum. They want to motivate students for life: "[I'm] trying to impact students' lifelong learning so that once they leave [my] class . . . they continue to grow and learn in that area throughout the rest of their life" (Brian).

Interpersonal knowledge

Interpersonal knowledge focuses on relationships: relationships with students, the local community, and the educational community. Teaching, perhaps more than any other profession, depends on individual and group interactions with many children and adults. So while excellent teachers stay abreast of professional knowledge to improve their teaching and their students' learning, they also work at developing high levels of interpersonal knowledge. Sometimes referred to as "people skills," interpersonal knowledge is much more complex than basic acquisition of discrete social skills. It requires empathy to understand others, honesty and trust, respect, tolerance of different perspectives, the setting aside of self, good communication skills, and political awareness. Interpersonal knowledge involves maturity and wisdom.

Excellent teachers rely on interpersonal knowledge for successful relationships with students, colleagues, and parents or guardians. Teacher education has paid inadequate attention to teacher-adult interactions. "Teachers are trained extensively

in how to communicate with children. They receive little or no training and in-service development in how to communicate openly, honestly, and accessibly with parents" (Alexander, as cited in Hargreaves, 1995, p. 19).

They also receive little help in learning how to collaborate with other adults. Although collaboration with colleagues is now considered a hallmark of good teaching, learning, and leadership (e.g., Gardner, 1990; Little, 1982; Rosenholtz, 1989; Senge, 1990), interpersonal knowledge is generally emphasized only in administrator preparation programs; it has yet to infuse either teacher preparation programs or professional development.

Interactions with adults powerfully influence the development of teachers' interpersonal knowledge and their teaching. Teachers, particularly those who engage in team teaching or who early in their careers teach within hearing or sight of other adults (usually other teachers or parent volunteers), realize quickly that learning from and with other adults expands and challenges their own perspectives. Their continuous interactions with adults are vital in teaching them to give and receive criticism and to seek others' perspectives to inform their professional judgments. Their colleagues also encourage risk taking and demonstrate different and effective ways to teach and learn (Howey & Collinson, 1995).

We became very close as a faculty because we became our own support system. . . . We would go [into the lounge] and say, "I fell flat on my face with this lesson"—and we weren't afraid to do that as veteran teachers—"What would you have done?" It became a planning strategy session . . . which was really exciting. . . . We've had to sit back and look at what we're doing and the reasons why we're doing it. . . . It's just neat to collaborate with other teachers and be able to see what they're doing and reap the benefits of picking their brains. We need that as educators. . . . I think because of all the change and innovation, it's kept us fresh. . . . It's given us all a new fresh look at education and we've become very creative. (Janet)

Interpersonal knowledge also includes political awareness. New teachers generally articulate concerns about their own particular classroom or personal preferences. They may be unable to think systematically beyond their classroom to consider community concerns or the good of the collective. As excellent teachers develop interpersonal knowledge, they tend to become involved in extracurricular and professional

activities at the school, community, or state level, and they learn to think in an ever-expanding scope of perspectives and professional community. They learn how to work within political systems (see Sternberg & Horvath, 1995) and see themselves as a contributing member of a larger profession that includes administrators, researchers, teacher educators, state department personnel, and union leaders—each with different roles and concerns. Over time, teachers begin to understand how local issues are nested within state, national, and global paradigms and policies.

Intrapersonal knowledge

Whereas *interpersonal* knowledge focuses primarily on human interactions and relationships, *intrapersonal* knowledge represents who we are. It moves beyond Gardner's (1993) description of intrapersonal intelligence as "a capacity to form an accurate, veridical model of oneself" (p. 9) to include an understanding of how our ethics and dispositions shape our lives. Ethics and dispositions are like Aristotle's conception of virtues or character, that is, "the attitudes, sensibilities, and beliefs that affect how a person sees, acts, and indeed lives" (Sherman, 1989, p. 1).

Table 1 summarizes the intrapersonal knowledge that excellent teachers consistently mention as something they work to develop in themselves. They consider a disposition toward learning, an ethic of care, and a work ethic so important for life in general that they teach them, both explicitly and by modeling.

Teachers' ethics and dispositions influence their decisions and the lives of all their students. Awareness and articulation of how ethics and dispositions shape judgments, behavior, and decisions require accurate self-understanding and the capacity for introspection and reflection.

If you talk about healthy and productive citizens, a healthy person is someone who has self-discipline, who respects themselves and others, thinks before they act, is sensitive to what goes on around them, and is willing to accept responsibility for what they do no matter what the consequences are. And if they've thought before they've acted, then they kind of weighed out what most of the consequences are going to be for their action. (Candice)

Yet, while the rhetoric on teachers as decision makers and teachers as reflective practitioners in-

creases, ethics and dispositions remain such a neglected part of teacher education that they are almost nonexistent.

Excellent teachers routinely mention personally important ethics and dispositions they try to convey to students.

Every single student has an equal spot to learn, to benefit from being in my classroom. . . . And I'm very up front with the kids. I say . . . "Do the best that you can in the hopes that if it turns out well, it will benefit not only you but your community." And I talk about rights, and rights to learn. . . . I talk to them about the difference between freedom and license, the license of just doing anything that comes along and the freedom that is handling a responsibility. (Andrew)

The disposition toward continuous learning appears to be a critical aspect of excellent teachers' intrapersonal knowledge, especially the capacity for habitual and deliberate reflection to improve learning for students. To do so, they identify problems, gather pertinent information, analyze the facts, think about potential consequences of actions or inaction, and then evaluate the results of

Table 1
Ethics and Dispositions: Teaching for Life Beyond the Classroom

Ethics	Dispositions
<i>An Ethic of Care</i>	<i>A Disposition Toward Continuous Learning</i>
Compassion	Curiosity/creativity
Respect for self and others	Risk taking
Empathy	Problem finding and solving
Giving to and receiving from others	Searching for evidence
Courage	Intellectual flexibility
Finding others' strengths	
Patience	
Self-knowledge	
Honesty/integrity	
Responsibility (to self and society)	
Hope/optimism	
<i>A Work Ethic</i>	
Expectations/setting goals	
Pride of effort	
Dedication/perseverance	
Doing one's best	
Self-discipline (organizational skills)	

their decision. Whether this process is used for on-the-spot decision making in the classroom or for more systematic investigation of problems or questions, the outcomes are shaped by the teacher's dispositions: curiosity to ask questions and pursue inquiry, skill and maturity in defining the precise problem or question(s), responsibility for one's decisions, willingness to risk admitting error or misjudgment, and intellectual flexibility to think about issues from many perspectives and to live with ambiguity and uncertainty.

Excellent teachers demonstrate an ethic of care by learning about students' thought processes and depth of understanding. They strongly encourage questions, and they establish dialogical patterns that involve extensive opportunities for students to listen and speak to each other in the classroom.

I want them to be independent thinkers. . . . Unless they have internalized [information] and can explain their knowledge to someone else, they haven't really understood the big picture. So it's a gaining of conceptual understanding by being able to describe to someone else how in the world they work that problem. They're acting as peer tutors all the time. . . . There's a camaraderie that exists . . . the networking, that socializing, "Okay, you do this" [or] "I found this out." They will remember and they will feel like, "Oh! That's the way!" The classroom setting is designed [so] it takes the power from me and gives it to them. (Jill)

These teachers regularly solicit formal and informal evaluative feedback from their students in order to make appropriate changes to enhance student learning.

Periodically throughout the year, I have evaluations. . . . I have about ten questions. . . . I'm just trying to get a feel for, "Am I coming through?" and "Are these kids learning the way I'm teaching, and if not, do they have a better suggestion?" . . . The kids are really sweet and they really do understand that when you do something like this, you have their best interests at heart and you're trying to improve on it. . . . You've got to validate to them why you do what you do. If you can't change it, then explain why you can't change it or won't change it. Just to make them understand that, "Look, I care about what you're saying and I'm going to respond to it." (Meryll)

Additionally, the teachers model and insist on behaviors that help people get along, for example, respecting others, listening without interrupting, seeking help and advice from others, admitting

mistakes, and being honest. Many spend time at the beginning of each year working on such behaviors. For example, Candice notes: "Probably the first thing I tell them is that in the classroom, everybody must be polite and must be courteous, must be sensitive to what other people are feeling. If you need something, you need to use please and thank you." Jill has a simple set of rules to encourage students to seek help and advice from peers: "You must be willing to help any group member who asks [and] you may ask the teacher for help only when everyone in your group has the same question." The teachers treat mistakes as a natural part of learning for themselves and their students.

I am not threatened when kids challenge me on something. I'm not afraid to say, "I'm sorry, I don't know" or "You're correct and I was incorrect" and "Let's find this out together." And I don't accept "I don't know" [from students]. I want them to try it. If I ask a question . . . I want them to stab at it, to make a guess, and then we can work on creative questioning through that. But I don't allow them to be in Honolulu intellectually when their bodies are in my classroom. I want them to be engaged. (Renee)

Excellent teachers also try to model and help students learn how to set realistic goals, give their best effort, and maintain a positive attitude.

Similarities to Recent Research

Two frameworks of "learnable" intelligence are similar to the practitioners' conceptions of teacher excellence: Goleman's (1995) model of emotional intelligence and Perkins's (1995) synthesis of neurological intelligence, experiential intelligence, and reflective intelligence. One significant similarity to the teachers' descriptions is that these two views of intelligence acknowledge the role of dispositions, beliefs, and values on people's thinking and judgments. This is not to say that psychologists agree on the role of dispositions and values in intelligent behavior. However, practicing teachers' perceptions of teacher excellence clearly emphasize the importance of dispositions and values in teaching and learning (e.g., Collinson, 1996; Killeavy, 1998; Stephenson, 1998), as does much recent literature in education (e.g., Deiro, 1996; Fenstermacher, 1992; Heath, 1994; Noddings, 1992; Van Manen, 1992; Zimpher & Howey, 1992).

Emotional intelligence

Goleman's (1995) "expanded model of what it means to be 'intelligent'" (p. xiii) did not ignore intellectual ability (reason) but clearly indicated that an intelligent balance between reason and emotions is necessary for learning "essential lessons for life" (p. 280). Goleman (1995) referred to the abilities that help people to fare better in life as "emotional intelligence." They include "self-control, zeal and persistence, and the ability to motivate oneself" (p. xii). Attributes associated with impulse control (delaying gratification) include embracing challenges; taking initiative; and being self-reliant, confident, trustworthy, and dependable.

Goleman argues that human beings who do not develop emotional intelligence limit their moral development: Those who remain at the mercy of impulse and self-centeredness block empathy, caring, compassion, and tolerance. Empathy, he argues, "underlies many facets of moral judgment and action" (p. 105).

There is an old-fashioned word for the body of skills that emotional intelligence represents: character. . . . The bedrock of character is self-discipline. . . . A related keystone of character is being able to motivate and guide oneself. Being able to put aside one's self-centered focus and impulses has social benefits: It opens the way to empathy, to real listening, to taking another person's perspective. Empathy . . . leads to caring, altruism, and compassion. Seeing things from another's perspective breaks down biased stereotypes, and so breeds tolerance and acceptance of differences. . . . These are basic arts of democracy. (p. 285)

Self-awareness and hope also play key roles in emotional intelligence. Self-awareness (knowledge of one's feelings and reactions) and self-control allow people to make more thoughtful decisions by "identifying alternative actions and their consequences before acting" (Goleman, 1995, p. 259). Hope (optimism) helps people set higher goals, feel competent to meet challenges (self-efficacy), take risks more willingly, work hard to achieve goals, and be resourceful and flexible in meeting goals. Three applications of emotional intelligence are the ability to give helpful critiques, create an atmosphere where diversity (tolerance) is valued, and network effectively.

Perkins's view of intelligence

Perkins's (1995) recent research offers a three-dimensional view of intelligence. The first

dimension is neural intelligence, part of our "genetic endowment at birth" (p. 54). The second is experiential intelligence, "the contribution of a storehouse of personal experience in diverse situations to intelligent behavior" (p. 14). Experiential intelligence is often useful, but does not help in new or unusual circumstances. The third dimension is reflective intelligence, "the contribution of knowledge, understanding, and attitudes about how to use our minds to intelligent behavior" (pp. 14-15). Reflective intelligence, knowing your way around thinking, is really the heart of Perkins's portrayal of intelligence.

Within reflective intelligence, Perkins (1995) identifies seven realms of thinking that need attention. Each realm has an action system, a belief system (values, standards, and felt beliefs), and a conceptual system. Together, they make up the realm knowledge "by which we know our way around" (p. 251). Of the seven, the first three are particularly important for higher-level thinking:

1. *Dispositional realms*—a disposition toward thinking that is clear (coherent and well-organized), broad ("respect for and appreciation of other perspectives through tolerance, openmindedness, and empathy" [p. 284]), deep, sound (fair and supported by evidence), curious (finding out about things and persisting in inquiry), strategic (using strategies or "devices to sustain effective organization" [p. 284]), and aware ("the clues feelings provide" and "how emotions stimulate or stifle a link of thought" [p. 285]).

2. *Challenge realms*—knowing your way around decision making, problem solving, justification, explanation, remembering, problem finding, design, planning, evaluation, representation, prediction, and learning.

3. *Tool realms*—"knowing your way around tools and strategies that support the kinds of thinking called for by the dispositional and challenge realms" (p. 288), for example, brainstorming, pro-con lists, stepwise strategies, graphic organizers, and concept maps.

4. *Technical realms*—knowing your way around technical kinds of thinking, such as formal deduction or probability/statistics.

5. *Field realms*—"thinking within particular fields or professions" (p. 290).

6. *Situational realms*—"specific thinking situations that nonetheless recur in a variety of different contexts" (p. 290). Managing emotion, conflict resolution, and policymaking are examples.

7. *Contextual realms*—realms "imbedded in particular life contexts" (p. 291). They may benefit from more general knowledge but require special knowledge peculiar to each context, such as planning a trip, choosing a career, or negotiating a treaty.

Whether considered separately or together, Goleman's (1995) and Perkins's (1995) visions of intelligence indicate that clear thinking and thoughtfulness are recognized as intelligent behavior. Both Goleman and Perkins underscore the role of dispositions, attitudes, and values for intelligent behavior and note that intelligent behavior is learnable.

A significant similarity between Goleman's and Perkins's visions of intelligence and the practitioners' descriptions of teacher excellence is the recognition of dispositions, attitudes, and values on thinking and behavior. Additional notable similarities include motivation and self-discipline, the capacity for reflection, empathy and respect, risk taking, networking, and tolerance and appreciation for others' perspectives.

Conclusion

What the teachers' descriptions of excellence illustrate and what Goleman's (1995) and Perkins's (1995) conceptions of intelligence indicate is that excellence and intelligent behavior go far beyond traditional ideas of expert or professional knowledge and technical expertise. Within Perkins's (1995) view of reflective intelligence, professional knowledge addresses knowing one's way around thinking in technical, field, situational, and contextual realms. Its acquisition does not necessarily mean that individuals know their way around the dispositional, challenge, and tool realms so vital to higher-level thinking and intelligent behavior. Teaching is so personal, so dependent on human interactions, and so full of uncertainties that it requires intelligent thinking and behavior at every turn. Excellent teachers purposefully develop interpersonal and intrapersonal knowledge as well as professional knowledge. They seem to grasp the balance between intellectual and emotional intelligence and the importance of both in the many roles required of teachers.

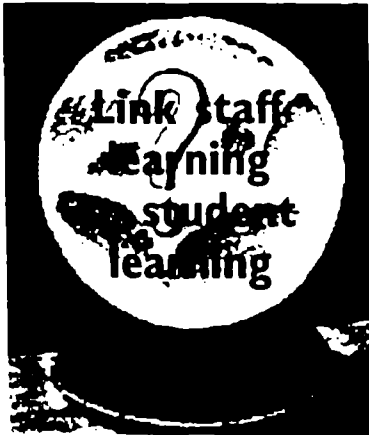
Character plays such a major role in people's thinking and behavior that it cannot be dismissed from discussions of teacher excellence—whether character is referred to as "the body of skills that emotional intelligence represents" (Goleman, 1995, p. 285), "the soul of intelligence" (Perkins, 1995, p. 278), or dispositions and ethics (Collinson, 1996). What makes excellent teachers recognizable may be a combination of competence (professional knowledge), skillful relationships (interpersonal knowledge), and character (intrapersonal knowledge). This article has sketched a redefinition of teacher excellence by drawing on empirical data and recent thinking about intelligence. It provides a point of departure for discussion and action to "create a rising tide of excellence in our nation's classrooms" (National Commission, 1996, p. 21).

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TIP



By HAYES MIZELL

The most powerful idea in staff development is just beginning to emerge.

Like a crocus forcing its way through newly thawed earth, the notion that staff development should improve student performance has been long in coming. For too many years, this idea has lain under the frozen tundra of by-the-numbers staff development that was unresponsive to the needs of both educators and students. Now, at last, the temperature is rising, generated by unremitting evidence of inadequate levels of student performance, pressures of the standards movement and other reforms, new demographics in classrooms, and teachers' struggles with complex curricular and pedagogical issues.

These conditions are triggering new professional and personal growth, and

have the potential to bring staff development to full flower.

The field of staff development must address two major issues more seriously to demonstrate its critical role in improving student achievement. First, those who conceive and implement staff development must delineate as their objective increasing specific student learning. Even if staff development is as subtle as participating in a study group, observing a teacher's classroom, or attending a conference, educators must define in advance what they want to learn and how they would use it to address specific student learning needs. Critics may argue that this tightly focused approach is too utilitarian, but the field's vulnerability is that, to date, there is simply too little to show for the millions of dollars invested in staff development. It is not too much to expect educators to forge stronger links between what they want to learn and what students need to learn.

The second issue is the evaluation of staff development's effects on students and educators. Is staff development increasing their learning?

How do we know? In nearly all cases, evaluating staff development is sporadic and rudimentary. While there is a long, long way to go before educators simultaneously plan staff development and its evaluation, it is long past time to begin. The state of evaluation of staff development is so abysmal that educators cannot wait for protocols or models from

Hayes Mizell is director of the Program for Student Achievement at the Edna McConnell Clark Foundation, New York, NY, (212) 551-9116, fax (212) 986-4558, or e-mail: Hmizell@emcf.org.



experts. There is an urgency to seek out and use generic resources on evaluation that can provide a starting point.

NSDC has taken the first steps out of this wilderness by coining the term "results-oriented staff development" and identifying content-specific staff development programs that show positive effects on student performance. There is also a need for school boards, school site councils, staff development leaders in central offices of school systems, and individual teachers to plunge into the uncharted waters of evaluating staff development. Until they do, they will not be able to make the case that the staff development for which they are responsible matters.

The idea that staff development should and can increase student learning is still vulnerable. Not everyone is looking for this harbinger of a new season; careless steps can still crush it. This idea, as challenging and hopeful as a crocus peeking through the snow, needs to be protected and nurtured. For that, students are counting on NSDC and the readers of this journal. ■



*Clarifying
Complex
Education
Issues*

Classroom teachers are the focus of attention by Californians and policy makers in Sacramento. This report looks at issues surrounding teacher accountability and professional development.

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Strengthening Teacher Quality in California

Defining Consequences, Building Capacity

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California's policy makers have spent nearly a decade experimenting with an array of reforms from granting schools greater flexibility and site-based decision making, to drafting rigorous academic student standards and decreasing class size. Now they are turning the spotlight on teachers — their education, on-going professional growth, and accountability.

A growing body of research and public opinion have reinforced the call for such policy attention. Research shows that teacher quality, including teacher skills, certification, and education are important factors in determining student achievement. The public also sees teachers as a top priority, according to a 1998 Harris-conducted poll. The poll included a special focus on California commissioned by The Center for the Future of Teaching and Learning. Almost 90% of the Californians polled said "ensuring a well-qualified teacher in every classroom" is crucial for lifting student achievement.

Such concerns, coupled with a growing need for more teachers, have led to a series of legislative reforms since 1996. The thrust of these reforms is to strengthen teacher recruitment, preparation, and support.

In 1999, a new round of teacher proposals is surfacing. This time, the discussion is about incentives and accountability. Governor Gray Davis, for his part, is stirring up debate around the topic of teacher evaluation. His proposal to give tenured teachers greater responsibility for appraising and improving the performance of their peers — and to use student test results as one measure of teacher quality — passed the legislature in March.

While Republicans and Democrats largely agree that teachers should be held accountable for student achievement, there are differing points of view about how and to what degree. Underlying this discussion are concerns about the fairness of spelling out consequences without simultaneously offering adequate opportunities to build teachers' skills and knowledge so they can meet new expectations. Out of this dilemma arise issues related to the governance of and how best to repair the currently fragmented professional development system. These and other questions surrounding California's current efforts to improve the quality of teachers are the focus of this EdSource report.

California's teacher accountability debate

First steps — standards for teachers and the teacher development system

The belief that all students should master a common set of skills and knowledge led California to approve K-12 academic content standards in 1997-98. Now, an increasing number of policy makers agree that substantially improving student achievement will be impossible unless the issue of teacher quality is addressed. In California, as in the rest of

THE CALIFORNIA STANDARDS FOR THE TEACHING PROFESSION

The California Commission on Teacher Credentialing has adopted professional standards that will guide teacher preparation programs and new teacher assessments. These standards are organized around six interrelated categories of teaching practice.

- Engaging and supporting all students in learning
- Creating and maintaining effective environments for student learning
- Understanding and organizing subject matter for student learning
- Planning instruction and designing learning experiences for all students
- Assessing student learning
- Developing as a professional educator

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the country, the critical first step in improving teacher quality has involved developing clear expectations for teacher performance.

Under Senate Bill 1422, which was enacted in 1992, the state established a teacher education task force. Its charge included defining the knowledge, skills, and credentials needed to become a teacher and to be effective in the classroom. That task force created a set of comprehensive recommendations to upgrade the state's teacher recruitment, preparation, and induction systems.

In 1997 the California Standards for the Teaching Profession (CSTP) were created. A collaborative effort between the California Commission on Teacher Credentialing (CTC), the California Department of Education (CDE), and several other groups, these standards provide descriptions of exemplary teaching practice. They were initially developed for new teachers, but the push is to have them eventually apply to all teachers.

Wanting to ensure that CSTP would be a "living" framework, legislators in 1998 included in Senate Bill 2042 the requirement that these standards guide all aspects of new teacher preparation. This included subject matter studies, professional education, and induction into teaching.

Next — reconsidering the purpose and approach to teacher evaluation

Now attention is swiftly turning from preparing beginning teachers to a critical look at the performance and evaluation of veteran teachers. For the most part this new debate has side-stepped the issue of teacher standards. It is instead centered around the dual purposes for teacher evaluation: improvement and accountability.

Views on the goals of evaluation differ.

Policy makers concerned with the accountability function tend to want to know if teachers are "measuring up" according to specific criteria (e.g., student test scores, teacher content knowledge), granting recognition to those who are and penalizing or removing those who are not. The primary

goal of this *summative* approach is to determine a teacher's competence, not to improve his or her work.

The other view of evaluation emphasizes helping teachers improve their craft and grow professionally, perhaps with assistance from an experienced colleague. This *formative* approach is largely supported by educators and is currently seen as the model for beginning teacher induction programs. Evaluation, seen from this perspective, becomes a vehicle for fostering collegial feedback, support, and continuous improvement. In this scenario, evaluation is not a single-point-in-time event whose outcome has little relevance to teachers' daily lives. Instead, it is an ongoing process that helps to inform and refine their instructional practice.

Is it possible to evaluate teachers with both functions in mind — assisting teachers while holding them ultimately accountable? Such an approach could begin by requiring that a school district have clear evaluation criteria for teachers. Further, that evaluation would need to be aligned with what happens in the staff development program. And if evaluation was going to be tied to student achievement, then the district would also need to clarify student achievement goals and how to measure them. Finally, administrators, teachers, and the union would need to agree about how to use student performance as part of the evaluation process. In some school districts in California, these pieces are indeed falling into place.

Current evaluation process receives broad-based criticism. State law requires that evaluation occur at least once a year for new teachers, and every two years for teachers who have "permanent" or tenured status. It also spells out the minimum criteria that shall be used to assess teachers. How often evaluation actually occurs, the specific format used, and the relative weight given to each criterion can vary from district to district.

Many educators and policy makers alike criticize the way teacher evaluations have traditionally been done. Generally it involves the school principal observing the teacher briefly, writing up an evaluation report, and meeting with the teacher to provide feedback.

Too often, contend critics, the standard process serves neither to hold teachers accountable nor improve their teaching for several reasons.

First, principals and other school administrators often have insufficient time to do thorough evaluations. This is especially the case at large schools and at schools with many new teachers. Furthermore, principals may have had limited training in how to conduct evaluations that are meaningful and constructive.

Another problem lies with the generally cursory nature of the evaluation, which tends to be based only on readily observable skills. This means that the evaluation usually does not account for such critical aspects as the teacher's skill at assessing students' progress, or the nature of the relationship the teacher has developed with students over time. Neither does it take into account the degree of subject-matter knowledge, including the teacher's basic understanding of the content, growth in knowledge over time, and ability to keep pace with changes in what should be taught and how.

A principal's lack of authority and/or inclination to administer any significant consequences — whether they be rewards or sanctions — is also a problem in many people's eyes. Principals generally have no independent authority to dismiss teachers on the one hand or grant them merit pay on the other. This is because school administrators are constrained by due process laws and by the provisions of local collective bargaining agreements.

Finally, anecdotal evidence suggests that many principals hesitate to give negative evaluations to teachers. The reasons for this include a desire to minimize conflict, a reluctance to take on the extra work involved in going through a dismissal process, and a lack of confidence that their district will back them up should they recommend a teacher for dismissal.

Options for improving evaluation raise controversy

For all the reasons noted above, many believe the current teacher appraisal process falls short of educators' desire for a helpful tool to

improve teacher practice and fails as the accountability lever some policy makers and the public desire. Among the various recommendations on how to make it more effective, two controversial ones are receiving particular focus in the current debate: the extent to which student performance is considered in teacher evaluations and the role teachers should play in the evaluation of their peers.

A complex issue: holding teachers accountable for student test results.

While California law currently calls for student performance to be one criterion of teacher evaluation, it also expressly prohibits the use of nationally-normed test scores for that purpose. Representing something of a sea change, Democratic and Republican proposals in the 1999 legislative session have, in some form or another, added student test performance as one of the criteria to be considered in teacher reviews. The question California educators may soon face, therefore, is not *whether* test scores be considered, but *how* and to *what extent*?

The first challenge will be deciding which test to use. Some believe that only tests which cover the material students are expected to master — i.e., aligned with state academic standards — should be used for teacher accountability purposes. Currently in California, this issue is complicated by the fact that the only statewide test — namely STAR — is essentially a basic skills test that is not yet aligned to California's new academic content standards. The spring 1999 test, however, is supposed to include additional multiple choice items that bring it into some alignment with the standards.

Another problem is whether a test which is administered only once during the school year would adequately reflect the growth of students under a particular teacher. Some believe that teachers should only have their performance judged on the basis of the "added value" they contribute to a student's achievement which would at a minimum mean testing at the beginning and end of the school year. In Dallas, Texas, and in Tennessee

Many believe the current teacher appraisal process falls short of educators' desire for a helpful tool to improve teacher practice and fails as the accountability lever some policy makers and the public desire.

officials are experimenting with a statistical method for isolating a teacher's impact on his or her students.

Also of concern is that putting too much weight on a single test creates an epidemic of "teaching to the test" that could drive instruction in the wrong or too narrow a direction. One solution is to consider as part of the evaluation other measures of student achievement, such as student attendance rates, retention rates, or other measures of students' work, such as portfolios.

PEER REVIEW FOR BEGINNING TEACHERS IN POWAY

Almost twelve years ago, the Poway School District in San Diego County revolutionized the way it assists and evaluates teachers. A productive collaboration between school district officials and the Poway Federation of Teachers (an AFT affiliate) created the Poway Professional Assistance Program (PPAP), which gives mentor teachers a key role in the preparation of their colleagues.

Realizing that new teachers are particularly vulnerable, the district focuses intensely on their needs. Each new teacher is paired with a teacher consultant, a highly skilled veteran teacher with a minimum of five years of experience. The consultant, who works with the new teacher from 40 to 100 hours a year, visits the class and records in a journal observations and suggestions regarding everything from lesson design to student participation. These reactions are based not merely on subjective impressions, but on sets of standards in alignment with the California Standards for the Teaching Profession that the district uses to answer the question, "What is it that teachers do?" The fact that the district's teacher assessment is standards-based helps ensure that no one is left guessing as to the performance level the new teacher is expected to achieve.

After each classroom observation, the consultant provides feedback to the new teacher, offering support and constructive criticism. At the end of the year, the consultant presents his or her evaluation of the new teacher to a PPAP governance board consisting of three union and two district representatives. The governance board, after considering the evaluation, recommends to the school board the new teacher's dismissal or continuing employment. Nearly half of Poway's teachers have participated in the New Teacher Program since its inception; approximately 4% have not had their contracts renewed for a second year.

According to Charlotte Kutzner, program director of the PPAP, a key to the new teacher program — as well as to a similar program that assists veteran teachers who have received unsatisfactory evaluations — is that it links evaluation with professional growth. "The point is to assist teachers so that they can be more effective, not to come in and give teachers an evaluation when it's too late for them to do anything about it."

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Many factors affect student performance besides a teacher's influence; including students' economic background, mobility, English-language ability, and the level of educational support they receive at home. Many argue that a fair accountability system must look at these variables.

Including such a wide range of measures and student background factors would undoubtedly provide a more holistic picture of student performance. Some argue, however, that it also makes the possibility of holding teachers accountable for student performance hopelessly complex. They believe that using the single criterion of a standardized test score is a simple, straightforward measure of student achievement. It would also, in their opinion, be a more powerful catalyst for teacher improvement centered around students' academic progress.

Peer assistance and review an increasingly popular option. Giving teachers an active role in the on-going development, review, and even dismissal of their peers is one alternative to traditional teacher evaluation. Although some form of peer assistance and review has been around for nearly two decades, interest in it has recently intensified. National teachers' unions generally support the concepts of peer assistance and peer review. Governor Davis and lawmakers in March 1999 approved \$125 million to create the "California Peer Assistance and Review Program for Teachers." (See the box on page 5.)

As early as 1981, the AFT (American Federation of Teachers) endorsed peer review when its affiliate in Toledo, Ohio became the first teachers' union in the nation to implement it. In July of 1997, the National Education Association (NEA) joined the AFT, recommending that local chapters allow member teachers to evaluate one another's job performance. One principle behind peer assistance and review, as expressed by NEA President Bob Chase at the 1997 convention, is that "teachers need to take charge of their profession" by, among other things, having "the courage it takes to counsel failing teachers to leave the profession."

Proponents see peer assistance and peer review as key levers for improving the quality of teaching by promoting the “professionalization” of teaching. True professionals, they argue, should to a significant degree be responsible for the success of their colleagues, sharing knowledge and offering guidance. Furthermore, they claim that teachers are in a better position to evaluate other teachers than most school administrators, who do not have the advantage of working with students on a day-to-day basis. In addition, an administrator — particularly at the secondary level — simply cannot have expertise in every subject matter area. That reality constrains his or her ability to adequately evaluate all the teachers at a school.

Researchers Charles Kerchner, Julia Kopich, and Joseph Weeres (1997) also find that, contrary to conventional wisdom, teachers are often harder on their peers than are administrators. Moreover, peer review forces

teachers to clearly articulate what good teaching should look like.

As examples of successful peer assistance and review, proponents point to school districts such as Rochester, Toledo, and Cincinnati. In California, the most often cited example is Poway Unified School District in San Diego County. See the box on page 4 for a description of their program.

Not everyone agrees about the degree to which teachers should be involved in helping and reviewing their peers. Some critics, including some educators, believe the conventional roles for teachers and principals still make the most sense. They argue that peer review actually undermines the authority of the principal, whom many believe should function as the instructional leader. Moreover, some worry that peer assistance and review takes expert teachers out of the classroom.

Another issue is that peer assistance and review is a more proven practice with new

CALIFORNIA'S NEW PEER ASSISTANCE AND REVIEW PROGRAM

One of Governor Gray Davis's key proposals to improve teacher quality was a \$125 million Peer Assistance and Review Program for Teachers. That proposal, embodied in AB 1x, was approved in March as part of the legislature's special session. The new law encourages designated consulting teachers to assist as well as be involved in the performance evaluation of their peers.

According to the law, each district must develop implementation details of the program through their collective bargaining process. The following design principles shall be included in the local program:

- participating teachers shall either volunteer to participate, be referred as a result of a performance review, or be referred according to criteria of the district's collective bargaining agreement; and shall have permanent status;
- performance goals shall be in writing, clearly stated, and aligned with pupil learning goals;
- the assistance and review shall include a process that relies on multiple observations of a teacher's instruction;
- the principal is expected to work cooperatively with the consulting teachers;
- the process shall be monitored and a written record kept; and
- the final evaluation of a teacher's participation in the program shall be placed in their personnel file.

The local program will be overseen by a joint teacher-administrator peer review panel which selects consulting teachers for the program, reviews reports, and makes recommendations to the school board about participants in the program. The law also authorizes the consideration of student performance on yet-to-be developed statewide, standards-based tests as part of the teacher evaluation process.

To compel district participation in the program, the state will make districts which choose not to participate ineligible for specific state funds related to professional development. Districts are being offered a financial incentive for implementing quickly.

teachers than with tenured veterans. In Poway, for instance, only a handful of veteran teachers have participated in the peer assistance and review process since it was created in 1990. Concerns also arise regarding the time and thus money required to do peer assistance and review properly.

In the fall of 1998, CTA (California Teachers Association) issued guidelines for its local chapters on how to implement peer assistance and peer review programs. In the past, however, the state union has expressed reservations about peer review and local units are not universally supportive.

WHAT MOTIVATES TEACHERS?

At a seminar in August 1997 sponsored in part by The California State University Institute for Education Reform, school finance expert and University of Wisconsin-Madison professor Allan Odden presented a list of things that motivate teachers:

- clear measurable goals focused on student achievement;
- opportunities to engage collaboratively with other teachers over effective teaching practices;
- opportunities to expand their professional expertise and learn new skills;
- opportunities to make decisions not only on curriculum and instruction, but also on school management;
- producing results — improved student achievement; and
- higher salaries are a motivator on the margin; they
 - increase the number of able individuals entering teaching;
 - decrease movement from district to district; and
 - increase retention in the profession.

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Indeed, California's teachers are mixed in their opinions. A 1998 CTA survey of 141,000 member teachers found about 55% of surveyed teachers want their union to promote peer assistance while only 25% want the union to support peer review. While peer review results in formal evaluation reports, peer assistance involves confidential counseling but no recommendations as to a teacher's continuation or dismissal. Peer review, as one member

teacher puts it, "would divide the teachers rather than bring teachers together as a group."

Better administrator training needed.

Another strategy for improving the teacher evaluation process begins with the assumption that administrators should in fact be the ones who conduct formal evaluations. Many agree that the shortcomings of teacher evaluation stem from inadequately trained administrators and a superficial evaluation process. The challenge, then, is to shift from convenient checklists and do a better job training administrators to do this vital work, and perhaps most importantly, provide them with more time to do it well.

Deciding on consequences may be the most difficult step

Once policy makers determine the measures of teacher quality and improve the system for evaluating them, the really difficult task remains. That is, to determine the extent to which teachers should be rewarded or punished for reaching or failing to reach performance goals. Disagreement abounds on this issue, and conflicting research provides little help.

The best way to make teachers accountable: The carrot...? Even among those who favor the incentive or "carrot" approach, views differ as to which positive consequences of good performance teachers will respond to. Some research suggests that they are most motivated by intrinsic rewards: seeing their students succeed is the "carrot," for example.

On the other hand, some research suggests that teachers, like people in other walks of life, respond to more tangible, extrinsic incentives such as monetary rewards. A Los Angeles charter school, the Vaughn Next Century Learning Center, has just instituted a system that awards bonuses to each individual teacher whose students meet test score benchmarks.

Often the promise of financial bonuses is given to the school as a whole. This is in keeping with the belief expressed in a 1997 speech by school finance researcher Allan Odden of the University of Wisconsin at Madison. He states that any performance awards "should



be awarded to everyone in a school — you want everyone pulling for the same result.” Other states and school districts across the country, such as Kentucky, North Carolina, and Douglas County in Colorado, have tried offering bonuses to high performing schools. These bonuses are usually shared among teachers and other staff. In California, San Diego Unified School District gives monetary rewards to improving schools. These are paid for by private contributions from business and the community.

California is well on its way to some type of incentive program. Monetary rewards for schools which show performance improvement were part of the accountability proposal offered by the Governor in January 1999 and of the law passed in the special legislative session which followed.

Another kind of carrot provides individual teachers with a reward for achieving certification by the National Board for Professional Teaching Standards (NBPTS). The year-long process of certification, which requires that teachers meet the Board’s teaching standards, is intensive. Candidates must keep journals about their work, submit videotaped lessons, and take a multi-faceted exam covering both instructional techniques and subject matter content. Fewer than half of all candidates achieve certification on the first try.

Policy makers are providing some financial incentives for teachers who seek and/or achieve this certification. Some federal funds are available to California teachers to pay for 50% of the \$2,000 NBPTS application fee. Additionally, a new state program provides a one-time \$10,000 merit award to teachers who attain certification. In Los Angeles Unified School District, teachers who earn cer-

tification will receive a 15% increase in their base salary.

...Or the stick? Some cities and states use the “stick” as well as the “carrot.” In several states officials now take some punitive action for poor teacher performance, be it public embarrassment or the threat of dismissal. In Florida, for instance, schools with extremely low test scores are placed on a “list of shame.” Over a three-year period, the number of schools on that list fell from 158 to 3. In Chicago, the entire teaching staff of a school can be “reconstituted” or reassigned if students do not achieve well enough on a basic skills test.

In California, state policy makers paid special attention to this issue in the spring of 1999. With the passage of SB 1x, they created an “Academic Performance Index” that will put every school in the state into one of ten performance groups. The law also mandates a process to identify and address the weaknesses of California’s low performing schools.

Another leverage point the state has in terms of consequences for individual teachers is in the requirements for renewing teacher credentials. These requirements are currently the subject of several legislative proposals.

TEACHER ACCOUNTABILITY IN OTHER STATES

A number of states are moving in the direction of rewarding or sanctioning teachers based on how well their students perform on tests:

- **TEXAS** is the only state to hold teachers accountable for how their schools perform. One-eighth of a teacher’s yearly evaluation is based on the school’s performance on state tests.
- **TENNESSEE** sends “teacher-effect reports” to every teacher in grades 4-8 and every high school math teacher. The reports describe how much that teacher influenced his or her students’ scores on statewide tests. Principals may not take the results into account for teacher evaluations but can use them to provide advice to the teacher on professional development.
- **COLORADO** now requires student performance to be considered for teacher evaluations, but local districts must decide what that means.
- **MINNESOTA** is the only state to offer teachers monetary rewards for student performance. The state gives Advanced Placement teachers \$25 for every student who scores a 3 or higher on an AP exam.
- **NORTH CAROLINA** sends outside teams to low-performing schools. These teams may recommend that classroom teachers take a general-knowledge test; those who fail could lose their teaching licenses.

Source: Education Week, *Quality Counts*, 1999

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GROUNDINGS FOR DISMISSING A TEACHER IN CALIFORNIA

The *grounds* for dismissing a California public school teacher and the *steps* which must be followed to do so are specified in California's Education, Labor, and Government Codes. These legal requirements cannot be the subject of local collective bargaining. Thus, any change in teachers' employment protections could only be addressed by state lawmakers.

California law states that a teacher who is considered a "permanent employee" of a school district can be dismissed only for the following causes:

- Immoral or unprofessional conduct
- Committing, aiding in, or advocating the commission of acts of criminal syndicalism
- Dishonesty
- Unsatisfactory performance (this was changed from "incompetence" in 1995)
- Evident unfitness for service
- Physical or mental condition unfitting for him or her to instruct or associate with children
- Persistent violation of or refusal to obey state law or reasonable state and local regulations
- Conviction of a felony or any crime involving moral turpitude
- Advocacy or teaching of communism with the intent of indoctrination
- Knowing membership in the Communist Party
- Alcoholism or other drug abuse that makes the employee unfit to instruct or associate with children

Summarized from California Education Code Section 44932

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For example, one recently proposed bill would put a teacher's credential, and hence his job, in jeopardy if students failed to perform at an acceptable level for two years in a row. The idea of requiring that teachers periodically pass subject matter exams to renew their credential is also being explored.

Tenure and termination. Aside from "reconstitution," the reassignment or replacement of teachers who work in low performing schools, there has been little policy action in California around the subject of negative consequences for individual teachers. Yet virtually every group involved in debating teacher

accountability says that bad teachers should not be in classrooms.

These discussions often hit a roadblock, however, when they get to the question of teachers' "tenure," their permanent status and employment protection. Oregon lawmakers were pioneers when they tackled this issue in 1997 by eliminating tenure and putting teachers on two-year renewable contracts. The closest California's legislative proposals have come is to look at how teachers' performance is evaluated. For the most part, policy makers are staying at arm's length from reforms that would substantially change tenure and dismissal. (See the box on this page.)

Union representatives are understandably adamant in their defense of the legal "due process" required to remove a teacher. The steps in the law are there to protect employees' rights and help to prevent wrongful dismissals. However, this tangle of due process laws and appeal rights, combined with the associated costs, can strongly deter districts from moving forward with the dismissal of ineffective teachers. At a minimum, going through a basic employee termination process is reported to cost school districts between \$10,000 to \$30,000 in legal fees. While there is no definitive statewide data, the cost of removing a teacher reportedly has gone as high as \$300,000 and can take two years. All sides agree that such cases are rare and extreme.

Again, California faces a difficult balancing act between two compelling points of view. On the one hand, teachers deserve to be treated fairly and to have their employment rights protected. On the other hand, there may be a need to reexamine and make more efficient the labyrinth of laws governing this process.

Developing an evaluation system that is effective in strengthening teachers' performance — and counseling out of the profession those individuals who do not belong in a classroom — may be a better option for avoiding protracted, costly dismissals. As Elaine Johnson, Assistant to the President for the California Federation of Teachers (CFT) explains, "More effective, inclusive evaluation processes will result in even fewer cases that cost hundreds

of thousands of dollars. Those processes will support teacher growth as well as identify teachers who should leave the profession before they are granted permanent status. If administrators and others had adequate time to do a proper job of evaluation, districts would not end up trying to dismiss a 15-year veteran who has received 15 years of satisfactory evaluations."

In the final analysis, the ability to more easily remove bad teachers may have a nominal effect. The Center for the Future of Teaching and Learning, for example, estimates that less than 3% of California's public views teachers as unqualified. The work of Linda Darling-Hammond at Stanford University suggests that bringing teachers "from good to excellent" will benefit California's students much more than punishing teachers can.

Professional development: a key to helping teachers improve

Regardless of how policy makers may decide to make teachers more accountable, teachers can only meet higher expectations if they can acquire the knowledge and skills they need to meet them. Almost 78% of the state's teachers are veterans with four or more years of experience who may need opportunities to upgrade their skills and knowledge. Without improved profes-

sional development, many agree California's veteran teachers will find it difficult to help students meet new and demanding academic standards — regardless of how hard they try or what kind of accountability measures the state may enact.

What constitutes effective professional development?

Some policy makers and researchers have questioned the value of professional development programs, pointing out that they have

DISTRICT 2 IN NEW YORK: A PROVEN APPROACH TO PROFESSIONAL DEVELOPMENT

Few school districts have been as studied and scrutinized as high-poverty District 2 in New York City, which witnessed a remarkable rise in student achievement over a 15-year period beginning in 1975. The exhaustive research, completed by scholars at Harvard University and The Learning Research and Development Center at the University of Pittsburgh, converges on one point: the improvement in student performance in District 2 was linked to a concentrated and well-organized campaign of professional development. That campaign, launched in part by former Superintendent Anthony Alvarado — now Chancellor of Instruction for the San Diego Unified School District — included three key elements:

A Structured District Wide Literacy Initiative In some school districts, professional development is a loose "anything goes" affair in which school districts select from a diverse menu of offerings. But District 2 officials kept it under tight control from the very beginning. They made sure it was always focused intensely upon instruction — reading instruction in particular — since the district's first goal was to improve student literacy. Everyone in the school district, from the superintendent to the principals and classroom teachers, was expected to have a deep and interconnected knowledge base regarding the theory and practice of reading instruction. The amount of classroom time teachers were expected to spend on literacy instruction was also spelled out: two hours each morning, when students were determined to be most alert. District officials, including the superintendent, frequently visited the classrooms of each school, using several measures to ascertain teacher effectiveness.

Well-communicated Goals and Expectations District 2 officials also recruit and select the professional developers, with whom they regularly confer to ensure that they adhere closely to district goals. Indeed, one of the most remarkable things researchers have noted about District 2 is that each teacher at every school has a strong "internalized" understanding of district expectations and goals.

Ongoing Classroom-based Professional Development Professional development is the foundation upon which effective instruction is built. Early on, the district created a Professional Development Lab where experienced teachers work alongside inexperienced ones for a specified number of weeks, helping them hone skills they then apply in the classroom. But most professional development occurs in the classroom, where theory can be put to immediate practical use. Professional developers regularly teach in classrooms, modeling concepts and approaches. And teachers routinely instruct other teachers, both formally at school demonstration sites and informally during classroom visits.

Source: Content-Driven Instructional Reform in Community School District #2, M. K. Stein and L. D'Amico, University of Pittsburgh, June 1998

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proliferated over the last two decades with little obvious or widespread efficacy. Teachers have also expressed skepticism regarding their value, claiming that many of their professional development experiences have little relevance to the daily challenges they face in the classroom.

Yet the vast majority of policy makers and educators believe that the problem lies not with the concept of professional development — indeed, most see it as indispensable — but with the superficial fashion in which it has too often been carried out. In California, they point out, professional development has too frequently consisted of a series of short, unrelated events: a blur of workshops, conferences, and courses covering every educational topic under the sun.

"Content knowledge is the key to learning how to teach subject matter so that students can understand it."

—Linda Darling-Hammond & Deborah Ball Lowenberg

Theoretically, the goal of any on-going teacher education is to help teachers become more effective at their work. Many researchers have concluded that the most effective teachers see themselves as individuals who are continually learning instead of as people who must simply transmit to students that which they already know. Much of this learning, in addition, comes through "give and take" with their colleagues. When this attitude becomes part of a school culture, teachers come to see each day as a professional development opportunity. They work continuously with their peers to improve their

knowledge and practice. Both the California and national teacher standards emphasize the importance of teachers actively participating in a community of learners.

Formal professional development programs can play a critical part in building a positive learning and working environment for teachers. For that to happen, however, these programs need to be largely school-based and delivered to teachers in such a way that teachers can directly apply what is learned to their own practice. In addition,

research has shown that teachers, as self-directed professionals, need to play a central role in the selection and conduct of professional development activities.

What are the other characteristics of effective professional development? A 1998 review of research commissioned by The Center for the Future of Teaching and Learning concludes that "effective learning opportunities are typically subject-matter focused and of sufficient intensity and duration to allow teachers to immerse themselves in an issue, attempt new instructional strategies, reflect on those experiences, and adjust their practice with the assistance of peers and mentors."

Effective professional development focuses on academic content. In this new era of academic standards and accountability, students will be expected, as perhaps never before, to acquire an in-depth understanding of the subjects they study. Teachers will only be able to foster this understanding if they themselves are thoroughly grounded in the content they teach.

A math teacher with but a cursory grasp of the subject will, for instance, be compelled to rely on "scripted" math lessons and materials, making it difficult for him or her to respond to student queries.

The most effective professional development immerses teachers in content and methodology tied to the academic standards their students are expected to know. School officials in New York City's District 2, for instance, began to turn around low-performing schools in the late '80s by placing an unwavering emphasis on content-rich professional development. In 1998, District 2 schools scored second among the city's 32 districts in both reading and math. This was despite the fact that low-income students, who typically score lower on standardized tests, constitute more than 95% of the enrollment.

Another decade-long California study by David Cohen and Heather Hill found that students whose teachers attended curriculum-centered workshops performed better on a state-administered mathematics test. Conversely, students whose teachers attended workshops

that were instead focused on other important issues such as diversity and collaborative learning did not do as well.

Effective professional development requires adequate time, resources, and working conditions. In California schools, time is a precious commodity. Teachers generally have little or no time away from students during the normal school day or year. In fact, they have less time now than they did a year ago, as changes in state funding have reduced staff development time by as much as five days in many districts.

By contrast, in countries such as Japan and Germany, teachers have time built into each school day for ongoing reflection and planning. Such an approach is much more conducive to the continuous learning ethos that distinguishes the most effective teachers and creates a collegial school culture.

Teachers need opportunities to try out new approaches, to receive thoughtful feedback on their efforts, and to engage in reflection and continued refinement. If school districts are serious about teacher improvement, then more time for collaboration and peer observations may be needed. That would require them to address fragmented teaching schedules and burdensome teaching loads, plus look at how effectively existing professional development time is used.

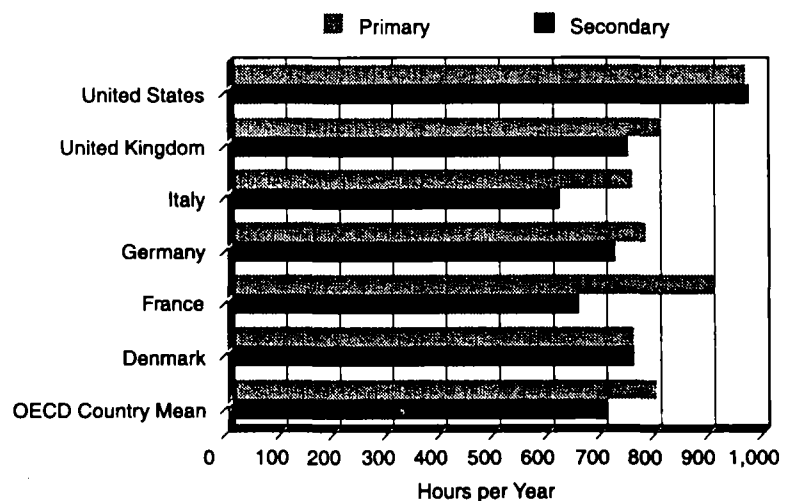
Researchers also say that, for professional development to be effective, the school environment must be attended to. In optimal conditions — schools with small class sizes, adequate instructional materials, and good support services — teachers are much better able to put their learning into practice.

More and better evaluation of professional development is needed. Little is known definitively about the extent to which different kinds of professional development have actually improved teaching practice and, more importantly, affected student achievement. Evaluations of professional development programs too often consist of surveys filled out by teachers after a workshop or presentation. Experts say that a more

systematic approach to evaluation is needed, one that will measure the effectiveness of various programs. To that end, The Center for the Future of Teaching and Learning has published a new guidebook designed to help school districts do a more thoughtful job of evaluation.

Figure 1

U.S. TEACHERS SPEND MORE TIME WITH STUDENTS



In contrast to the other countries which make up the Organisation for Economic Co-operation and Development (OECD), United States schools expect their teachers to spend a lot more time teaching students. This is particularly true at the secondary level, defined here as both middle and high school (above grade 6). This expectation leaves little time in a normal U.S. teacher workday and year for activities such as lesson preparation, grading student work, meetings with peers, and professional development.

Data: OECD, 1998

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Better evaluation of professional development programs would also inform the field as a whole, particularly evaluation that examines the impact on student achievement. As noted by the Education Commission of the States in a 1997 report, few states and school districts thoroughly evaluate how their professional development programs directly affect student achievement.

What issues need to be addressed in improving California's professional development?

Both state policy makers and local school districts have a role to play in any effort to improve professional development for teachers in California. But first, Californians need to grapple with three fundamental questions. Who determines what an effective professional development program looks like? Who is responsible for ensuring the quality of professional development? And finally, what level of investment is needed for professional development to make a measurable difference in the performance of teachers and ultimately of students?

The state determines professional development direction and funding.

Historically, the state's contribution to professional development has been of three types. The first has been to sponsor specific targeted, categorical programs. These targeted programs have included building teacher professional development networks and establishing professional development programs to ensure teachers have the knowledge and skills necessary to support students with special learning needs and provide instruction in certain subject matter areas.

More recently, concern over dismal National Assessment of Educational Progress (NAEP) scores prompted the Legislature in

THE CALIFORNIA PROFESSIONAL DEVELOPMENT REFORM INITIATIVE

The goal of this initiative, sponsored by the California Department of Education (CDE), was to develop a guiding vision of what teacher professional development should be and what resources should be allotted for it. Teachers, professional development providers, administrators, university professors, members of state agencies, non-profit research and development organizations, professional associations, and teachers unions all participated in its development. Among other things, this effort resulted in the creation of ten guidelines which will be used as the basis for designing high quality professional development which would eventually help guide school district's local efforts. The CDE hopes to pilot these materials later this year.

According to state guidelines, high quality professional development:

1. Uses student performance and achievement data, including student feedback, teacher observation, analysis of student work, and test scores as part of the process for individual and organizational learning.
2. Uses a coherent long-term professional development plan, connected to the School Plan, that reflects both site-based priorities and the individual learning needs of teachers and students.
3. Provides time for professional learning to occur in a meaningful manner.
4. Respects and encourages the intellectual and leadership development of classroom teachers.
5. Develops, refines, and expands teachers' pedagogical repertoire, content knowledge, and the skill to integrate both.
6. Provides for and promotes new use of continuous inquiry and reflection.
7. Provides for collaboration and collegial work, balanced with opportunities for individual learning.
8. Follows the principles of good teaching and learning, including providing comfortable, respectful environments conducive to adult learning.
9. Creates and supports reciprocal processes for providing information and soliciting feedback in ways that engage broad-based support of professional development from all sectors of the organization and community.
10. Builds in accountability practices and evaluation of programs to provide a foundation for future planning.

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1996 to pass a series of professional development reading initiatives. These were tied to a statewide class size reduction effort, and emphasized phonics-based reading instruction. The next year, legislators passed a series of related bills, including Assembly Bill 1331 to provide funding for professional development in math. That bill included the requirement that school districts choose from a State Board of Education approved list of professional development providers. As part of the 1999-2000 budget, the governor proposed seven different programs aimed at enhancing teacher quality. The largest of these was the creation of a \$12 million institute focused on reading instruction.

A second, perhaps more significant state role, is to determine the allocation of state funds that local districts can use to voluntarily provide their own staff development. Last year, policy makers ended a 15-year-old program that enabled schools to use up to eight days out of the 180-day regular school year for locally determined "staff development days." Legislators who eliminated the program wanted to guarantee that students received instruction for a full 180 days. In its place, school districts can now receive funding for up to three days of professional development outside the regular school year. Funding for these days is based on a single statewide per diem rate of \$270 for each classroom teacher who participates.

Finally, the state is striving to assume a leadership role in identifying elements of effective programs and establishing voluntary standards for professional development. The latter include the California Professional Development Reform Initiative (see the box on page 12) and the standards now under development for use in Beginning Teacher Support and Assessment (BTSA) programs. Both of these efforts are intended to align, in turn, with the California Standards for the Teaching Profession (CSTP).

Local school districts control professional development implementation and salary incentives. For the most part, local school districts have had the bulk of control over how state-earmarked funds are spent.

While this hands-off approach may be changing, individual schools and school districts still largely determine the nature of their professional development — its scope, level of intensity, and the format in which it is delivered.

Local districts also have the freedom to build their own requirements for professional development into the salary schedule, within the parameters of collective bargaining. It is common for contracts to stipulate that teachers cannot be asked to add professional development activities to their workday or year without being paid extra for them. Given the reality of California's financially strapped school districts, that is often the end of the discussion unless state funding is available.

Balancing state control, local flexibility, and quality. Given the heightened attention to education, the stakes are high for state elected officials to demonstrate results quickly. But efforts over recent years to jump-start student performance have led to piecemeal state programs. In the eyes of some school district leaders, this has made it exceedingly difficult to leverage funding around reforms that are best suited to their community's unique needs and circumstances. This fragmentation continues to raise questions about how education reform is governed and the balance of power between state and local levels.

So what should be the state's role? Most appear to agree, including the Legislative Analyst's Office (LAO), that the state's primary educational function should be focused on *outputs*: establishing a statewide accountability system of performance goals and assessments for measuring progress toward them. Yet disagreement abounds over the degree to which the state should design and regulate *inputs*: how school improvement programs are implemented.

"The past years have witnessed a wide range of reform movements coming from all sides and lacking coherence as part of a larger vision for improving student achievement."

— California School Boards Association

Local educators are wary of what they perceive to be a growing number of policies which spell out how professional development and other educational programs should be implemented, what they should cover, and, in some cases, who is qualified to provide them. The LAO seems to agree with this sentiment. In their 1999 report on the governor's budget, the LAO argued districts and schools need greater flexibility because: 1) they are varied in their needs and circumstances; 2) there are multiple strategies for addressing educational problems; and 3) they are closer to students and are, therefore, more likely to know what mix of programs work best.

Some state officials, on the other hand, are worried that the lack of centralized requirements and oversight have contributed to poorly designed and ineffective programs, thwarting California's ability to raise student performance. From this point of view, variability in the way programs are currently operated — and who is allowed to operate them — is seen as precisely the reason the

quality of current professional development efforts is uneven and often unsatisfactory.

Deciding on the level of investment in professional development. Beyond issues of governance are issues concerning resources. What constitutes an adequate investment in professional development? While total school budgets and staff development expenditures vary dramatically from state to state and district to district, comparisons at least put California's commitment into some perspective.

Over the ten-year period when New York City's District 2 saw such dramatic improvement in student achievement, it increased funding for professional development from less than 1% of the total budget to 6% in 1997. A recent but limited national study found that 17 school districts spent an average of 3.6% of their budgets on teacher development. The most recent California information comes from a 1987 study which found that school districts spent about 2% of their budgets in this area. Translated into a dollars-to-dollars

KEY QUESTIONS FOR CALIFORNIANS TO CONSIDER

- To what extent will state standards actually impact what teachers learn and what they in turn teach? How will the universities, school districts, and other organizations that provide professional development be held accountable for these standards?
- Should initiatives aimed at judging teacher performance, such as teacher peer assistance and review, be mandated at the state level or be substantially left to local school district and union discretion?
- What kinds of rewards or consequences should teachers face for improved or unsatisfactory student achievement? And should that level of achievement be determined with a basic skills test such as STAR, an assessment based on the K-12 academic content standards, or some combination of these and other measures?
- To what degree do the standards being developed to govern the various aspects of professional development align to California's K-12 academic content standards? And can they help ensure that teachers will be more effective in teaching students to meet those standards?
- Is it fair to hold teachers accountable for student performance if students are not also held accountable in meaningful ways, be it with retention or the withholding of a diploma? And what about administrators, parents, and school board members? Should they also be held accountable in some way for low student achievement?
- And at what point do state legislators evaluate and take responsibility for the effect their policies have on local school districts, schools, teachers, and students?

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comparison, the contrast becomes quite stark because California's per-pupil funding is less than the national average. While 2% of California's per pupil expenditure (\$5,327 in 1996-97) was \$107, 3.6% of the national average per-pupil expenditure (\$6,335) was \$228.

Teachers in California certainly appear to believe that they — and their practice — could benefit from more professional development. In a 1998 poll conducted by the CTA, 69% of the surveyed teachers said that adding *compensated* staff development time would increase the quality of conditions for teaching and learning. Teachers, the poll concludes, "are notably less supportive of extending the school year [for professional development] if they are not assured of appropriate compensation."

This view is supported in the 1998 public opinion survey *The Essential Profession*. In it, 82% of respondents agreed that teachers should be paid for longer work days so they have time to keep up with new developments in their field. And 72% were in favor of lengthening the school year by two weeks to allow for more professional development.

Often left unexamined in the discussion of teacher professional development is the professional and legal expectation that teachers will continually further their educations throughout their careers. A recent change in state law requires that teachers who received their credential after 1985 must complete a minimum of 150 hours of professional growth work every five years in order to renew their credential. SB 2042 adds that these professional growth courses must be linked to the California Standards for the Teaching Profession. Through collective bargaining, school districts and unions can and usually do agree to give automatic raises to teachers based on the additional course work they complete.

The funds that go into these raises are seldom categorized as professional development, yet over time they represent a tremendous investment by school districts. How can districts better leverage these expenditures? Specifically, how can districts ensure that continuing education course work and salary increases support the professional development needs of their teachers and the learning needs of their students? How can school dis-

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tricts and teacher unions work together to find ways to align salary credits for continuing education with local professional development goals and programs?

Clearly, more research is needed on how and how much California school districts spend on professional development and the return they get in terms of improved teaching and student achievement. However, most observers agree that more time and thus money need to be invested. Without a change in either the method or amount of state funding, California school districts are hard-pressed to find additional funds or to make sure their current expenditures are specifically tailored to local needs.

Conclusion: The debate on strengthening teacher quality has no easy resolution

In a December 1998 poll conducted by the Public Policy Institute of California, more than 2,000 Californians were asked, "What is the one reason you think is most responsible for public schools not performing as well as they could?" Of those surveyed, 22% said "teachers." The public's obvious concern about teacher quality — shared by legislators in Sacramento — does not mean that there is

anything close to unanimity regarding what needs to be done.

One thing, though, has become increasingly clear to people on all sides of the debate: there are no easy answers or quick fixes. Policy makers must proceed thoughtfully and with past reforms in mind. Indeed, the Legislative Analyst's Office made this very point in its guide to the Legislature's special session on education issues. The LAO notes, "Some of the best opportunities to improve quality may be to eliminate barriers and 'red tape' for local schools, rather than create new programs."

As this EdSource report suggests, the goal of strengthening teacher skills and performance can easily be obscured by the push for more accountability for both teachers and schools. Those involved in the debate may lose sight of the fact that the demands on educators and the expectations for student achievement continue to change at a rapid and sometimes overwhelming pace.

This is why an important challenge will be to assure that the efforts to strengthen teacher quality result in positive growth for the profession and individual teachers. Some warn that if the state instead creates a punitive atmosphere, an already bad situation could become worse — driving out many of the dedicated people who today serve in public school classrooms. This is a particular concern in those schools which serve our poorest rural and urban communities, and in which the state already faces extreme shortages of teachers. If teachers are held unrealistically accountable for student performance — or not given the support to meet new standards — they may be even less likely to want to serve in the places where good teachers are most desperately needed.

Certainly, the foundation provided by newly developed professional standards has been a critical first step in building a coherent infrastructure to improve teacher quality. Yet the toughest task may still lie ahead: deciding appropriate consequences for poor student performance, how much of that burden should be borne by teachers, and what kind of investment in thoughtful planning and professional support California will make in order to upgrade the skills of its teachers. 

Strengthening Teacher Quality in California

prepared by
David Ruessel
Lisa Carlos
Mary Perry

with
Barbara Miller
Aimee Madison

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4151 Middlefield Rd.,
Suite 100,
Palo Alto, CA
94303-4743
650/857-9604
Fax 650/857-9618

e-mail
edsources@edsources.org
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EdSource
Clarifying
Complex
Education
Issues

Value-Added Assessment

To understand the concept of value-added assessment, imagine a physical growth curve. A parent props Susie against a wall, usually inside a closet door, and applies pencil marks that indicate her height at ages 2, 3, 4 and so on. From these data, the parent can construct a graph to illustrate the growth of the child.

Often, parents discover this growth curve does not resemble the smooth elegant line seen on a pediatrician's chart. Rather, there are "dimples" and "bubbles" in this constructed graph. Children may have growth spurts. In addition, errors of measurement are possible—the child may not have stood up straight or the mother may not have held the ruler truly level.

Now apply the same process to education. Imagine that a school has been testing each student annually in math and that the scores from these tests are used to construct each student's math growth curve. The curve for any individual student likely will exhibit a pattern of dimples and bubbles similar to the physical growth curve.

By inspecting the pattern for any one student, no conclusion can be drawn as to the cause of a dimple. However, if by aggregating the information about many students we discover a dimple occurring in 4th-grade math at a spe-

A method for measuring the effects of the system, school and teacher on the rate of student academic progress

cific school, then the dimple is strong evidence that either the curriculum or the instruction for 4th-grade math needs to be examined.

By following the progress of each individual student and measuring the deflections in patterns, each student in essence is serving as his or her own control. This process filters out most of the socioeconomic bewilderments that people have correctly worried about during previous efforts to use student achievement data in assessment and evaluation.

Real-World Complexities

Conceptually, this is the essence of value-added assessment. During the early '80s, research I initiated led to the devel-

opment of the Tennessee Value-Added Assessment System, a statistical method of determining the effectiveness of school systems, schools and teachers in sustaining academic growth for student populations.

In TVAAS, one measures each student each year with scales that are highly correlated with curricular objectives, follow the progress of each student, aggregate the dimples and bubbles in the curves and provide fair, objective measures of the effects of the system, the school and the individual teacher on the academic progress of student populations.

Beyond this conceptual view the process is statistically and computationally complex. To ensure fairness, sensitivity and reliability, while accommodating the realities of real-world student data structures, the methodology must accommodate a host of difficult problems. Students move. Students miss tests. Teachers work in self-contained classrooms, in teams, in subject matter departments or in combinations of these and other assignment patterns. Some students are retained in grades. Some students are permitted to skip grades. These are but a sample of the problems that must be overcome.



With value-added assessment, we have constructed a system that addresses these problems and many others.

Value-added assessment represents an assemblage of technologies from many different academic areas. We exploit the improvement that psychometricians have made in constructing scales of measures from standardized tests. We build on the statistical advantages of mixed-model theory and methodology. We use the speed and power of modern computers. And we have included the advantages available from new algorithms that allow solutions to large sets of equations in more expeditious ways.

Improved Accountability

When Tennessee Governor Ned McWherter signed the Education Improvement Act in March 1992, the legislation provided a major increase in funding for education statewide. It also

triggered a demand by legislators in both parties for a strong accountability provision to ensure the new money would be spent to improve student academic achievement.

The Tennessee Value-Added Assessment System, along with measures relat-

ness of school systems, schools and teachers in producing academic growth in students, thereby directly linking student academic growth to educational evaluation.

TVAAS required the convergence of a statewide testing program that as-

"Huge variations in effectiveness exist among districts, schools and classrooms in providing academic growth opportunities for students."

ing to promotion, attendance and dropout rates at individual schools, was adopted as the basis for the state's new educational accountability system. TVAAS, which is referred to as the "Sanders model" in the Education Improvement Act, was the methodology designated to determine the effective-

ness of school systems, schools and teachers in producing academic growth in students, thereby directly linking student academic growth to educational evaluation. Under the testing regime initiated in 1991, each student in grades 2-8 was tested each year in five subjects—math, reading, language arts, science and social studies. The base for these el-



elementary tests was the commercially available CTBS/4. This test was chosen by Tennessee educators in the early '90s, who considered it more closely related to the state curriculum than others at that time.

Wisely, the Education Improvement Act required fresh, non-redundant equivalent test forms each year. Retrospectively, this requirement negated the initial fears of score inflation and other inappropriate consequences that many had warned would arise from blatant "teaching to the test." Because of this requirement, specific test items could not be anticipated.

In addition to the elementary testing, the state legislation required that end-of-course tests be constructed and implemented for academic courses in high school to enable the TVAAS approach to be extended. Five high school math tests have been administered during the past three years, enabling system, school and teacher reports for these subjects. Recently, the state board of education directed that tests in other subject areas be added within the next three years.

Initially, much skepticism was expressed over the use of student achievement data in this manner and the application of statistical mixed-model theory and methodology to yield fair, objective

and unbiased estimates of the system, school and teacher effects on the rate of academic progress of populations of students. However, detailed external reviews from both the statistical and educational evaluation communities have confirmed that the properties of the TVAAS results are as claimed.

Beginning in 1993, reports have been issued to educators and the public on the effectiveness of every school system and school that serves elementary and middle-level students in 3rd through 8th grades and for selected high school math courses. Even though teacher reports are not a public record, value-added assessment has provided teachers and their administrators with estimates of teacher effectiveness, as well.

Since 1991, the statewide average 8th-grade math, language arts and science scores have risen slowly. The social

studies averages have remained flat while the 8th-grade reading comprehension averages have slowly declined. The percentage of the least effective schools has slowly decreased.

The most recent National Assessment of Educational Progress math results have confirmed the trends in math observed from Tennessee's value-added system database. For instance, Tennessee was one of just a handful of states whose 4th-grade math scores improved measurably from 1992 to 1996. Of spe-

cial interest from the NAEP report was the improvement in scores of the above-average students. (The TVAAS data consistently has revealed that the progress of the early above-average students has been retarded in too many schools.)

es, it has become an invaluable research resource enabling educators to address a multitude of research questions not readily approachable previously. Many unexplored questions now can be addressed with a research efficiency that only millions of longitudinally merged records allow.

Some important findings address:

● *Race, socioeconomic factors and academic gains*

For grades 3 to 8, the cumulative gains for schools statewide were found to be virtually unrelated to the racial composition of schools, the percentage of students receiving free and reduced-price lunches or the mean achievement level of the school. These consistent findings verified the contention that by allowing each student to serve as his or her own control (the longitudinal component of TVAAS), the inclusion of exogenous co-variables to ensure fairness in the estimates of system, school and teacher effects is not necessary.

● *The effect of building-level change*

When populations of students change buildings, the expected loss in academic gain the first year after the change is large (averaging 15 to 30 percent), with few exceptions observed across the state. Receiving schools do not have a good handle on where the feeder schools have ended their instruction, which results in much unnecessary reteaching. A compensatory effect in gain shows up the following year, but this effect does not negate the academic loss the first year after the change.

● *Academic gain among high-achieving students*

Systems, schools and teachers who do best under value-added assessment are those who provide academic growth op-

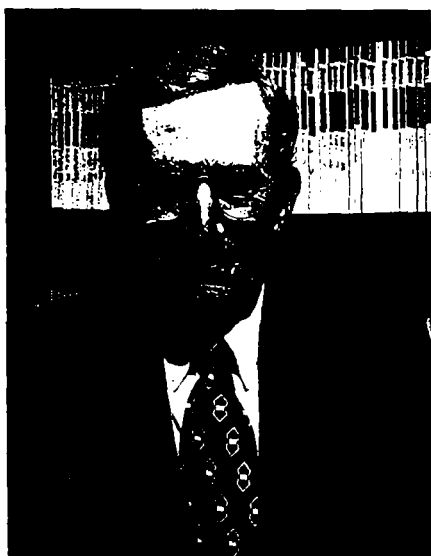
"... was the methodology designated to determine the effectiveness of school systems, schools and teachers in producing academic growth in students ..."

portunities for students of all levels of prior academic attainment. TVAAS data have shown that some schools and indeed some school systems have successfully addressed the needs of all students as evidenced by their ability to consistently show normal—and sometimes exceptional—academic progress for students of all academic abilities.

However, statewide aggregated evidence suggests students at the highest

Research Findings

Beyond the use of the TVAAS database for its assessment and evaluation purposes,



William Sanders directs the Value-Added Research Center at the University of Tennessee in Knoxville, Tenn

levels of achievement show somewhat less academic growth from year to year than their lower-achieving peers.

● **Teacher effectiveness.**

Of all the contextual variables that have been studied to date (indicators of school socioeconomic status, class size, student variability within classrooms, etc.), the single largest factor affecting academic growth of populations of students is differences in effectiveness of individual classroom teachers. When considered simultaneously, the magnitude of these differences dwarf the other factors.

● **Cumulative and residual teacher effects.**

In 1996, a colleague and I initiated a study to investigate the residual effects of teacher effectiveness on later student academic achievement. The data from two large Tennessee districts were analyzed separately. For each district, the teacher effect distributions were divided into quintiles for 3rd, 4th and 5th grades, resulting in 125 possible teacher sequence pathways that a student could have followed.

The study yielded some interesting findings. Residual effects of earlier teachers were measurable on subsequent academic achievement. The effects of 3rd-grade teachers on 5th-grade math scores were still measurable regardless of the effectiveness of the 4th and 5th grade teachers. Additionally, virtually no evidence of a compensatory effect could be found.

Also, the effects of teachers appeared to be cumulative. At the extreme, a high-high-high sequence resulted in more than a 50 percentile point higher

score in 5th-grade math achievement than the low-low-low sequence.

In addition, students of the most effective teachers had excellent gains regardless of their prior achievement levels, while students in the least effective teachers' classrooms across the entire prior achievement spectrum did not make appropriate levels of gain. As the level of teacher effectiveness increased, students of lower achievement were the first to benefit, and only teachers of the highest effectiveness generally were effective with all students.

Within the same level of teacher effectiveness, black and white students made equivalent gains if they entered the classroom with the same prior level of achievement. Black students were overrepresented in the least effective teachers' classrooms by about 10 percent and were underrepresented in the most effective teachers' classrooms by a similar amount.

Reducing Variability

Results from our work on value-added assessment speak loudly and clearly: Huge variations in effectiveness exist among districts, schools and classrooms in providing academic growth opportunities for students. If the ultimate objective of formal education is to provide students with choices in life, then this variability in schooling effectiveness causes severe inequities by reducing these choices.

What can school administrators do to reduce the variability? Here are some suggestions:

- From a well-articulated curriculum, provide measurement of the academic progress of each student.
- Test each student every year in important academic subjects from at least 2nd through 11th grades.
- Ensure the scales of measures are highly correlated with curricular objectives.
- Provide fresh, non-redundant, equivalent tests each year.
- From the accrued database, provide value-added reports at the state, district, school and classroom levels.
- Report publicly the value-added results each year at the state, district and school level. The teacher reports should be seen only by the teacher and the appropriate administrators.
- Provide for the flow of useful diagnostic information from the database for school boards, superintendents, principals and teachers.
- Provide assistance in the interpre-

tation and use of the information. Information without understanding is not information. It is merely noise.

Accelerating Achievement

To accomplish this, the technical requirements are significant but not insurmountable. Of course, there is a cost. In my view, less than 1 percent of per-student annual expenditures can fund this wealth of information for both accountability and diagnostic purposes.

If academic growth for students of varying abilities and prior levels of achievement accelerates as a result of applying this information, the cost will be trivial. If, however, the additional information is not used to identify relative strengths and weaknesses in academic offerings, then the whole effort is just another expense. ■

William Sanders is a professor and director of the Value-Added Research and Assessment Center, University of Tennessee, P.O. Box 1071, Knoxville, Tenn. 37901-1071. E-mail: wsander2@utk.edu

Additional Reading

The Value-Added Research and Assessment Center can provide information packets that describe this approach in further detail, including several research studies that lend support.

- "Using and Interpreting Tennessee's Value-Added Assessment System: A Primer for Teachers and Principals," 1996
- "Graphical Summary of Educational Findings from the Tennessee Value-Added Assessment System," 1995
- "Cumulative and Residual Effects of Teachers on Future Student Academic Achievement," 1996
- "Effects of Building Change on Indicators of Student Academic Growth," *Evaluation Perspectives*, January 1994
- "Teacher and Classroom Context Effects on Student Achievement: Implications for Teacher Evaluation," 1997

These are available by contacting the University of Tennessee Value-Added Research and Assessment Center, P.O. Box 1071, Knoxville, Tenn. 37901-1071 or by calling 423-974-7336.

At Odds | Quality Assurance for Teachers

Effectiveness — Along with Quality — Should Be the Focus

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BY DEL SCHALOCK, MARK SCHALOCK, AND DAVID MYTON

Student learning must be the touchstone by which teachers and teacher educators are gauged, say the authors. After studying the articles in the November 1996 Kappan on "Quality Teaching for the 21st Century," they suggest that the authors in that section seem not to share this view.

ARTHUR WISE deserves praise for his work as guest editor of the special section on "Quality Teaching for the 21st Century," which appeared in the November 1996 *Kappan*. The teacher preparation and licensure community likewise deserves kudos for its progress in articulating policies focused on the dual concepts of quality assurance and the professionalization of teaching and for fostering the creation of the National Commission on Teaching and America's Future, whose fall 1996 report, in Wise's words, "provides a blueprint" for a new system of teacher preparation and development.¹

We agree that teacher quality and professionalization are appropriate anchor points for policy, but we take issue with the meanings that are being given these anchors. The questions we wish to raise and address here are: Quality assurance for what? Professionalization in whose terms?

The Meaning of Quality Assurance

The authors in the November 1996 special section wrote of quality assurance as some variation of "what teachers know and are able to do." For example, Wise talked of three organizations — accreditation, state licensing, and board certification — "working together to develop complementary standards, so that preparation standards reflect the skills and knowledge needed for state licensing examinations and so that both accreditation and licensing help candidates and teachers build the skills needed for success on board certification assessments."² In introducing the recommendations of the National Commission on Teaching and America's Future, Linda Darling-Hammond stated, "The plan is aimed at ensuring that all schools have teachers with the knowledge and skills they need to enable all children to learn."³ She quoted the report of the Commission as saying, "Our highest priority must be to reach agreement on what teachers should know and be able to do in order to help students succeed."⁴

Even Albert Shanker chose to focus on the knowledge side of the equation rather than on the dimension of success with children. He suggested that teachers and their organizations "work with licensing bodies and professional standards boards to require that entering teachers meet high national standards that include knowledge of their disciplines, knowledge of how students learn, and knowledge of the liberal arts as measured by valid and reliable assessments."⁵ He went on to say that "teaching can be respected as a genuine profession when there is evidence that teachers are experts in

DEL SCHALOCK is a research professor at Western Oregon University, Monmouth, where MARK SCHALOCK is an associate research professor. DAVID MYTON is executive director of the Oregon Teacher Standards and Practices Commission, Salem. The authors wish to thank Ted Andrews, Bill Cowart, and Carol Smith for their critiques of an early draft of this article.



their subject matter and do a good job of inducting students into that expertise" — but he did not expand on this statement to make effectiveness with students a real part of his argument.

Indeed, no author in the November special section mentioned directly the need to insure that teachers are effective practitioners, able to foster the kinds and levels of learning that are deemed desirable in their students. To our surprise, they uniformly stopped short of calling for defensible evidence that a teacher actually contributes to the learning progress of his or her students.

By contrast, we believe that any quality assurance system for teachers must include demonstrable teacher *effectiveness*, as measured by the learning gains of students. A demonstrably effective teacher (in contrast to a teacher who is merely knowledgeable or skillful) is able to integrate and apply whatever knowledge and skills are needed to advance the learning of a particular group of students toward a particular learning goal under a particular set of conditions (resources, time, and so on). This conception of teacher quality is far more demanding than one that focuses only on knowledge and skills, though knowledge and skills are clearly important as *enablers* of effectiveness. For a quality assurance system to enhance the professional practice of teachers, it must focus on teacher *accomplishments* as well as on what teachers know and are able to do.

As states move toward a standards-based approach to schooling, which requires that students master new levels and kinds of learning, the focus on teacher accomplishments becomes increasingly important. The teaching/learning contract in standards-based schools changes from one in which teachers provide opportunities for students to learn and students decide how much they wish to learn to one that is not fulfilled until students reach the level of learning required by the standards. When progress in learning is the touchstone, a quality assurance system for teacher licensure needs to adopt performance criteria and standards that reflect this fact.

The authors in the November special section devoted considerable attention to "performance-based" licensing systems for teachers as the most promising vehicle for quality assurance, but their discussions of performance-based licensure — with the singular exception of Gordon

Ambach's description of INTASC (the Interstate New Teacher Assessment and Support Consortium) — tended to be long on generalities and short on specifics. To its credit, INTASC's approach to creating licensing standards is "based on a holistic conception of career development for teaching professionals," and the resultant core standards "are linked directly to current views of what *students* should know and be able to do in order to meet new K-12 standards for learning challenging subject matter."⁶ Each INTASC assessment is to be structured to provide evidence from real-life teaching situations, including "a formal assessment of student learning across several lessons, including student commentary."⁷

It appears, then, that the teacher effectiveness criteria we are arguing for are already incorporated within the INTASC design. But that is not the case. The INTASC approach to performance-based licensure is focused on the act of teaching, while we are calling for a focus on the *learning gains* of every student in a given teacher's class — as well as of the class as a whole and of various subgroups within it — over an extended period of time and toward one or more explicitly stated outcomes. The INTASC performance assessment system is clearly a step toward this level of quality assurance, but it falls short in important ways that are clearly demonstrated by the nature of the performance tasks that make up the proposed INTASC assessment system for teachers of mathematics.

Task 1: Plan an instructional unit with an emphasis on how problem solving, reasoning, communication, and connections form the structure of the unit. Show how you use tools including manipulatives and technology. Reflect on and revise the instruction.

Task 2: Teach a lesson to a class that addresses a particular concept or procedure. Teacher-student discourse should be highlighted in a video from the lesson. Evaluate the nature of mathematical discourse and give evidence of the kinds of learning that took place.

Task 3: Assess learning for the purposes of diagnosis, instructional feedback, and grading. The different methods should address mathematics processes as well as products.

Task 4: Conduct and analyze a small group lesson in which students work in small groups and use manipulatives for problem solving or reason-

ing. Student-student discourse should be highlighted in a video from the lesson.

Task 5: Assess mathematical power as demonstrated in students' work in problem solving, reasoning, mathematical communication, mathematical understanding, and mathematical dispositions. Plan instruction based on your findings and your knowledge of the students.

Task 6: Develop as a professional by describing how you collaborated with other professionals, analyzed your own teaching, and contributed to the professional mathematics community. Establish professional goals and develop a plan for continued development.⁸

A sample of student work from a lesson that has been taught will permit one to draw inferences only about the nature of the work requested, the extent to which that work reflects the learning goal or goals, and — perhaps — the skill of a teacher in assessing learning. This adds up to relatively weak evidence of the teacher's success in fostering learning; it doesn't even come close to the kind of evidence required to meet the National Commission's charge to administrators and teachers to "take on the difficult task of guaranteeing teaching competence in the classroom"⁹ — if, by *competence*, the National Commission means the ability to foster the kind and level of learning desired for students in 21st-century schools.

The certification process of the National Board for Professional Teaching Standards is linked more closely than the INTASC process to student learning. But the National Board still falls short of requiring the kind of evidence of teaching effectiveness for which we are arguing. Teachers seeking certification by the National Board are asked to "document and analyze the progress of *selected* students and to develop specific strategies for promoting the students' learning" (emphasis added).¹⁰ We do not believe that such evidence is adequate to *guarantee* that a teacher will be able to foster the kind and level of learning desired for students in today's schools.

Still another carefully developed and widely advertised system for assessing the performance of practicing teachers is PRAXIS III, marketed through Educational Testing Service as part of its PRAXIS (Professional Assessments for Beginning Teachers) series. PRAXIS III has much

in common with INTASC, but it demands even less in the way of evidence that teachers have an impact on their students' learning.

IN CONTRAST to INTASC, National Board certification, and PRAXIS III, the teacher licensure system in Oregon has required since 1986 that all prospective teachers provide evidence of their impact on all their students' learning during two- to five-week units of instruction that the prospective teachers have designed. The units, called "teacher work samples," require the prospective teachers to identify and sequence learning goals for a class that reflect statewide standards for learning, to align instruction and assessment with those learning goals, to monitor the progress of each student toward reaching the goals, to adapt instruction to meet individual students' needs, and to summarize and report in a meaningful fashion each child's learning progress.

Two such teacher work samples are required of each prospective teacher. The first is prepared with the guidance and assistance of teacher education faculty members and is used largely to assess the prospective teacher's readiness to prepare a second work sample independently. Faculty roles during preparation of the second work sample are limited to review and approval.

The students taught by a prospective teacher are assessed prior to and after instruction, and each youngster's gain in learning is calculated separately. Information is also collected about the classroom, school, and community contexts in which the teaching and learning took place. Finally, the prospective teacher is required to interpret the learning gains he or she has been able to foster, *in light of the contexts in which teaching and learning occurred*, and to describe the uses to be made of these data in planning further instruction and in reporting on learning progress to pupils and their parents.

The use of teacher work samples in Oregon is intended:

- to focus the attention of prospective teachers and teacher educators on student learning;
- to encourage teachers and teacher educators to go beyond simple acquisition of the knowledge, skills, and dispositions thought to engender success as a teacher and to focus more strongly on ways to integrate and apply these en-

abling factors in order to foster students' learning progress;

- to encourage teacher development programs to attend to the assessment of student learning, to the alignment of assessment with curriculum and instruction, to ways of interpreting and reporting pupil progress, and to ways of using knowledge of pupil progress to plan future instruction;

- to give teachers the conceptual and procedural foundations they need to function effectively in standards-based schools; and

- to inspire teachers philosophically and methodologically to anchor their continuing development as professionals to pupil learning.

If a quality assurance system is to verify that teachers are able to apply their knowledge and skills to foster the kind and level of learning desired of students in 21st-century schools, then obtaining evidence to that effect through a system such as Oregon's seems essential.¹¹

EFFORTS TO improve teaching and learning by changing the structure and organization of schools, by modifying the curriculum, or by implementing curriculum-aligned testing programs have done little to change what occurs between teachers and students in individual classrooms. Efforts to "empower" teachers have likewise failed to change appreciably what occurs in classrooms, *unless those empowerment efforts have been accompanied by a concerted focus on the enhancement of student learning*. We suspect, moreover, that attempts to improve teaching and learning by changing the structure and organization of teacher preparation or licensing programs will have little impact on what occurs in classrooms — *as long as those changes focus primarily on the knowledge and skills that teachers are presumed to need*. However, when students' learning progress is the central focus of either staff development or school improvement efforts, teaching practices do change and appreciable gains in learning do occur.

No one is well served by incomplete conceptions of teaching. A quality assurance system for teachers that focuses only on what teachers know and are able to do, rather than on what they are able (indeed, obligated) to accomplish, is — in our view, at least — limited, misleading, and detrimental to the professionalization

of teaching.

We maintain instead that student learning must be the touchstone by which teachers and teacher educators are gauged and on which their professional status must rest. This view has not been advanced by most of the groups that have issued recommendations aimed at the enhancement of teachers and teaching. And, after studying the articles in the November *Kappan*, we suspect that — despite their frequent allusions to student learning — those authors do not hold this view either.

But we are not certain. What appears to be a difference in viewpoint may in fact be only a matter of semantics, a matter of emphasis, or a reflection of the historical lack of a defensible way to tie student learning to teacher work. We welcome this opportunity for clarification.

1. Arthur E. Wise, "Building a System of Quality Assurance for the Teaching Profession: Moving in to the 21st Century," *Phi Delta Kappan*, November 1996, p. 192.

2. *Ibid.*

3. Linda Darling-Hammond, "What Matters Most: A Competent Teacher for Every Child," *Phi Delta Kappan*, November 1996, p. 194.

4. *Ibid.*, p. 196.

5. Albert Shanker, "Quality Assurance: What Must Be Done to Strengthen the Teaching Profession," *Phi Delta Kappan*, November 1996, p. 224.

6. Gordon Ambach, "Standards for Teachers: Potential for Improving Practice," *Phi Delta Kappan*, November 1996, p. 208.

7. *Ibid.*, p. 209.

8. *What Matters Most: Teaching for America's Future* (New York: National Commission on Teaching and America's Future, 1996), p. 73.

9. *Ibid.*, p. 199.

10. Mary Catherine Buday and James A. Kelly, "National Board Certification and the Teaching Profession's Commitment to Quality Assurance," *Phi Delta Kappan*, November 1996, p. 216.

11. Further information about teacher work samples and their use can be found in Del Schalock and David Myton, "A New Paradigm for Teacher Licensure: Oregon's Demand for Evidence of Success in Fostering Learning," *Journal of Teacher Education*, vol. 39, no. 6, 1988, pp. 8-16; Del Schalock et al., "Extending Teacher Assessment Beyond Knowledge and Skills: An Emerging Focus on Teacher Accomplishments," *Journal of Personnel Evaluation in Education*, vol. 7, 1993, pp. 105-33; and Andrew McConney, Del Schalock, and Mark Schalock, "Focusing Improvement and Quality Assurance: Work Samples as Authentic Performance Measures of Prospective Teachers' Effectiveness," *Journal of Personnel Evaluation in Education* (in press). Critiques of the methodology and its use can be found in Del Schalock, Mark Schalock, and Gerald R. Girod, "Oregon's Teacher Work Sample Methodology," in Jason Millman, ed., *Grading Teachers, Grading Schools: Are Learning Gains of Students Appropriate Evaluation Measures?* (Newbury Park, Calif.: Corwin Press, forthcoming). ■

New Haven, California's

Teaching Quality System

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What States Can Learn from One District's Success

New Haven Unified School District is located in the San Francisco Bay Area, midway between Oakland and San Jose. Created in 1965, the district serves more than 14,200 students attending its 11 schools. New Haven's diverse student population reflects what demographers predict is in store for California's near future: it is 28.3 percent Latino-American; 23.8 percent European-American; 12.5 percent African-American; 16.4 percent Asian-American; 17.3 percent Filipino; 1.2 percent Pacific Islander; and 0.3 percent Native American. All ten conventional schools have been designated California Distinguished Schools, and schools at all three levels (K-4, 5-8, 9-12) have been recognized as exemplary by the U.S. Department of Education. According to California's Superintendent of Public Instruction Delaine Eastin, "For the past several years, [the district's] James Logan High School has been one of the top ten feeder schools to the University of California at Berkeley."

Yet thirty years ago, the district was the least wealthy in the county and suffered from the poor academic standing and reputation that too frequently accompanies low-income communities. Former Mayor Tom Kitayama remembers:

In 1957, [the district's] reputation was abysmal. The school board was locked in continuing, unresolved clashes, and it was openly disrespected by the community. The public threw objects [chairs] at board members during their meetings! Because of the school district's poor standing, few families would consider moving to Union City at that time.

Today, New Haven Unified School District, while still a low-wealth district, has a well-deserved reputation for excellent schools. Whereas twenty years ago its students went elsewhere, today the district has had to close its doors to out-of-district transfers because the schools are bulging at the seams despite opening two new elementary schools in the past year.

Of the many factors contributing to the district's success, a key element is its early recognition of the essential role of teachers and its support of quality teaching. Although the work began decades before the publication of *What Matters Most: Teaching for America's Future*, New Haven has, in its own context-specific way, met most of the challenges laid out in that report.

by Jon Snyder

Standards for Teachers

New Haven got real about teaching standards. One of the first things the district did more than 20 years ago, when members of the current leadership team first entered their positions, was establish high expectations for teachers. The district held administrators accountable for assessing teachers and providing necessary supports for teachers to meet expectations. New Haven put together very thorough evaluation procedures requiring the systematic collection of data—no more “drive-by” teacher observations. The move drew criticism from some teachers, administrators, and community members; the superintendent recalls being called “Little Caesar,” and not always behind his back. It sent an unwavering message, however, that the district was serious about ensuring students had the quality of teachers they deserved.

Recruitment and Retention

The responsibility for ensuring the caliber of all teachers in all schools was a powerful incentive for making good initial hires. Making good hires required the district to revamp its recruitment and retention strategies to guarantee that qualified candidates would know about, wish to come to, and want to stay in the New Haven district.

Thirty years ago, New Haven did what many districts continue to do today: wait until the last minute and see what is available in the way of teachers. New Haven learned that even in a buyer's market, this is a short-sighted approach. They began to seek out exceptional teachers, simplify the application process, and make decisions and offer contracts in a manner that was timely and respectful of candidates. For instance, the district has computerized applicant tracking. After applicant data are entered into the system, applicant files can be searched based on multiple criteria and on a rating scale of 1-100. Using this system, a principal can request a search of active candidates with a set of desired characteristics, and the computer will instantly sort out applicants possessing those characteristics (e.g., a teacher with a physics and biology credential and ten years of experience who can coach women's volleyball). The use of video technology is New Haven's newest frontier. The district has developed the capability to interview candidates from any place in the world, without ever leaving the office. The district now has the technological infrastructure to hold an interactive video conference in which six principals, sitting at their desks, can interview an applicant sitting in a Kinko's in Kansas.

Over time, the district built support systems and teaching conditions that would retain exceptional teachers, and eventually it became immersed in preservice teacher education. Today, the district can afford to be choosy, recruiting with an eye toward teachers with the skills and dispositions to grow within the teacher learning environments the district supports. New Haven does not have large-scale recruitment crises annually because of the low attrition rate of its new and experienced teachers. The district's hiring needs come from enrollment increases rather than from vacated positions.

Teacher Development

New Haven personnel realized that if they wanted good teachers, the district would have to collaborate with a teacher edu-

cation program and enter into the business of teacher development from recruitment to retirement.

District personnel never thought of teacher education as something that ends before a teacher begins his or her career. They knew and acted on the belief that a teacher is not something one becomes, but is something one is always becoming; they knew and acted on the fact that good teaching requires—and good teachers demand—continual education. Thus, New Haven was one of the first districts in California to implement a Beginning Teacher Support and Assessment (BTSA) program, which provides support for teachers in their first two years in the classroom.

In 1993, with the advice and support of California State University, Hayward (CSUH), the district designed the Single Subject Partnership Program (SSPP), an innovative combined preservice and internship teacher education program based in district secondary schools that simultaneously educates teachers while providing a quality education for students.

Rewarding Knowledge and Skill

New Haven keeps quality teachers in classrooms by rewarding knowledge and skill, both tangibly and intangibly. One intangible the district provides teachers is broad-based community support of schools and of teachers. Community support can also be seen tangibly—the last two bond levies passed with an 80 percent “yes” vote, showing that the community puts its scarce resources where its pride is.

Like the community, the district also puts its money where its pride is. Salaries in New Haven range from \$37,604 to \$70,373—the highest in the Bay Area and in the state's upper echelon—despite New Haven's continuing standing as one of the least wealthy districts in the state. New Haven's total spending per ADA (average daily attendance) is \$4,103, which is in approximately the fifth percentile statewide and \$2,337 per student below the highest per-pupil expenditure in the county.

The district also understands the reward of creatively and flexibly staffing its classrooms. In this way, classroom teachers, while still working with children, get opportunities to have their knowledge and skill rewarded both financially and by offering something back to the profession. New Haven can afford this approach because it localizes resources (teachers) in the schools, working with children. The district invests resources in qualified and supported teachers while minimizing resource allocations to pull-out programs and administration. New Haven is not a rich district, but it can afford quality because it:

- has low overhead (e.g., maintaining fewer but larger school buildings);
- flattened the traditional hierarchy of district and school bureaucracies (with 771 teachers and 50 “managers,” nearly 94 percent of certified personnel work with children);
- allocates resources, including technology, to support and to build teaching capacity; and,
- creates multiple hybrid professional roles that enrich teacher learning while enhancing district policy and practice.

Organizing Schools for Student Learning

In any human endeavor, an often overlooked reward is the opportunity to do what one aspires to do and what one is capa-

ble of doing. In education, this means working within an organization designed for student learning. One example of the manner in which New Haven organizes schools for student learning is its Extended-Day Program. In September 1997, New Haven implemented a districtwide extended-day program. The impetus to extend the piloted program came about as a result of discussions during the 1996 Youth Summit held at Logan High School. At that time, community members raised concerns about the lack of affordable and supervised activities for youth in the community, especially activities that were both educational and enjoyable. Today, the schools are open from pre-dawn grey until light-lit dark, providing educational experiences connected with the school program as well as the more traditional enrichment activities and clubs. Fees for the K-8 program are charged on an ability-to-pay basis. The extended day offers supervision at an affordable price, keeps children out of trouble, encourages them to do their homework, and helps them get to school on time. It does much more than provide day care, important a social need as that is; it is about community development as well. In all the schools, activities address recreational, academic, social, and psychological needs of students beyond school hours.

Organizing Schools for Teacher Learning

Schools organized for student learning must also be places in which the adults who work with students can learn and in which teachers can use their learning in the service of children and families. No matter how wonderfully qualified teachers are, their capacity to support student achievement is limited if they are not allowed to use the knowledge, skills, and dispositions they earn, learn, and possess.

The district's approach to technology is evidence of how it recognizes and acts on the relationship between opportunities for teacher learning and opportunities for student learning. Machines do not teach—people do. So New Haven provides abundant support to enable its people to use machines in the interests of children and their families. In 1992, broad-based community efforts ensured passage of a school bond measure, making New Haven one of the most technologically elite districts in the nation. The district foresaw, however, that without comprehensive professional development, teachers and administrators would not grasp the possibilities inherent in the technology, nor would the technology have much impact on classroom practice. The school district addressed this challenge and provided an ongoing support and training model built around program and department needs. Officials in the district estimate that for every dollar spent on machines, they spent a dollar on educating humans to use the machines to support student learning.

Standards for Student Learning

New Haven is currently implementing a districtwide, comprehensive K-4 standards and assessment system that will serve as a prototype for all grade levels. This system consists of:

- clearly articulated performance standards with explicit descriptions of seven different performance levels (from pre-readiness through independent) that are tied to grade-level expectations;

- a standards- or criterion-based parent reporting system that all K-4 students, including special education and second language learners, receive;
- a three-stream assessment structure; and,
- a database system that pulls together assessment, demographic, and intervention information for analysis and use in program planning and targeting student assistance.

The key to the standards and assessment system is not so much the testing as it is the web of supports activated by the assessments. Perhaps the most fundamental use of the standards and assessment system is as a tool for classroom-level instructional planning. For example, in August each teacher receives a printout of the levels of each of his or her students' performance in reading, writing, and mathematics. Teachers initially use this information to design guided reading groups, target computer software, and assign home reading levels. Ongoing authentic assessment (for example, running records of reading) against the standards helps teachers continually modify these groupings. In addition, teachers use this assessment information to identify students needing tutoring during the after-school, extended-day program, and/or homework support.

New Haven enacted its teaching quality system for one reason: to make a difference in the lives of the community's children. The district began not by saying all children should learn x, y, and z; that is the end point. Student standards and assessments grew out of good teaching and knowledgeable teachers; the district began by getting serious about and upholding standards for teachers. The district simultaneously developed in two areas: recruiting, retaining, and rewarding quality teachers; and creating educational environments (both pre- and inservice, and in and out of school) that provided opportunities for the quality people who have been recruited to continue to grow as teachers. With this teaching quality system in place, New Haven created a district that does more than just announce what students *should* learn—they created a district in which educators can see to it that students *do* learn.

Implications for State Policymakers

What state-level policies support teaching quality in a district like New Haven? How can state-level policies help other districts build such a teaching quality system? Lessons for state policy strategies can be organized into four categories:

- Raise standards and invest in teachers and teacher knowledge;
- Expand the pool of fully qualified teachers;
- Enhance the probability of hiring qualified teachers; and,
- Keep quality teachers in the classroom.

Raise Standards and Invest in Teachers and Teacher Knowledge

There is a near epidemic of states raising standards for teachers. There is more rhetoric than reality to those standards, however, if: (a) districts hire teachers who do not meet those standards; (b) teachers who meet those standards do not stay in the profession; or (c) states eliminate or lower standards for entry. The latter point is worth emphasizing, as more than 30 states allow teachers to be hired on temporary or emergency licenses without having completed preparation or having met other licensing

requirements. That is, as standards build a high protective screen into the profession, the state opens a door at the bottom of the screen where anyone with a pulse can enter. The well-meaning but often woefully underprepared screen-crashers are much more likely to work with poor children and children of color. A child in a school with more than 50 percent of its students from low income families is four times more likely to have an unqualified teacher (one who has not met the standards) than a child in a school with less than 5 percent of its students from low income families.

Trading off teacher quality for quantity is a bankrupt approach. First, such policies trade off student learning for haphazard hiring. Secondly, the approach does not in the long run work to generate the quantity of quality teachers needed. Unprepared teachers do not succeed in the classroom. When one fails at something, one quits (leaves teaching). Data show that 84 percent of teachers who begin their careers with a bachelor's degree in a subject field and a master's in education remain in teaching after three years; 53 percent of teachers who begin their careers with a bachelor's degree in either a subject field or in education remain in teaching after three years; and 34 percent of teachers who begin their careers with a Bachelor's degree in a subject field and short-term summer training remain in teaching after three years. Equally harmful for children, however, is when those unprepared teachers quit trying yet remain in the classroom.

Not all districts have the creativity and initiative of New Haven, so states must have the courage to invest in quality rather than lowering standards and creating a revolving door of unprepared teachers for the most vulnerable and least powerful students. States can do so by raising teacher standards while equalizing teacher salaries. Salary increases, by themselves, however, are insufficient. States must also invest in teacher knowledge. One way to do so is to provide incentives for the establishment of high-quality teacher education programs that include extended field experiences linked with a coherent program constructed around high teaching standards collaboratively designed and enacted by school, district, and university-based educators.

Expand the Pool of Fully Qualified Teachers

An essential, if often overlooked, point for state policymakers to keep in mind is that in many instances there is not a shortage of qualified teachers, but rather, focused shortages in certain subject areas and certain locations. For instance, chances are very good that affluent suburban communities have a large pool of highly qualified elementary school teachers for every opening. On the other hand, remote regions and many urban districts often are left seeking qualifiable (rather than qualified) candidates. The issue in this instance is not one of absolute number shortages but of distribution. In addition, there are chronic, non-distribution shortage areas like mathematics, science, bilingual education, and special education. The distributional and the chronic subject area shortages compound the effects of each other so that, for instance, Los Angeles Unified has close to no chance of locating sufficient numbers of qualified special education teachers.

The policy point is not to "make more teachers," but rather to focus efforts to enlarge the pool in the subject areas and geographic regions where the shortages actually exist. To do otherwise is to waste scarce economic resources as well as political will.

The first policy step, therefore, is to know the locations of a state's shortage areas. This can be done by conducting demographic studies of anticipated teacher supply and demand by field and location. With that information in hand, it becomes possible to design policies that alleviate shortfalls before they become severe.

Such policies could include creating service scholarship programs to prepare high-ability candidates in shortage fields. Forgivable loan programs are one highly successful approach in this regard. A second policy approach is to expand teacher education programs in high-need fields. If in a zero-sum financial climate this results in an institution preparing fewer candidates in areas where there are no teacher shortages, this means that institution can do a better job with fewer and more carefully selected candidates. A third policy approach is to provide incentives for community college/college pathways that prepare paraprofessionals for certification. This is a particularly effective strategy for distributional shortages, in that not only are paraprofessionals rich in school and classroom experience, but they also often live in the school community, know the students, and know the students' families and cultural backgrounds well. Thus, these types of programs function as community development as well as teaching quality development.

Another strategy to expand the pool of fully qualified teachers is to remove barriers that stand in the way of hiring such individuals. Policies in this category include establishing licensing reciprocity across states with high standards. Currently most states enforce redundant requirements for fully qualified and credentialed candidates from other states, thus making it difficult for them to enter the local teaching force. If it is not currently feasible to provide portability across states, it is certainly possible not to force teachers to lose salary credit for years of experience in another state. Though not yet an Olympic size pool, as more and more teachers gain National Board certification, states could grant a license to those teachers who have demonstrated extraordinary abilities on rigorous assessments, as 15 states have already done.

Enhance the Probability of Hiring Fully Qualified Teachers

Often, even when fully qualified teachers are available, some districts do not hire them. While this is not true in New Haven, some districts subscribe to the short-sighted notion that it is cheaper to hire an untrained teacher with a lower salary than a well-qualified teacher with greater education and experience. To overcome this, states could enact policies that: provide salary reimbursements for qualified teachers; require districts to hire qualified teachers who have applied; or reassign other fully certified teachers not currently in classrooms before hiring less-qualified teachers. Perhaps more importantly, states can increase the ability of districts who have the will but not the funds to pay for qualified teachers by raising and equalizing beginning salaries and providing incentives for teachers to move to shortage areas.

In other instances, again in contrast to New Haven, districts have not invested in either the personnel function or in the technological infrastructure that helps personnel attract and efficiently hire quality teachers. In these instances state-level policies can provide assistance for districts to automate and stream-

line their personnel functions to facilitate early identification and hiring of qualified personnel; expand outreach; and create partnerships and consortiums with other educational institutions. In addition, states can invest in a comprehensive computerized database system that links quality applicants with district needs (as California, Delaware, and Washington already have done) and provide technology and training necessary for personnel offices to use such a system effectively.

Finally, districts have a much higher probability of hiring fully qualified teachers if they can offer them employment when applicants need to make decisions about where to live and within a time frame that shows respect for both the teacher and the students whom that teacher will serve. While district teacher transfer provisions that push new hiring decisions in August and September might not fall under state jurisdiction, making timely decisions about school budgets so that districts can recruit and hire qualified candidates in the spring of each year certainly does. When districts do not know how many, if any, teachers they can hire until August because of late budget decisions on the part of state and local governments, they simply cannot commit to quality teachers no matter how dearly they might wish.

Keep Quality Teachers in the Classroom

Lastly, putting quality teachers in classrooms does not accomplish much if they do not stay in the classroom. The high attrition rate of beginning teachers creates an ongoing pressure for hiring. The policies outlined above that enhance teacher preparation, raise teacher salaries, expand district capacity to locate and hire quality teachers, and enlarge the pool of quality teachers will help in this regard. However, states also need to create high-quality induction programs. If districts and schools are to retain quality teachers while simultaneously improving their performance, the induction programs for beginning teachers need to be linked with high teaching standards. They must also provide intensive mentoring from well-prepared mentors with release time to coach, counsel, and cajole beginning professionals.

Conclusion

One of the most important points in education is the intersection between state teaching policies and district teaching quality systems. It is there that state standards and incentives—and safeguards to ensure that individuals and institutions meet those standards—come in contact with districts' efforts to recruit, hire, continually educate, reward, and retain their teachers. Because of this point's importance, states and districts must work in tandem to make that intersection a productive one. In the state-district intersection, the flow of communication and consequences must not seek to place blame, but rather invent solutions that make a difference in classrooms. When districts and states work together to create mutually reinforcing policies and practices, then educators and policymakers outside of the classroom can play their appropriately essential role in providing a sufficient quantity of the high-quality teachers our children deserve.

Jon Snyder is director of the teacher education program and a faculty member in the Graduate School of Education at the University of California, Santa Barbara.

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On Balance

Allan S. Vann

Four Steps to Improve Teacher Quality

To improve their preservice education programs, many colleges and universities are looking at Professional Development Schools and other models. Some are considering replacing the traditional "education" major with more rigorous options in academic disciplines. Over time, such introspective reviews will, hopefully, lead to improvements and higher quality teacher candidates. But four steps can be taken *right now* to improve the quality of teacher education graduates, steps that do not require *study* so much as they require *courage*.

1. Wash out mediocre candidates

Along with improvements in preservice programs must come the courage to wash out candidates who have demonstrated only mediocrity in coursework or student teaching. As long as so many college and university departments of education accept all applicants and graduate all candidates who have paid their tuition bills, any talk about improving the quality of new teachers is disingenuous. I know of too many student teacher field supervisors who tell me of the pressure placed on them to "pass" mediocre or even unsatisfactory student teachers. When I see teacher applications riddled with spelling or grammatical errors, or when I interview a candidate who fractures the English language, I genuinely feel sorry for these candidates. They should have been counseled out of their major long before they graduated. It's time for colleges and universities to bite the bullet, even if it comes from the hands that feed them.

2. Get professors into public school classrooms

Many education professors are woefully ignorant of current issues in curriculum and instruction, the impact of technology, or the challenges of teaching children with special education or second lan-

guage needs. Many professors teach preservice courses based upon experiences that are vastly different from those faced by new teachers today. There is a "reality gap" for many professors whose academic world is very different from the environment experienced by public school teachers. Many preservice teachers find themselves poorly prepared for what they find when they begin student teaching. Education professors should spend more time in, and become more familiar with, the public school classrooms and the world of practitioners to whom they will send their graduates.

3. Devote more attention to the quality of field supervisors

The most important phase of the preservice program is student teaching, but colleges and universities may have little control over the quality of some of those public school placements. Some principals and cooperating teachers will enthusiastically nurture student teachers, while others will not. But colleges and universities do control the quality of the

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Allan S. Vann, Ed.D., is principal of James H. Boyd Elementary School in Huntington, New York.

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field personnel assigned to supervise these student teachers. Yet one supervisor recently told me she had taught for thirty years in the same grade in the same school, never having observed even one colleague during her teaching career. She applied for a job as a field teaching supervisor, was accepted after a brief interview, received no specific training, and there she was, supervising student teachers in grades and settings with which she was totally unfamiliar. Another supervisor, a retired

Information on classroom management or productive teaching skills would take on so much more immediacy and relevance for student teachers were they able to interact with a number of classroom teachers and administrators "in the trenches."

high school principal, confided to me that he didn't know a thing about teaching in an elementary school, but here he was, supervising student teachers in primary grade placements. Colleges and universities must place a higher value on this field supervision role and ensure that only highly qualified personnel supervise their student teachers.

4. Cluster student teachers and employ school personnel

Student teacher candidates should be clustered in a geographic area whenever possible to make it feasible to hold student teaching seminars and provide associated coursework at one of their public schools instead of on the university campus. Classroom cooperating teachers, probationary teachers only months removed from their own student teaching, and principals could be invited to teach seminars and host focus groups, perhaps for a nominal fee or in return for tuition vouchers.

Who is in a better place to discuss contemporary classroom realities than those facing and dealing with these realities each day? Information on classroom management or productive teaching skills would take on so much more immediacy and relevance for student teachers were they able to interact with a number of classroom teachers and administrators "in the trenches." And who is in a better position to offer advice on resumes and the job application process than teachers who have just successfully navigated that process, and principals who are on the receiving end of those applications and do the actual interviewing?

These are four steps that colleges and universities can take to immediately raise the quality of their teacher education graduates. A serious commitment to overhaul and improve teacher preparation programs is long overdue.