

CSR Connection

The CSR Connection is an occasional paper of the National Clearinghouse for Comprehensive School Reform

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CSR Research: Where Are We Heading?

By Deborah Appelbaum and Kathleen Porter

Since the early 1990s, educational researchers have been studying the effectiveness of “whole school change” or comprehensive school reform (CSR) as a strategy for improving student academic achievement. This research has varied from studies of specific CSR design models, to investigations of district or state efforts for whole school reform and effects of federal policy. Taking the opportunity to reflect on over a decade of research in this area, examine the current investigations and their methodologies, and plan for the future of CSR research, the National Clearinghouse for Comprehensive School Reform (NCCSR) convened a Network of Researchers meeting on May 21 and 22, 2002.

As part of its mission, NCCSR works to build the knowledge base of and to foster discussion among school reform researchers, practitioners and policymakers. The Network members present at the May meeting included national and district-level researchers, representatives from national organizations, practitioner organizations involved in CSR, regional educational laboratories, and the U.S. Department of Education.

A backdrop to the May 2002 meeting was a shift in the policy context within which CSR researchers are operating. Specifically, the reauthorization of the Elementary and Secondary Education Act last fall heightened atten-

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About NCCSR — A partnership of The George Washington University, the Council for Basic Education, and the Institute for Educational Leadership

The National Clearinghouse for Comprehensive School Reform collects and disseminates information that builds the capacity of schools to raise the academic achievement of all students. Through its web site, reference and retrieval services, and publications, NCCSR is the central gateway to information on CSR. If you have documents on CSR that should be added to our database, please contact us for submission information.

tion to the type and quality of education research being implemented, and increased emphasis on research considered scientifically rigorous. One goal of the May Network meeting was to define and understand some of the changes in this policy context and to discuss ways in which the new legislation may impact future CSR studies. The meeting culminated with small group discussions in an effort to lay the groundwork for a researcher-driven line of inquiry to be considered for future research funding.

The guiding theme for the meeting was “CSR Research: Where Are We Heading?” and began with an overview by Mark Berends of RAND, who presented on the past, present, and future of CSR research. After mapping the recent history of education research leading up to CSR, he presented on RAND’s study that tracked the evolution of New American Schools and the organization’s efforts to scale up several CSR design models. Also helping to set a framework for the meeting was Lisa Towne of the National Research Council (NRC), who presented on the current policy context emphasizing “scientifically based research” and its potential impact on research and policy.

With this history and broader policy context in mind, the meeting then turned to a closer look at a few current CSR investigations: their designs, findings, and related research issues. Breakout sessions were led by Howard Bloom of Manpower Demonstration Research Corporation (MDRC), who explained his interrupted time-series analysis of the Accelerated Schools Model; Geoffrey Borman of the University of Wisconsin, who discussed his meta-analysis of achievement effects of externally developed CSR design models; and Rebecca Herman of the

American Institutes for Research, who provided an overview of CSR research designs. These sessions not only offered interesting findings, but also provided insight into and stimulated discussion on the various research methodologies and the benefits, weaknesses, and challenges of each.

Participants then began taking initial steps toward the development of a researcher-driven list of questions for future CSR research funding. Informing this discussion was a panel that offered multiple perspectives on practitioners’ needs for CSR research. The panel included Hugh Burkett of the U.S. Department of Education, who provided perspectives from the states; Denise Borders of the Academy for Educational Development, who presented data from and communicated the research needs of multiple districts; Betsy Useem of the Philadelphia Education Fund, who shared experiences from Philadelphia; and Ted Bartell of Los Angeles Unified School District, who spoke about his district’s review process for external vendors. Bob Blum of the Northwest Regional Educational Laboratory moderated the panel and shared his perspective as a technical assistance provider.

Keeping the needs of the field in mind, the Network then worked in small groups to begin drafting a collaborative document that offers a Network-driven list of questions for future research fund-

School reform in the ‘80s, Berends reported, was driven by several large and important commission reports, most notably A Nation at Risk and the Carnegie Forum reports.

ing. The groups had the opportunity to present their initial ideas to Valerie Reyna of the Department of Education and to engage her in discussion about the federal vision for the future of CSR research.

CSR Research in Context

The opening session of the Network of Researchers meeting, “The Past, the Present, and the Future of CSR Research,” featured Mark Berends, senior social scientist at RAND. Berends’ recent work includes an assessment of the New American Schools initiative and other initiatives centered on evaluating Title I and the federal CSR program. The presentation helped to frame the meeting by describing the current CSR research context, as influenced by school reform research recent history the current policy environment.

Berends began by tracing several strands of school reform research. In the 1960s and ’70s, he said, much of school reform research was centered on school effects research. Studies such as the Coleman Report (1966) also revealed the importance of family background and community characteristics, arguing that they are generally stronger than the effects of schools. The effective schools movement, evolving from school effects research, focused on comparisons of particularly effective schools with less effective schools. Berends specifically pointed to Purkey and Smith’s 1983 article as a good review of this strain of research.

School reform in the ’80s, Berends reported, was driven by several large and important commission reports, most notably *A Nation at Risk* and the Carnegie Forum reports. These reports called for a complete overhaul of education and resulted in research focused on restructuring schools. School restructuring research, he said, looked at areas such as authentic pedagogy, school organizational capacity, and external support. “In all of this work,” Berends added, “whether it’s school effects, effective school research or restructuring studies, researchers are studying existing schools and trying to find out [about] the characteristics of the schools themselves [and] the schooling processes within those schools.”

This school-centered focus shifted to external forces in the ’80s and ’90s with standards-based reform. Standards looked at what students should know, as well as how well they should know it. Along with the standards movement came assessments and a focus on professional development.

New American Schools: A New Role for Business in Education

The creation of New American Schools (NAS) in the early 1990s embodied another shift in school reform, one in which the private sector became involved in creating effective schools rather than simply locating and studying them. This movement intended to “break the mold” of traditional school reform efforts, with “comprehensive and coherent” reform designs that articulated a vision and a goal for student learning tailored to each school. NAS anticipated that the designs would result in a dramatic increase in achievement at no increased cost and envisioned that as a result, NAS would

become obsolete and go out of business after five years of scale-up.

RAND helped NAS frame the original request for proposal for the project, sat on the advisory board and was contracted to research and analyze the initiative. NAS reviewed 680 proposals and, finally, chose eleven to implement.

The first phase of RAND's research focused on the implementation process and then analyzed how schools performed. RAND found that during implementation, the models' interaction with classrooms and schools forced substantial change in the original designs, in many cases due to a lack of development of the designs. Many were missing essential pieces such as concrete practices, curriculum, scheduling, and specifics for teachers and schools. In many ways, the push to scale up, to increase quantity, came at the expense of quality. Schools that had greater assistance from design teams, clear materials, and a coherent vision made greater strides in this phase.

Other implementation challenges included the standards and assessment climate and the fact that many of the schools chosen were low-performing. There was great pressure on the design teams to address the basic skills necessary for students to perform well on accountability tests. Often the skills necessary to perform on these tests were not aligned with the design implemented.

The challenge of implementation led NAS and other stakeholders to take a more realistic view of school reform's potential effects. In many cases, these implementation challenges also pushed de-

sign teams to forecast effective implementation benchmarks for certain points in time, a piece most developers had not included in the original designs. Overall, the success of implementation, RAND found, significantly relies on clear and consistent communication, as well as sustained leadership.

What's Next for CSR Research?

A recent trend in CSR research, Berends observed, is an evolution from an emphasis on models to an emphasis on components, and on evidence grounded in scientifically based research. CSR researchers potentially face several complications within this new environment. For instance, when designs are not aligned to district and state tests, he noted, often the result is shallow implementation and little change in teacher practice. Further, there are challenges to accessing and effectively using student-level achievement data and to comparing treatment and control groups. Without access to student-level data, researchers will be limited to using school-level data, which masks many of the achievement differences within schools. Finally, Berends maintained, it is difficult to study and understand the "real cost of the reform."

Right now, he observed, most research focuses on models—there is little study of individual comprehensive school reform components. He expressed hope

A recent trend in CSR research, Berends observed, is an evolution from an emphasis on models to an emphasis on components, and on evidence grounded in scientifically based research.

that the current CSR studies will increase our understanding of effective policies and practices, and will result in reforms that are comprehensive in nature, aligned with standards, and effective in improving learning conditions for students.

Slides from Mark Berends' presentation can be found at <http://www.goodschools.gwu.edu/csrl/nor.html>.

Three Views on "Scientifically Based Research"

Over the past year, there has been a climate shift for federally funded research, certainly affecting the work of CSR researchers. Driving this shift is the increased emphasis on research that is considered scientific, a tenet of the reauthorization of the No Child Left Behind Act passed in January of 2002. While the new law places increased urgency on the issue of scientific research, the movement leading to an examination of the overall quality and rigor of education research in general has been building throughout the past decade. Lisa Towne of the National Research Council's (NRC) Center for Education, has been closely involved in this movement and offered the Network clarification and insights surrounding key issues on scientifically based research (SBR). Towne served as study director of the NRC's report on scientifically based research in education.

Towne's presentation focused on three important voices on SBR within the field

of education research policy: the National Research Council's report, the Office of Educational Research and Improvement (OERI) re-authorization proposal, and the No Child Left Behind Act.

National Research Council Panel

The NRC report, authored by a committee of experts from the education field and other disciplines, is a consensus document that seeks to articulate the nature of SBR and raise the level of debate about what constitutes scientific research in education. Skepticism about the quality of education research and a demand by educators to accumulate a "body of knowledge" were backdrops for the commission of the report, according to Towne.

The committee found the following:

- Education research has accumulated a knowledge-base, but not to the same degree as other fields.
- Scientific education research is not fundamentally different from other scientific endeavors, yet all fields develop legitimate specialization.
- Many methods from other fields can be used or adapted to education research; however, context requires that methods evolve and change to fit the discipline.
- Restructuring OERI is not the critical determinant in promoting a successful federal education research agency. Instead, the education research agency needs to develop a culture of science. Towne also emphasized that all stakeholders have a role in the agency.

No Child Left Behind seeks to increase the education community's use of evidence to drive decision-making in schools, Towne said, and it is clear that the authors of the legislation specifically meant heavier use of impact studies, evaluations, and causal effects with a focus primarily on student achievement.

Scientifically Based Research and Federal Policy

SBR is mentioned in the strategic plan for the Department of Education and in legislation to re-authorize OERI. In the Department of Education plan, one of the goals is to promote education as an evidence-based field, and one indicator of meeting that goal is that 75% of all federally funded causal studies be randomized trials. Over 111 references to SBR are made in the No Child Left Behind (NCLB) legislation.

Towne compared how the NRC report and NCLB discuss SBR, acknowledging the distinct purposes of a report versus legislation. The NRC committee opposed the idea of strictly defining SBR, and instead laid out a set of guiding principles and focused on informing a wide range of audiences on the history and implications of SBR. No Child Left Behind seeks to increase the education community's use of evidence to drive decision-making in schools, Towne said, and it is clear that the authors of the legislation specifically meant heavier use of impact studies, evaluations, and causal effects with a focus primarily on student achievement.

Both the NRC report and NCLB embrace the idea that research should drive decision-making. The NRC report, however, explicitly acknowledges that research will never be—nor should it be—the sole influence on decisions. Both documents, Towne said, want not just a focus on research, but also on high-quality research, and while they differ in important ways, both emphasize the same general concepts: rigor, objectivity, systematicity, and peer review.

Towne also speculated on some of the implications of NCLB for education research. The new legislation, she suggested, could result in more funding (the President's FY03 budget request included a dramatic 40% increase in education research line item for OERI), more focused research (decreased fragmentation), and more research that is applied. She also noted that scientific research of the kind described in NCLB is expensive and takes a long time, and that an emphasis on this definition of SBR may "crowd out" other important kinds of research. In order to obtain the necessary data for scientific studies, she added, researchers would need to gain trust and access to schools.

Towne ended by appealing to the researchers in the room to

- Engage and use this new environment as an opportunity to forward education research;
- Be honest about what their research could and should be used for;
- Look for syntheses and emphases from multiple studies instead of unique findings;
- Be serious about implementation and replicability; and

- Find more commonalities in research tools and measures.

Slides from Lisa Towne's presentation can be found at <http://www.goodschools.gwu.edu/csrl/nor.html>.

Focus on Methodology: Interrupted Time Series

After considering CSR research history and current policy, Network members then attended sessions designed to offer a closer look at current research, with a particular focus on methodologies and their benefits and limitations. Howard Bloom of Manpower Demonstration Research Corporation (MDRC) outlined the methodology he used in MDRC's evaluation study of Accelerated Schools, *Measuring the Impacts of Whole-School Reforms: Methodological Lessons from an Evaluation of Accelerated Schools*. The study involved a quasi-experimental design that included a "short interrupted time-series" approach.

Design and Purpose

The purpose of Bloom's evaluation was to determine the impact of Accelerated Schools, a whole-school reform model, on student performance. Bloom's study included eight Accelerated Schools, each of which had at least three years of baseline test data used to predict the counterfactual: what student performance would have been in the absence of the intervention. Such an approach is designed to measure the impact of a reform as a deviation from the past pattern of student performance for a specific grade. Bloom used third grade test scores from three baseline years to help determine the pattern of student

achievement and to help predict future performance at the schools. He then used third grade student test scores from up to five follow-up years to determine whether student performance had exceeded expectations after the CSR model had been implemented. Student data from different cohorts of students over the course of several years were used to make this determination.

Methodology

Bloom identified three research questions focused on different aspects of student performance and took into consideration overall school performance, as well as equity concerns:

- How, if at all, did a specific reform affect average student performance?
- How, if at all, did it affect the variation in student performance?
- How, if at all, did it affect the distribution of student performance?

Bloom explained that average student performance is the best indicator of the effectiveness and efficiency of the overall system, while the variance in student performance and distribution of student performance allows the evaluator to determine whether or not the reform is having differential impact on specific student and minority groups within the schools.

In order to determine the patterns of student achievement to predict future student performance in the absence of reform, Bloom assumed two related premises: first, that past experience is the best predictor of future performance, and second, that multiple observations of past experience predict future experience better than a single observation. He then used baseline test score data

from three years at each of the schools studied to determine a pattern of student achievement and to predict what future performance would have been without the introduction of an intervention.

Since schools typically keep records on student characteristics such as race or ethnicity, gender, age for grade, special education status, English language proficiency and eligibility for free and reduced price lunch, Bloom was able to use multiple regression to control for differences in student characteristics between student cohorts. Controlling for these characteristics increased the validity of his results by reducing the possibility that student performance differences from year to year were due to differences in student characteristics between different cohorts of students.

Findings

Based on the data gathered from the Accelerated Schools evaluation, Bloom found the following:

- In follow-up years one and two, during which the schools focused on establishing supportive cultures and practices, there was no systematic change in average test scores. In follow-up year three, when schools began to experiment with instructional changes intended to promote powerful learning, test scores declined somewhat. Finally, in follow-up years four and five, test scores gradually rose above the baseline level, as instructional changes were implemented more fully.
- By follow-up year five, average reading and math scores were 0.19 standard deviation and 0.24 standard deviation above their respec-

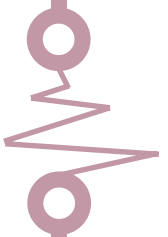
tive baseline levels.

- The schools that were lowest-performing at the onset of the study were the most likely to experience large impacts.
- The impact of the Accelerated Schools reform appears to reflect mainly an increase in the scores of students who were in the middle of the school's test score distribution. Nevertheless, the reform improved the performance of otherwise low-performing students.

Limitations of the Study

One important limitation of this study is that any increase or decrease in student performance could be due to cohort effects rather than the intervention. Since there is no way to control for differences between cohorts, it is impossible to prove conclusively that any increase or decrease in student performance was due to the intervention, or whether it was due to differences between student cohorts. In order to help control for these differences, Bloom used a multiple regression model to control for observed changes over time in select student background characteristics. Additionally, because so many factors both inside and outside of the schools affect student performance from year to year, it is difficult to determine with any certainty why achievement increases or decreases. Thus, Bloom stresses that the interrupted time-series approach is not a replacement for randomized experiments.

For more information on the Accelerated Schools evaluation study and on Bloom's findings, see the full report at <http://www.mdrc.org/Reports2001/AcceleratedSchools/AccSchoolsApproach.pdf>.



Focus on Methodology: Meta-analysis of CSR Model Research

While there is a growing body of research evaluating the impact of specific comprehensive school reform models, few attempts have been made to look across models to assess the quality of the research on each model, the relative effectiveness of the designs, or the impact of the designs overall. Research challenges such as the many different assessments used to evaluate effectiveness as well as the vastly different philosophies and implementation trajectories of the models make this a particularly difficult undertaking. Geoffrey Borman of the University of Wisconsin, and Gina Hewes, Laura Rachuba and Shelly Brown of Johns Hopkins University, have taken on this task in their *Comprehensive School Reform and Student Achievement: A Meta-Analysis*. This report is scheduled for release in the fall of 2002.

Purpose of the Meta-analysis

According to Borman and his associates, there are various debates that are often raised regarding the merits and central biases associated with the various comprehensive school reform models. The CSR designs are very diverse and, though many of them have been evaluated, the methodologies of the studies vary greatly and are difficult to synthesize and analyze. Thus, Borman decided to conduct a meta-analysis—a study of the evaluation studies—as a systematic way to combine evidence across studies while taking into account the differences in methodology. The primary goal

of this meta-analysis was to “review all known research on the achievement effects of the externally developed school improvement models, known as whole-school or CSR.” Thus, Borman sought to find out not only what were the achievement effects of specific CSR models, but also what was the overall effect of comprehensive school reform. Borman examined how CSR effects varied across a diverse collection of models and contexts. Specifically, he brought into his analysis information about who conducted the study (model developers or third party evaluators) and whether or not the study included contextual factors such as the subject, the length of time, the implementation, the grade level, the poverty level of the school, and other programs in existence at the time of the study.

Design

In order to be considered for inclusion in the study, the model had to be considered a “comprehensive” model and had to have some previous research, either positive or negative, addressing the effects of the reforms. Initially, thirty-three reforms were chosen based on previous review studies of whole-school reform, referencing work by the Northwest Regional Education Lab (NWREL), the National Clearinghouse for Comprehensive School Reform, and the American Institute for Research (AIR). As Borman and his team were conducting the initial review of literature for the thirty-three models, they determined that four models did not have enough information to be included in the meta-analysis and were dropped. For the remaining twenty-nine, the team was able to find at least one study that had some information on the model’s impact on student achievement outcomes.

Borman and his colleagues synthesized student achievement effects using various methodological, contextual and problematic factors as predictors. Specifically, they examined

- the overall effect of the CSR strategy,
- the effect associated with specific CSR model components,
- the effect of each of the 29 models studied, and
- the extent to which differences in methodological and contextual features of the study mediated the estimates of the effects.

Context Variables

To help determine the effect CSR had on student achievement, Borman and his associates examined the contextual variables of grade level, years of implementation, and the poverty level of the school. Additionally, the team examined the study designs to determine whether each study was one of the following:

- an experiment that involved random assignment of students to the CSR model and a control group,
- a quasi-experiment with matched treatment and control groups,
- a quasi-experiment with covariant adjustment,
- a quasi-experiment with groups that were merely stated to be similar,
- a study with district- or school-level comparisons, or
- a pre-post test design comparison.

Finally, the team determined whether the studies were conducted by model developers or by third-party evaluators.

Though the study has not yet been released, Borman shared a few preliminary findings. First, the effect size seemed to be about the same in high-poverty as it is in low-poverty schools. Second, Borman found a positive relationship between the number of years the model had been implemented and the effect size. Additionally, Borman consistently found higher estimates of effect size in studies that were conducted by model developers than those conducted by third-party evaluators.

In comparing these diverse studies, the researchers imputed much of the data to make them comparable. For example, if the study focused on second graders but did not provide the number of students, the researchers went to the National Center for Education Statistics' Common Core of Data to find out the average second grade class size. Borman acknowledged that while this process is not a perfect measure, imputing data allowed the researchers to examine a broader variety of studies.

The Findings

Though the study has not yet been released, Borman shared a few preliminary findings. First, the effect size seemed to be about the same in high-poverty as it is in low-poverty schools. Second, Borman found a positive relationship between the number of years the model had been implemented and the effect size. Additionally, Borman consistently found higher estimates of effect size in studies that were con-



ducted by model developers than those conducted by third-party evaluators.

Finally, Borman reported that studies that had a parental involvement requirement tended to have smaller effect sizes than those that did not. In explaining this somewhat surprising finding, Borman suggested that the requirements focus mainly on getting the parents involved in the governance of the school and do not involve factors that tend to be associated with improved student achievement outcomes.

At the end of the first day of the meeting, Thomas Good of the University of

Arizona led a wrap-up session that expanded on current CSR research needs. He emphasized the need for a sound theory of learning and teaching that underlies comprehensive school reform. All components of a comprehensive school reform strategy, for example, should be examined for internal consistency. He also stressed the need for continuity between teacher and student expectations and the importance of having a consistent theory of motivation, learning, and school management underpinning the required CSR components. He further called for an increased integration of teacher effects research into CSR designs as CSR pro-

CSR Research Designs

Rebecca Herman of the American Institutes of Research provided an overview of comprehensive school reform (CSR) study designs.

In order to design a comprehensive school reform study, Herman said, researchers should ask:

- *What are the goals of this study?*
- *What are key design features?*
- *What are design limitations?*
- *How will solutions to common issues be incorporated into the design?*

She stressed that when evaluating the effectiveness of comprehensive school reform models or programs, researchers will want to consider school contextual factors, particularly when comparing data across schools.

Herman also discussed the data collection and analysis issues facing CSR researchers. She emphasized the importance of maintaining high reliability and validity of the instruments used for data collection and of maintaining data integrity when using student-level test score data in longitudinal studies. Failure to take these designs and research issues into account will increase the limitations of the study.

Slides from Rebecca Herman's presentation can be found at <http://www.goodschools.gwu.edu/csrl/nor.html>.

grams are, at present, based primarily on school effects research.

CSR Research: Questions from States, Districts, and Schools

Much of the Network meeting focused on what researchers are learning and asking about CSR. To expand the scope of this discussion, a panel conversation was devoted to the question of what researchers are learning in the field about practitioner-driven needs for CSR information. The panelists represented multiple perspectives—school, district, state level administrators, and researchers—sharing the research questions and other related needs of their constituencies. Members of the panel included Betsey Useem from the Philadelphia Education Fund, Ted Bartell from the Los Angeles Unified School District (LAUSD), Denise Borders from the Academy for Educational Development, and Hugh Burkett, who works on CSR, small learning communities and drop-out prevention at the United States Department of Education. The panel was moderated by Bob Blum of the Northwest Regional Educational Laboratory, a technical assistance provider and partner with NCCSR on the Catalog of School Reform Models.

State Administrators

Both Bob Blum and Hugh Burkett discussed questions about CSR research, while Blum specifically focused his attention on the interaction between states and schools and districts. The panelists reported that the degree of assistance schools and districts receive from states as they apply for CSR grants and implement models varies greatly. Some

states provide consultants to help schools and districts, while others simply act as grant administrators. The degree to which schools and districts are “left on their own” affects how well CSR plans are developed and implemented.

Burkett emphasized the need for research that supports the eleven components of CSR reform. Many CSR reform models provide technical assistance for the components that are covered by the model, which are frequently fewer than the eleven required for CSR grants. Therefore, if schools are required to include all eleven components, Burkett said, state administrators want to know who will provide the necessary technical assistance for the components not covered by the model.

Finally, Burkett, along with other panelists, discussed the issue of sustainability of the reform models. State administrators want to know what needs to be in place to ensure long-term sustainability of an adopted reform model over time.

District, Board of Education

Ted Bartell spoke from his perspective as a district central office administrator. He spoke of the need for evidence of the effectiveness of reforms so that districts can make decisions about which reforms will work best with their students. “In Los Angeles,” Bartell said,

The degree to which schools and districts are “left on their own” affects how well CSR plans are developed and implemented.

Teacher quality is among the most significant factors to influence student achievement and model implementation...

"we do not, in our district, regard national certification or establishment of an approved model as being sufficient." Rather, the district asks vendors to "show us your evidence and let us review that evidence independently." As part of the review process, Bartell said that LAUSD asks model developers and other applicants to describe the program along with information on expected student outcomes, which becomes the basis for comparison if the model is implemented. Additionally, model developers are asked to provide some comparison data that shows that the reform has been effective along with evidence that the positive changes were a result of the model, rather than unrelated factors. Finally, Bartell explained that administrators want evidence that the results of previous studies are generalizable to the student population in their district.

Local Education Fund

Betsey Useem of the Philadelphia Education Fund spoke from the perspective of a technical assistant provider and funder. Useem stressed the need to factor teacher quality into evaluation studies of the CSR models. Useem is currently conducting research on teacher retention and satisfaction in eleven Philadelphia middle schools that have adopted the Talent Development model.

Useem identified important research needs of schools and districts, including:

- The need for measures that the public can understand.
- The need for measures that are inexpensive, and are understandable.
- The need to examine the benefits of blending multiple models in a single school, since few models employ all eleven of the required components.

Useem then shared her observations of the challenges of reform efforts in Philadelphia. Teacher quality is among the most significant factors to influence student achievement and model implementation, or as she says, "the model is people." For example, if a model requires professional development and teacher training, then high teacher turnover in a particular school will drastically reduce the fidelity of model implementation in that school. As an example, Useem compared two Philadelphia schools—one that is staffed with mostly veteran teachers who want to be at the school, and one that is staffed primarily by new and uncertified teachers who do not want to be in that school. According to her findings, students at the first school made "very significant student math gains compared to kids at the other school."

Useem outlined several factors that can potentially affect teacher quality, thus student performance:

- Teacher attendance rates
- The changing population of the teaching force
- Political climate and policy changes

In Philadelphia, policy changes have been dramatic, Useem explained. The district has been taken over by the state

and 70 of the 264 schools have been randomly assigned a reform treatment. Several of the eleven schools in Useem's sample are, despite a plea to keep them separate and autonomous, included among the 70. Consequently, two were assigned to Edison and two to Chancellor Beacon (both for-profit Educational Management Organizations), one was assigned to reconstitution, and two became charters "overnight," she said. Such drastic changes will undoubtedly have an impact on model implementation, and therefore could affect the evaluation of the model being conducted by external evaluators at MDRC.

Schools

Denise Borders and Bob Blum both reported on research questions from individual schools and on CSR implementation at the school level. Blum spoke about the reality of schools' application process for CSR grants. Many schools, according to Blum, will call model developers and say, "Our proposal is due next week and we've chosen your model. Can you help?" Or, schools will call and ask model developers what research supports their model and are generally less interested in research methodology than in the findings.

Borders conducted a CSR study with a stratified random sample of eighteen schools across the country. Borders reports that most of the schools are focusing on only four of the (previously nine) federal components including:

- implementation of the research-based model
- professional development
- external technical assistance
- student performance and real benchmarks for success.

Borders also found that even when funding for a model continues, many schools switch to a new program, and when funding ceases, model implementation almost certainly stops. Schools are concerned with the adequacy of funding to support implementation requirements, and Borders questions the sustainability of CSR when school districts impose heavy requirements and restrictions on schools.

New Federal Directions for CSR Research

To conclude the meeting, Dr. Valerie Reyna, senior research advisor for the Office of the Assistant Secretary at OERI, presented on OERI directions for scientifically based research. Reyna also responded to the Network discussion groups, which did some initial thinking on suggestions for future CSR research.

Reyna began by emphasizing the renewed commitment from the OERI leadership and from the No Child Left Behind legislation that reflects a commitment to improving education research and using SBR as the way to "resolve disputes" on how to reform education.

[Reyna] stressed that CSR researchers must seek to understand causation, specifically, what is it about "comprehensiveness," the models themselves, and how they are implemented that can lead to improved student achievement.

"Randomized experimental trials are the gold standard of evidence-based research," Reyna said. The methodology used should be the methodology appropriate for the question, but ultimately, causation is the key question. Documenting and describing a problem are important, but in the end, cause and effect is essential, she contended. Reyna urged the listeners to "move beyond description," to get to "empirically informed, sophisticated work," because "the problems involved demand quality."

Reyna then had the opportunity to respond to the breakout groups' suggestions for a researcher-driven list of questions for future CSR research. The first issue she addressed was the issue of context in research. Reyna emphasized that "regardless of context, research should still be subject to the rules of science." When talking about "real kids in classrooms," she said, we must use proven strategies. Then we must test our hypotheses in context and use the data to inform our understanding.

Next, she highlighted the importance of bringing learning theories to bear on school reform. She said that the education field needs to generate more good evidence on how the process of learning can be connected to comprehensive school reform. Teachers are another important aspect of the new evidence-based environment in comprehensive school reform. Reyna believes that researchers must explore how much teachers need to learn and know about assessment, learning theories, and pedagogy.

Reyna also addressed questions about randomized control trials. She stressed that researchers must focus on using

randomized trials because of the confidence and the high level of knowledge we gain when using those methods as compared to other kinds of analysis. Reyna believes that much of the concern about using randomized controls must be addressed, but that two major concerns – the ethicality of withholding treatment and the necessary size to perform randomized trials – can be assuaged.

Reyna also considered questions about the accessibility of student data. She acknowledged that there are legitimate concerns about access to student level data and about privacy, but believes technology will help us overcome these limitations. Evidence-based research demands that researchers have access to student level data over time.

Reyna concluded her presentation by re-emphasizing the current OERI perspective on scientifically based research in a CSR context. She stressed that CSR researchers must seek to understand causation, specifically, what is it about "comprehensiveness," the models themselves, and how they are implemented that can lead to improved student achievement. Only with those answers, she said, can the results gathered in research be generalizable and used to improve schools and help students.

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Learn More About NCCSR'S Network of Researchers

NCCSR's research network includes national and district-level researchers engaged in large-scale comprehensive school reform studies, as well as representatives from national organizations, practitioner organizations, regional educational laboratories, and the U.S. Department of Education.

NCCSR's work with the Network of Researchers (NOR) involves regularly bringing NOR members together to address current issues in CSR research as well as maintaining a list of NOR studies in progress.

CSR Investigations in Progress

NCCSR maintains an updated list of current CSR research. This list includes descriptions of NOR members' research currently underway. Available on NCCSR's web site at <http://www.goodschools.gwu.edu/csrl/csrip.pdf>, the list is updated as new studies are funded and preliminary findings are released. As final reports become available, look to this page for links or ordering information.

Past Publications

The publications below are summaries of NOR conversations from recent meetings on critical CSR research issues. Links to PDF versions of these documents can be found in the Network of Researchers section of the NCCSR web site, <http://www.goodschools.gwu.edu/csrl/nor.html>. All can be ordered at no cost by contacting NCCSR at AskNCCSR@goodschools.gwu.edu.

CSR Connection

This below publication summarizes the highlights of the October 25-26, 2001, NCCSR Network of Researchers meeting. The meeting included a thorough discussion of the following topics: the goals for CSR and the definitions of "success," the methods of measuring success in a CSR context, and the critical role of the district in the success of reform. This brief was published in conjunction with three additional research briefs focusing on specific NOR conversations.

Spring 2002

"CSR Connection: Defining, Measuring and Supporting Success: Meeting the Challenges of Comprehensive School Reform Research"

Research Briefs

The following briefs present the Network's analyses of three issues—district level support for school reform, appropriate CSR model selection, and patterns of implementation in CSR efforts:

February 2002

"The Need for District Support for School Reform: What the Researchers Say"

"Choosing a Model and Types of Models: How to Find What Works for Your School"

"Patterns in Implementing Comprehensive School Reform: What the Researchers Say"

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CSR Connection is an occasional paper published by the National Clearinghouse for Comprehensive School Reform (NCCSR). NCCSR is funded by the U.S. Department of Education's Office of Educational Research and Improvement and is operated by The George Washington University under Contract No. ED-99-CO-0137. The views expressed do not necessarily reflect the views of The George Washington University or the U.S. Department of Education. The mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government. Readers are free to duplicate and use these materials in keeping with accepted publication standards. NCCSR requests that proper credit be given in the event of reproduction.



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