The Politics of Knowledge

Educational research is growing increasingly important in policy debates. However, Mr. Hess points out, we know very little about how policy makers use that research.

BY FREDERICK M. HESS

IN RECENT years, the rigor and quality of educational research have drawn much attention. This increased interest has been driven by state efforts to collect student achievement data, the creation of the Institute of Education Sciences (IES), the explicit call for "scientifically based research" written into the No Child Left Behind (NCLB) Act, professional interest in "data-driven decision making," and the refinement of sophisticated analytic tools and methods. Proponents have hailed these developments as the dawn of a new era in educational research. Meanwhile, more jaded observers have suggested that broader changes in the policy environment — including dissemination strategies of advocacy groups, the role of the Internet, the impatience of policy makers and foundations eager to spur rapid and dramatic improvement in measured student performance, and increasingly polarized political debate — have made it less likely that research — even when it is rigorous and reliable — will influence policy.

Increased attention to educational research has primarily focused on the relative merits of various research methodologies, how to identify "best practices" or "scientifically based" methods, and how to encourage educators to make use of research findings. Far less consideration has been given to the frustratingly vague but vital challenge of understanding how research does or doesn't shape policy. In a new volume on "when research matters," being published this spring by Harvard Education Press, a team of scholars and I tackle that question, exploring when and why research influences policy; what role is played by intermediaries like scholarly journals, advocacy groups, and the press; and how these factors affect contemporary school reform. In this special section, several contributors to that volume — including Jeffrey Henig, Dan Goldhaber, Dominic Brewer, Lance Fusarelli, Richard Ingersoll, James Kim, and Andrew Rotherham — address the complicated relationship of research, policy, and schooling.

An emphasis on technical questions has obscured the reality that the impact of research on policy has as much to do with political behavior as with research design. In a democratic nation, where policy is the product of many competing interests, the influence of research and
researchers will inevitably and appropriately be limited. Elected officials are rewarded for addressing the needs of their constituents. They may have valid reasons not to focus on the scientific merit of research — especially when "rigorous" research undermines a favored program or implies politically painful action. Appointees or career officials may be more insulated from popular sentiment, but they are ultimately funded by and accountable to legislators.

Meanwhile, researchers are isolated from the pressures that confront public officials. The logic of the research world suggests that financial, reputational, and professional rewards are ultimately distributed according to the importance, rigor, and genius of the scholar's work — rather than public popularity. The reality is inevitably more complex. Researchers can reap personal and professional rewards from "policy-relevant" scholarship and the dissemination of their findings, even when intermediaries misrepresent their work.

**IT'S NOT A QUESTION OF GETTING THE POLITICS 'OUT'**

One frequent but ultimately unfruitful line of thought begins with the presumption that the primary goal for those concerned about the research/policy nexus is to keep "politics" from coloring the interpretation or use of research. This notion has strong historical roots that can be traced back at least to the progressive reformers of the early 20th century, who were fond of arguing that there "was no Republican or Democratic way to pave a road." Instead, they sought to base broad policy prescriptions on research-based "expertise." The reality, of course, is that expertise and research are contested terrains in a democratic nation.

When the progressives first brought social science to questions of policy in the early 1900s, they did so in unapologetically normative and political terms. The progressive tradition presumed that upstanding policy makers could turn to researchers, who would use objective criteria to identify optimal policies. Reforms typically involved regulation, new public spending, and the growth of government responsibilities, in the process aligning social science with what we think of today as "liberal" policy.

This state of affairs dominated the research/policy nexus until an aggressive challenge from free-market economists, ascendant conservative think tanks, and social scientists skeptical of what these effects had wrought began to question the cozy relationship between research and expansive progressive policies. Today, both the Right and the Left tout research to support their social policy agendas and to argue the merits of particular programs.

The modern era in educational research can be traced to the 1960s, when President Lyndon Johnson launched the first concerted federal effort to promote educational research and evaluation in his push for the Elementary and Secondary Education Act (ESEA) of 1965. ESEA called for substantial new federal spending on education and educational research and sparked debates over how to measure the benefits of that spending.

In 1979, more than a decade after the enactment of ESEA and the same year that the Office of Educational Research and Innovation was created within the new Department of Education, Carol Weiss of Harvard University observed that policy makers were expressing increasing concern about the usefulness of publicly funded research. Weiss wrote: "There is mutual interest in whether social science research intended to influence policy is actually 'used,' but before that important issue can profitably be addressed it is essential to understand what 'using research' actually means."3

Weiss was perhaps the most prominent thinker tackling "knowledge utilization," a field that plumbed the relationship between research and policy during the 1970s and 1980s. The critical point made by scholars like Weiss and Nathan Caplan of the University of Michigan was that "using" research did not necessarily entail identifying simple answers that could translate into policy, but rather helping policy makers fully understand costs, benefits, possible unanticipated consequences, and challenges of implementation. Weiss noted that "governments don't often use research directly, but research helps people reconsider issues, it helps them think differently ... it punctures old myths." Research was valuable for its ability to change the way we understand key questions. Hampered by its ambiguous conclusions and limited ability to offer practical direction, "knowledge utilization" research was a vanishing presence by the early 1990s. Even as "evidence-based research" became a mantra for reformers, scholars of educational politics studied key questions in urban reform, accountability, and school choice — turning away from the question of why, when, or how their results might enter the policy debate.

This isn't to say that research has been ignored in the past 15 years — far from it. In fact, much energy has been devoted to two distinct but related issues. First, organizations like the National Academy of Sciences and the National Academy of Education have assembled committees of leading scholars to provide guidance on the merits and limitations of various research methodologies. Second, much attention has been paid
to the challenge of translating “research into practice” so that findings are utilized by educators in classrooms and schools. These two issues are important in their own right, but they are not the focus here.

THE UNEASY RELATIONSHIP BETWEEN RESEARCH AND POLICY

Scientific research is typically a painfully uncertain and frustrating endeavor. As renowned biologist Stephen Jay Gould wryly lamented, “Over 90% of the day’s work generally turns out to be for naught, and then you still have to clean out the mouse cage.” The desire to speedily identify “effective” educational interventions that will make a difference in a three- or five-year period yields a reluctance to accept the arduous realities of the scientific process. While researchers in both health care and education pursue advances with enormous personal stakes for individuals and for society, the health profession has won enough credibility that a substantial reservoir of support for basic research has developed, even though the benefits may not be visible for decades. However, lacking a similar history of successes, educational research has not earned similar trust or good will, and its advocates have been unsuccessful in making the case that research ought to be funded despite its painstaking pace and uncertain fruits.

In making the case for the creation of IES, Grover “Russ” Whitehurst, who now serves as its director, observed that the “world of education, unlike defense, health care, or industrial production, does not rest on a strong research base. In no other field are personal experience and ideology so frequently relied on to make policy choices, and in no other field is the research base so inadequate and little used.”

IES has the potential to change this landscape. The Food and Drug Administration, the Federal Reserve, and the National Institutes of Health are powerful examples of public institutions that have changed public expectations and the way that research informs policy. Their insulation from daily political imperatives, their protocols and rules of evidence, and their prestige have made it more difficult and potentially embarrassing for advocates or public officials to disregard rigorous research or engage in the research-related machinations common in education. While these institutions are not immune to the challenges confronting IES, and while their autonomy, prestige, and technical rigor have waxed and waned over time, their existence and design have profoundly shaped the relationship between research and relevant policy. NIH funding decisions, required FDA field protocols, and the Federal Reserve’s data processes all have altered the incentives for researchers while establishing clear norms for the research that public officials use in their deliberations. Whether IES will ultimately play a similar role remains an open question.

THE ‘SOFT TISSUE’ BETWEEN RESEARCH AND POLICY

The contributors to this special section explore the various dimensions of the research/policy nexus and the “soft tissue” that connects these two worlds. They illustrate the crucial role that professional practices, informal incentives, and private actors play in determining how research is communicated and translated.

Among the key questions they address are: How have changes in technology, communications, and academia determined the quantity and quality of research entering the public square? How has research factored into various policy debates? How have institutional and environmental forces such as foundations, media outfits, and advocacy organizations affected the production and dissemination of research? And how do consumers of research — including elected officials, judges, educational leaders, and the public — understand and make use of findings?

Inattention to these questions has been, in part, a consequence of a reasonable desire to take advantage of newly available performance data and increasingly sophisticated methodological tools, both of which have enabled researchers to focus more concretely on what does or doesn’t appear to advance student learning. A wave of valuable new research on the impact of various education reforms has resulted. The irony is that the issues of how research gets produced, disseminated, and utilized have been largely ignored at precisely the time when a quantum leap in the availability of data, the enactment of NCLB, the embrace of “scientifically based research,” and the creation of IES have given these questions a new importance. While the contributions here propose no pat answers to thorny and complex challenges, their analyses may help prompt a new wave of thought, scholarship, and sober reflection.

The Evolving Relationship Between Researchers and Public Policy

Modern forces are changing the way educational research is conducted and disseminated. While this has many benefits, Mr. Henig warns that something important can be lost in the process.

BY JEFFREY R. HENIG

When it comes to the role of research in shaping public policy and debate, one might reasonably argue that this is the best of times. No Child Left Behind (NCLB), with its frequent mention of evidence-based decision making, has underscored the role that objective knowledge should play in a democratic society. The Institute of Education Sciences, through its grant policies, promotion of randomized field trials, and its What Works Clearinghouse, 1 has provided detailed road maps of what greater reliance on strong research design might mean. Research findings and debates get deep coverage in such outlets as Education Week and instant coverage in the blogosphere. And advocacy groups appear anxious to enlist researchers as spokespersons and draw on social science evidence to add legitimacy to their causes.

Paradoxically, it might just as well be argued that this is the worst of times. Among policy makers and many scholars, educational research has a reputation of being amateurish, unscientific, and generally beside the point. Exacerbating matters are high-profile tussles between prominent researchers publicly disparaging one another’s methods and interpretations. Researchers disagree; that is neither new nor a matter of concern. But the portrayal of the debates in the public arena reinforces cynicism with regard to the independence and potential contribution of good scientific techniques.

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Image: Photos.com
In this article, I highlight five broad structural changes that are potentially changing the demand for research, the availability and type of data, and the way research enters the public realm as part of ongoing policy and political debates.\(^2\)

NEW TECHNOLOGIES AND THE DISSEMINATION OF RESEARCH

Think tanks and advocacy organizations regularly disseminate their own studies or summarize the work of others electronically. As an indication of the scale of this activity, Andrew Rotherham’s blog, Eduwonk, gets about 1,200 to 1,400 visitors every day and includes 97 links to other education blogs, 12 links to sites providing education news and analysis, and 30 links to policy and political blogs that cover education along with other issues.

In an earlier era, the normal cycle for policy research included submission to a peer-reviewed journal, double-blind review, and requirements for revision (nine months or more from acceptance to publication). There was generally a reluctance to cite research until it had been vetted through these slower and more meticulous processes.

New technologies for dissemination have compressed the time between initial results and public release. “The cycle of news is evolving,” reports Howie Schaffer, who oversees the Public Education Network’s Weekly News Blast. He continues:

The weeklies like TIME don’t try to break news anymore; they try to have relevant analysis. The daily papers try not to get burned by breaking news that they know may evolve significantly throughout the day. The e-newsletters try to beat the bloggers to the story . . . so everyone is trying to keep their content fresh.\(^3\)

Researchers often feel pressure to get their results out there “now,” partly out of fear of being scooped and partly out of a belief that the window of opportunity to influence policy debates is open for shorter and shorter periods of time.

When speed becomes critical, normal processes for refining, checking, and simply deliberating about evidence can be short-circuited. This is especially the case in politically charged arenas in which groups with tactical interests in advancing or blocking specific policy actions can co-opt the process. Researchers may acknowledge the limitations of their own data and design, but those caveats are often the first things to be stripped from the message as others take it up. In practice, research that aligns with ideological cleavages is more likely to be pushed into the public realm, thus blurring the distinction between advocacy and unbiased analysis.

THE ACADEMY AS CONTEXT

At most universities, there has been a separation between the education faculty and the more discipline-based arts and sciences faculty.\(^4\) The growing importance of education in national politics and the emergence of market-based school reforms have attracted more economics and political science researchers to address questions of education policy. But while the reconnection of the academic disciplines offers educational research greater prestige, focus, and rigor, it is accompanied by less attention to the nitty-gritty of schooling. It is still unclear whether a meaningful dialogue will open between the recent discipline-based visitors to education and their counterparts within the mainstream educational research community.

Reengagement of the discipline-based scholars, in the meantime, may contribute to the already dysfunctional fragmentation of academic and professional journals in educational research. Within the sciences and medicine and within the social science disciplines, there are typically one or two journals thought to be reliable arbiters of importance and quality. While several educational research journals are quite good, there is no comparable flagship publication. Discipline-based researchers anchored in the academy already have strong incentives to seek to publish first in the major journals recognized by members of their departments; the absence of a recognized peak journal in educational research exacerbates that tendency.

PRIVATIZATION: GROWTH OF THE CORPORATE SECTOR IN K-12 EDUCATION

In the era of NCLB, private providers of management, education, curriculum, professional development, and testing are becoming more important but are also under increased pressure to demonstrate that their products are research-based. The large firms require significant in-house research capacity, but for various reasons — including the occasional need for the greater credibility obtained with research by independent organizations — they find it appropriate to contract with private research firms, universities, or university-based scholars acting independently from their home institutions.

Growing privatization within the education sector increases the demand for research but at the possible
cost of introducing new constraints on researchers with regard to what they can study, how they can access data, and how freely they can participate in public dialogue. Private firms have legitimate concerns about proprietary information, as well as a sharp institutional self-interest in ensuring that evaluations of their activities result in favorable reports.

**SOURCES OF RESEARCH FUNDING**

Sources of funding have their own organizational priorities and may require a tradeoff in independence. As a result, shifts in the funding environment can affect the kinds of research being done, the extent to which researchers or others are determining the research agenda and methodologies, and the ways in which research results are carried into the public arena.

Governmental support for research in the social sciences generally, and in education policy in particular, has been at a much lower level than spending on such things as health, life sciences, military technologies, and so on. For every $100 spent on research, less than $2.25 goes to the social sciences and less than $0.41 goes to research within the U.S. Department of Education.

Not only does the federal government spend relatively little on educational research, but what it does spend tends to be more tightly defined and controlled. Researchers consider basic research to be the foundation on which knowledge is built, but members of Congress often find it too far removed from the measurable payoffs in constituents' lives that they need to point to in justifying public investment. Basic research in education competes poorly with applied research (intended to determine the means by which a recognized and specific need may be met) and spending for what might be referred to as the “four Ds”: development, dissemination, data, and direct services.

In 2005, basic research made up only 3.5% of the total R&D budget for the U.S. Department of Education. In addition to being more likely to emphasize applied research and development, federal funding for research in education is more likely to take the form of contracts than grants.

The deemphasis on basic research and on investigator-initiated grants narrows the discretion left in the hands of researchers, reduces the role of peer review and other formal protections for scholarly autonomy, makes the funding somewhat less attractive to university-based researchers, gives non-university-based researchers some competitive advantages, and increases the ability of program administrators to shape studies and influence the dissemination of findings.

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With the limits and constraints of federal funding, educational researchers have been increasingly turning to private foundations for support. Most foundations do not give money designated for K-12 education, and among those that do, research is not a particularly high priority. Nonetheless, foundation funding can be quite influential in certain niches. In interviews with researchers active in the area of vouchers, charters, and school choice, I found that foundations were about three times as important as the federal government as a source of support for their work.

The way foundations and researchers come together differs from the formalized and regulated procedures involved with federal funding; it is more common that they seek each other out based on style, trust, and compatibility of mission. Foundations in general are less concerned with peer review and sophisticated research designs and more concerned with helping to shape and disseminate findings that accord with their organizational missions.

**THE DYNAMICS OF FEDERALISM**

Historically, K-12 education has been among the most localized of government functions. It is too soon to declare localization a thing of the past — its political roots are strong and resilient — but it is equally clear that changes are under way. The states began asserting themselves both as sources of funding and as promoters of academic standards during the 1980s, and the advent of NCLB marks a new era of regulatory aggressiveness from Washington, D.C. The broad dimensions of this shift are familiar, but the implications for researchers and their role in the policy process have received much less attention.

Compared to state and national education departments, local school governance bodies tend to have more bureaucratic insulation, more concrete and pragmatic needs for data and analysis, and less ideological polarization.

For researchers who are unattached to local district offices, the data collected have tended not to be conducive to investigating certain kinds of questions (for example, pinpointing inequitable distributions of resources across neighborhoods and disaggregating performance data by race, class, and special needs). Even when data are available and not directly tied to explosive issues, researchers at the local level have often found access difficult.

As involvement in education has migrated up the ladder of federalism, research is more readily drawn into the swirl of national politics, which brings a different set of pressures and incentives. Broad structural changes have made the national political environment a highly polarized one, with policy debates and partisan strategies shaped more by ideological purists than by those seeking to find common ground based on the public's generally moderate center of gravity. In this hothouse environment, studies of education with policy implications — particularly research that maps directly onto such core debates as the relative benefits of markets versus government — will be in high demand, though not altogether free of bias, if not with regard to research design and analysis then with regard to rhetoric.

So is it the best of times, or the worst of times? The current mixed picture, it seems to me, is partly a product of two good things. First, researchers have heard the message that they should descend from their ivory towers and engage the world. Second, the old model of “speaking truth to power” in which the scholar as favored advisor whispers into the ear of elite leaders, also is passé; in the age of mass media and the Internet, discourse about research has been democratized.

But it's a volatile time when promising opportunities are twinned with definite dangers. Many of the very aspects of ivory tower research that can be so frustrating — abstract concern for theory; a deliberately unhurried pace; fascination with technical aspects of research design; reliance on an internal network of peer review that can be stuffy, conservative, and insular — can serve double duty as buffers against ideology and the politicization of the knowledge enterprise. These factors also play a role in maintaining a distinction between research and advocacy, between pursuit of knowledge and pursuit of advantage, between sounding good and being right. It is an open question how far down the path of relevance researchers can travel without putting something of value at stake.

3. E-mail communication, 21 February 2007.
Examining the Incentives in Educational Research

Why isn’t there more educational research that is actually useful to policy makers? Mr. Brewer and Mr. Goldhaber find the answer in a surprising place: economics.

BY DOMINIC J. BREWER AND DAN D. GOLDBAKER

IN THEIR best seller, *Freakonomics*, University of Chicago economist Steven Levitt and *New York Times* writer Stephen Dubner show in an amusing and often provocative manner how an economic way of thinking can be useful in explaining all sorts of real-world phenomena. Their central insight is very simple: incentives are the cornerstone of modern life.

As economists, it’s no surprise that we take this proposition as the starting point in our effort to understand the educational research enterprise in the United States.

By some measures, the enterprise is quite healthy. In terms of the quantity of completed research, it’s booming, and barely a week goes by without a major national media outlet reporting on the latest finding of educational research. Unfortunately, the bulk of educational research neither is outcomes-oriented nor uses methods that support strong inferences about causality. Despite an emphasis on randomized research designs (for example, by the U.S. Department of Education) and on the use of sophisticated quasi-experimental methods (particularly those using comprehensive student-level longitudinal data), the proportion of the entire educational research enterprise that would pass muster for scientific rigor in other fields is shockingly small. Consequently, for policy makers striving to craft effective policies, the research base remains thin. We explore some of the reasons for this below.

FAILURES IN THE MARKET FOR EDUCATIONAL RESEARCH

We examine the “market” for educational research using a supply and demand framework. In this case, the consumers are the policy makers, educators, and parents who “demand” research evidence to help them make critical choices about how to allocate resources, how to teach kids, how to choose schools, and so on. The suppliers of educational research are the individuals and
organizations that produce the studies, reports, and findings.

Most markets in the private sector are brought into equilibrium by changes in price — the critical signal that tells consumers to demand more or less or suppliers to produce more or less. In the case of educational research, the "price" might be considered the monetary value placed on any particular research study of a given quality. However, the consumers and the funders are not synonymous in educational research, and both operate in institutional settings that are political (as do many of the producers). As a result, signals that direct the flow of resources devoted to educational research, unlike most private sector markets, are decidedly murky.

Anyone who desires to make an educational decision on the basis of empirical evidence — rather than intuition, casual observation, tradition, or ideology — might be considered a consumer of research. At the level of the individual student, classroom, or school site, it is educators themselves who decide what strategies to use with particular students, how students should spend their time, who teaches them, and so on. Within the bureaucratic, hierarchical, government-operated K-12 system, many decisions are made at levels "above" the school and involve all branches of government through political oversight.

In contrast to most markets, where consumers who demand and use a product pay for it directly, consumers of K-12 public education pay for these services through general taxation and in most cases cannot exercise the power of "exit" by switching providers without incurring the additional cost of private schooling. Consequently, the producers of educational research have less direct incentive to satisfy the demands of consumers because those demands are not expressed through the signal of price.

Another issue that arises in the context of the market for educational research is information. Markets need informed consumers to function well. Research would help to inform many education policy decisions. Yet because educational research is a scientific endeavor, its methods and analyses are often a mystery to those who consume. A decision maker seeking educational research may be unable to tell whether a study is well designed, believable, or usable. Work that is aimed at a broad audience, that has "face validity," and that accords with prior beliefs as to the "right answer" is likely to attract disproportionate attention.

More complex and sophisticated methods may produce reliable and valid results, but they are hard to explain. While this is not unique to the field of educational research, there are no agencies or organizations within education that act as strong quality-control gatekeepers, providing consumers with a trusted "stamp of approval." This may explain, in part, why so many intermediaries are able to interpret and synthesize educational research in ways that suit a particular agenda. It is almost inevitable that important findings and critical nuances get lost in such translations.

On the supply side, we also find important differences from traditional private-sector markets. Research is produced by individuals, but individuals (with the exception of a handful who are self-employed) are nested within organizations. Here we will distinguish between two main types of organizations: universities and think tanks or other private firms.

The incentives for those operating in think tanks or private-sector companies are relatively straightforward, since these firms are dependent on "soft money" that comes in the form of grants or contracts. In this environment, researchers face considerable pressure to raise funds from public and private agencies, as their salary trajectory and job security are directly related to the success of any fund-raising endeavors. The upside of the research supplied by soft-money institutions is that it is likely to be policy relevant, because it is "client-driven" and generally formulated to inform a specific issue for which there is an audience. Over the long term, the work produced is likely to match the expectations of the funders in terms of quality, timeliness, relevance, and so on; if it does not, then such suppliers will find themselves with less and less work, until eventually, they will go out of business.

Although many think tanks and private firms are highly influential as producers of research, the bulk of the research in education is generated by university-based academics. These academics conduct research in different departments, schools, and centers within universities. These departmental "silos" often operate semi-
autonomously, with distinct norms, policies, and expectations for who gets hired and promoted and with incentives offered for securing external funding. As a result, there is often relatively little interaction and collaboration across these boundaries. This has important implications: it reinforces the production of work that reflects a single disciplinary view of the world; it minimizes the sharing of methods and new developments; and it limits institution-wide scrutiny of the quality of research.

Within the university, the main impetus for scholarly work is job tenure, which under most conditions guarantees lifetime employment for faculty members and ensures their academic freedom to write about whatever they choose. Universities differ greatly in their tenure requirements, but usually they require publishing in peer-reviewed journals. These journals differ significantly in focus and quality and are mainly read by other academics. In many cases, a premium is placed on technical sophistication rather than on policy relevance, which means that the university tenure system provides a direct incentive not for research that is useful or relevant for policy makers or practitioners, but rather for research that academics' peers will value. Furthermore, although the tenure process encourages high-quality, high-volume research, it does not directly require academics to seek external funding for that research and may discourage long-term impact studies that generate relatively few publications. Institutions certainly like receiving external research funding as a way to offset costs. However, other than at a handful of the most highly ranked research institutions, funding is not required for promotion and tenure. All of this tends to bias work in favor of less-costly qualitative case studies, which focus on process issues rather than on the efficacy of practices, programs, and policies and which do not yield generalizable findings.

**HOW MIGHT THE INCENTIVES BE IMPROVED?**

A supply and demand framework yields important insights into the educational research enterprise and provides some clues as to how it might be made better. While we are not so naive as to think that the strong incentives governing the relevance and rigor of educational research can be changed overnight, we do believe that federal, state, and local policy makers can take steps toward improvement.

Research is demanded because it is thought to be a useful tool in guiding decision makers. Of course, ad-
equate funding is crucial to conduct research on a scale large enough and with sufficiently rigorous design to make it useful. Large-scale efficacy studies, for instance, require millions of dollars over a sustained period. Yet the federal government's research effort is split among many agencies (and divided into even smaller pots of money within each agency), and each state acts largely on its own. While there are strong pressures to divvy up funds among many small projects and powerful constituencies, the exponentially greater value of consolidated efforts must be highlighted.

States and localities could learn much more about the effectiveness of their policies by taking more of a lead in obtaining funding, maybe through consortia organized by region or common interest. These could be facilitated — or even financially induced or subsidized — by the federal government.

Private-sector companies might also take more of a lead in funding research and development within the education sector. Textbook publishers, for instance, have a vested interest in selling books. We would like to see incentives (along the lines of the What Works Clearinghouse) to make sure that the books they sell are in fact aligned with student achievement goals. It would be helpful for policy makers to encourage private interests that play key roles in the educational process to fund high-quality, independent analyses of the products and services they provide. Undoubtedly, as more private or quasi-private providers of educational services emerge, it becomes more likely that there will be nongovernment-financed R&D.

Foundations and the federal government request some “demand-driven” research, but a striking feature of educational research is the extent to which what gets done depends on the standards and the topics that research suppliers value. The result is a disproportionately large number of studies devoted to pedagogy, organizational culture, diversity, and so on that reflect the ideological biases of many of the university-based researchers.

However, there are promising developments on this front. Some foundations actively seek to fund research that is built on school districts’ priorities. For example, the Council of the Great City Schools has recently announced a fellowship funded by the Institute of Education Sciences (IES) to embed senior educational researchers in a large urban school district and have them focus on producing research that is both rigorous in nature and relevant to the specific challenges facing such districts. Perhaps the increasingly severe sanctions of NCLB and the pressures on state accountability systems will generate greater demand for good data and research that can inform decision making.

Finally, educational research needs better mechanisms of quality control to help policy makers distinguish good research from bad. Gatekeeping in educational research can and does happen on both the front and back ends. Some foundations have quite rigorous review processes, and IES reviews of research proposals are far more focused (for the better) on rigorous methodology than has been true historically of other federal efforts. The What Works Clearinghouse, the Campbell Collaborative, and initiatives of the National Academy of Education and (eventually) the American Educational Research Association have gradually increased the awareness of the importance of research design. At the same time, as the number of research outlets grows, it gets harder to separate the good research from the bad. This is deeply problematic, since most consumers of the work will not have the time or capacity to judge its quality. If the rigor and relevance of educational research are to be increased, we will need a concerted effort from both consumers of research and suppliers who recognize the desperate need for improvement.

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1. A good example of this is the What Works Clearinghouse (WWC), a federally funded effort aimed at categorizing research studies and making findings available to practitioners. From 2002 to 2006, the WWC managed to identify only 76 major reform interventions that had convincing evidence to support claims of positive effects on student outcomes. This was not because of a lack of research on a given topic — 257 studies were reviewed over this period — but because most studies don’t meet the WWC standards of evidence.

2. With the advent of within-district choice, magnet schools, charter schools, and other hybrid choice options, this statement is becoming less true. However, for the vast majority of parents across the country, the local public school remains the only viable option.

3. Each of us has worked for different types of organizations: Goldhaber has worked for a nonprofit company (CNA); a Washington, D.C., think tank (Urban Institute); and a university (as a faculty member and in an affiliated research center). He has also been a consumer of educational research as an elected member of the school board in Alexandria, Virginia. Brewer has been a researcher and corporate officer at a think tank (RAND) and a professor at a university. Both of us have received research funding from federal sources and numerous foundations, and we both are members of the Systems and Broad Reform Review Panels of the Institute of Education Sciences.

4. Other disciplines (e.g., health), despite operating in a largely university-based, tenured-faculty environment, manage to produce a great deal of useful and rigorous research of critical importance to policy makers and practitioners. This suggests that this environment is important, but perhaps not paramount, in determining what is produced by the suppliers of educational research.

5. For instance, many universities have missions other than research. Public universities have a mission to “serve the interests of the state” from which they receive the bulk of their funding. This includes aiding in state economic development, teacher training, and so on. State funds are often targeted at specific state-operated institutions for specific research projects.

6. While accountability systems help to drive data collection, it is clear that divergent state standards and the absence of national high-stakes testing undermine the efforts to assess many cross-state policies.
Flying (Partially) Blind:
School Leaders' Use of Research In Decision Making

There is a common perception that educational leaders ignore research when they make decisions about school improvement. But, Mr. Fusarelli suggests, when the research is relevant to practitioners’ needs and when school leaders foster a culture of data literacy, the picture changes.

BY LANCE D. FUSARELLI

Educators are frequently criticized for not using research to improve schooling. Critics assert that educators seem “research averse” and point out that business, the military, and even such public sector organizations as the Internal Revenue Service and the U.S. Postal Service have applied research-based best practices to improve organizational performance. The stubborn persistence of the achievement gap between whites and minorities and the failure of many education reforms to improve schooling give the appearance that school leaders are simply resistant to organizational learning.

Are schools, as currently operated, learning organizations? At first blush, the answer is obvious: of course they are; that’s what they are supposed to do. Well, yes, that is at least partially true; students learn, albeit unevenly, but it is much less clear whether adults in schools, particularly teachers and school leaders, also learn (and whether what they learn are research-based best practices or survival skills). It is assumed that educational leaders use research in making decisions about school improvement and that they don’t reinvent the wheel every time they make a decision about curricula or programs. Denis Doyle asserts that this way of operating is “so obvious and commonsensical it is hard to imagine why it is not the norm. Is there any other way to make decisions? Unhappily, the answer is yes.” For example, a scathing report on problems in the Los Ange-

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les Unified School District, the nation’s second-largest district, sharply criticized school officials for their failure to implement the recommendations of evaluations of programs and system performance and their failure to replicate successful programs throughout the district. Unfortunately, Los Angeles may not be atypical.

Surprisingly little research exists as to the extent to which educators use research in decision making. Undoubtedly, some school leaders use research, and many incorporate it into their professional practice. In interviews with superintendents, Gary Huang and his colleagues found that nearly all of them reported that they “read reports of research studies and program evaluations at least occasionally.” Unfortunately, with some exceptions, instances of how research has informed decision making or improved schooling are relatively rare. This raises the question: Why hasn’t research been used more often by school leaders to improve educational practice?

**BARRIERS TO USING RESEARCH IN EDUCATION**

Several barriers — some institutional and structural, others personal — have impeded the use of research in educational decision making. First, the research community rarely reaches consensus about which education policies work best and rarely conducts research on the practical problems faced by school leaders. School leaders are thus faced with a confounding mass of often conflicting research. A veteran superintendent remarked, “Honestly, nobody really knows what’s going on in the area. . . . Today, you read reports about this and that, next day you read reports about just the opposite. There is no consistency. That’s frustrating.” This situation makes it difficult for superintendents and principals to learn and leads to confusion and mistrust among educators. Learning is difficult, if not impossible, when the lessons themselves are unclear.

*Educational research as advocacy.* Many school leaders view educational research with skepticism, particularly when they are constantly lobbied by companies promising the latest ‘magic bullet’ that will eliminate the achievement gap (at least according to the company’s own research). Superintendents and principals are busy enough without having to sift through research spin and marketing hype. This leads some school leaders to mistrust statistics, research, and slick marketing gimmicks, viewing them “as blatant attempts to distort or manipulate an audience.”

Others distrust research because it is frequently used to promote political agendas. A superintendent in Texas questioned the meaning of research-based programs and observed, “When the [state-approved] list of ‘research based’ programs came out, companies owned by two former Commissioners of Education for the State of Texas were on the list.” The political nature of the educational process can mean that power, rather than data, rules in decision making. In such situations, data are easily distorted and organizational learning is difficult.

Furthermore, decision making and program adoption in education are shaped — and often determined — by ease of use, good marketing, lack of threat to current practice, “philosophical commitments, political necessities, and the attractiveness or popularity of ideas” rather than research-based evidence of program effectiveness. One veteran principal who has led schools in New York and Connecticut stated that many superintendents and school boards he has worked for “pick research that meets their budget needs” rather than that which has the most credible scientific support.

*Ideology and professional culture.* The professional culture of many schools “in which the ‘good’ and the ‘popular’ [are] valued more than the effective” further mitigates the use of research in decision making. Sometimes differences exist between the anecdotal professional experiences of principals and superintendents and what the research says is most effective. For example, in Los Angeles, the district’s chief instructional official admitted that she did not examine the research on the Waterford Early Reading Program before recommending that the district invest nearly $50 million to purchase the program. When asked why she ignored the research, she responded, “Every classroom situation is different. And nothing compares to L.A. I’d rather listen to my own teachers.”

The ideological and professional beliefs of school leaders often hold greater currency than abstract statistics and often trump findings from meta-analyses of research. As an award-winning principal in North Carolina stated, “Anyone can find research to support what they are doing.” A veteran New York principal conurred, asserting that “principals try to find *Kappan* articles that support their views.” This clash between the professional culture of researchers and that
of school leaders explains in large part why research is so often ignored in school decision making.

Personal and professional barriers. In addition, several personal barriers exist that limit school leaders’ use of research in decision making. The most common reasons why school leaders do not use research in decision making are lack of expertise, lack of time, cultural conflict, the questionable relevance to users’ needs, and poor communication between researchers and practitioners.15

Principals are often so busy engaging in crisis management, administrivia, and the daily operations of schooling that they have little time to devote to thoughtful, reflective, research-based strategic planning and improvement. Principals seldom have time to collaborate, discuss the data and research, and plan interventions strategically.14 An award-winning principal commented that “one of the biggest barriers to effective use of [research and] data is [not having] time built into the work day of educators to understand, analyze, and use data.” A Texas superintendent concurred and called on researchers to “highlight it for me. If what I read is the first page of the articles in administrator magazines, then give me a one-page, readable highlight of the most current research, and it will stick in my mind. If you want it read, then put it in the format that I consume.”

DATA-BASED DECISION MAKING

Although school leaders are not frequent users of traditional academic research, they do use action research and data in making decisions. A growing body of evidence suggests that school leaders in districts across the nation are incorporating data-driven practices into their decision making, often producing substantial improvements in student learning and achievement.15

For example, Connecticut mandated the creation of data teams in schools to ensure the use of data to drive instruction. Principals are required to indicate in their annual school improvement plans how data are being used to improve student achievement. In schools and districts that have institutionalized data-based decision making and action research and made them part of the organizational culture, data graphs and charts are displayed on classroom walls, in hallways, in principals’ and district leaders’ offices, and even in the rooms where the school board meets. In North Carolina and Connecticut, schools compete for the most effective “data walls.” In Florida, the superintendent of the Jacksonville school district created a war room in which the district’s strategic progress is continually reviewed and assessed. In Georgia, schools are creating data rooms in which officials analyze the performance of student subgroups and target interventions accordingly. Teachers and school leaders meet regularly throughout the year in various horizontally and vertically organized teams to disaggregate state and local performance data and decide what is working and what is not in their local context and with their students.

INCENTIVES TO USE RESEARCH IN DECISION MAKING

Superintendents must take the lead and create an environment in which evidence-based practices are implemented and valued. This requires providing release time for school leaders and teachers (during the school year and over the summer) to meet regularly to share and discuss data. Districts dedicated to data-based decision making have created district-level teams and study groups to review evidence of the effectiveness of various programs.16

However, research and evaluation are useful only when school leaders are willing to accept and act on the results. Evaluating data using building- and district-level teams is crucial. A former superintendent stated that using data teams in decision making encourages

“...It’s a get-well card from the substitute.”

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innovation and engages "the creative power of practitioners." To work in this way, however, school leaders must be trained well in principles of applied research, strategic planning, and evaluation, and they must be equipped with the technological expertise to collect, organize, and analyze student performance data. School leaders, school staffs, and school boards must all become data-literate. A veteran New York superintendent commented that in his experience, it is not always easy to get school boards to buy into using research and data as the basis for decision making. Leaders must justify the expenditure of limited resources, including time and money, to boards faced with competing demands, such as "putting up new curtains and fixing the boilers," which are "more visible and easier to justify."

To make research-based, data-driven decision making a reality in education, school leaders must spend time educating not only themselves and their staffs, but the school board and even the community. A school district in Ohio created a series of data classes for district administrators, principals, and teachers to help them develop competence and confidence in the application of statistics, the creation and management of data information systems, and data-based strategic planning. In addition, if research is to play a more prominent role in decision making, we must have greater collaboration between researchers, school leaders, and staff members in conducting research that meets practitioners' needs. As one superintendent stated, "Researchers must take the practitioners' perspectives and raise questions from the practitioners' standpoint" rather than pursuing "their own interests and their own questions." A principal in North Carolina agreed, stating that researchers need to "ask school systems about their problems and needs" if they want school leaders to pay attention to and use research in decision making. By conducting collaborative action research projects using data-based decision making, researchers and school leaders will be able to discover "what works," thereby making research more useful and relevant to practitioners' needs.

In conclusion, school leaders do use research to inform decision making. But they don't use it in the traditional way. Instead, they tend to rely more on applied, data-based, or action research than on traditional academic research produced by outsiders. Instead of constantly reinventing the wheel, making decisions through trial and error, or, worse, making decisions in the dark — an all too common practice — school leaders who use action research and engage in data-based decision making are able to promote more coherent and effective systemic reform.

4. Psychological research on children's self-image and legal research on school finance have been cited by the courts in decisions ending de jure segregation and inequities in school finance, which have significantly influenced educational practice. Many useful insights have been gleaned from studies of teacher turnover, school choice, the value of phonics mastery in the early grades, and special education. Research on elements of effective schools and whole-school reform models has helped some schools and school districts to significantly improve educational outcomes, as has research on some early reading programs, class-size reduction, and value-added accountability systems.
11. Ibid.
14. Engle et al., op. cit.; and Reeves and Burt, op. cit.
19. Corcoran, op. cit.
20. The disconnect between researchers and practitioners leads to mutual feelings of disrespect and distrust. See Huang et al., p. 16.
A Researcher Encounters
The Policy Realm:
A Personal Tale

Mr. Ingersoll offers a cautionary tale of his own exploration of a troubling problem in education. Simply gathering and analyzing data will not, he found, solve entrenched problems in education policy; some rethinking on the part of policy makers is also necessary.

BY RICHARD M. INGERSOLL

THE FAILURE to ensure that all of our nation’s classrooms are staffed with qualified teachers is one of the most widely discussed, but least understood, problems facing our elementary and secondary schools. In recent years, dozens of reports and reform initiatives have sought to solve this problem. Unfortunately, the array of recent efforts do not address some of its key causes.

One of the least recognized of these unaddressed causes is the phenomenon known as out-of-field teaching — teachers assigned to teach subjects for which they have little preparation, education, or background.

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This practice makes even highly qualified teachers highly unqualified if, once on the job, they are assigned to teach subjects for which they have little background or preparation. But this seemingly odd and irrational practice has been largely unknown to the public and to policy makers.

One of the reasons the problem has been so little noted was an absence of accurate data. However, in the early 1990s, the release of the Schools and Staffing Survey (SASS) — a major new survey of the nation’s elementary and secondary teachers conducted by the U.S. Department of Education — remedied this situation. Working with this dataset, several of us discovered that for the first time we could accurately calculate how much out-of-field teaching there really is.

My interest in researching these issues originally stemmed from my previous experiences as a secondary
school teacher. Out-of-field teaching was commonplace in the schools where I taught. I was prepared in social studies, but hardly a semester went by in which I was not also assigned a couple of classes in such fields as math or special education. I found teaching subjects for which I had little background very challenging, and my experiences left me with a number of questions: Were the schools I taught in unusual in this regard? Or was out-of-field teaching a common practice in other schools? And, if so, why? As a researcher, I wanted answers.

There is a great deal of disagreement, often heated, over how much and what kinds of education and preparation teachers ought to have to be considered adequately "qualified." Indeed, analogous to the much-discussed "reading wars," it is probably not an exaggeration to refer to "teacher-quality wars." In my research I decided to try to skirt this endless debate by adopting a minimal standard and focusing on the most compelling case. My primary focus became discovering how many of those teaching core academic subjects at the secondary level do not have at least a college minor in their teaching fields. Having a college minor, of course, does not guarantee that a teacher is qualified, but I viewed it as a minimal prerequisite. In short, I assumed that few parents would want or expect their teenagers to be taught, say, 11th-grade trigonometry by a teacher who did not have at least a minor in math or a related field, no matter how bright the teacher. I found, however, that this is often precisely what happens.

For example, the data indicated that over a third of all secondary school teachers who teach math do not have either an undergraduate or a graduate major or minor in math, math education, or such related disciplines as engineering or physics. About one-third of all secondary school English teachers have neither a major nor a minor in English or in such related subjects as literature, communications, speech, journalism, English education, or reading education. In science, just over a quarter of all secondary school teachers do not have at least a minor in one of the sciences or in science education. Finally, about a quarter of social studies teachers are without at least a minor in any of the social sciences, in social studies education, or in history. Notably, other analysts also conducted statistical analyses of SASS and reached the same conclusion.

Beginning in the mid-1990s, I began publishing the results of my investigations in numerous pieces, ranging from brief op-ed essays to lengthy scholarly articles. The results captured widespread interest. The media began to report widely what I and other researchers were documenting, and the findings were also featured in the reports and documents of numerous education ad-

vocacy groups and frequently used by lawmakers, including even President Clinton. I found myself invited to address various groups. The research and data had a direct influence on the No Child Left Behind (NCLB) Act, which explicitly requires teachers to be competent in each of the academic fields they are assigned to teach.

At first glance, this story seems to be an example of successful data-based decision making and the use of "scientifically based" research to inform policy in education. The release of new data provided a first-time opportunity for researchers, the public, and policy makers to "discover" a little known but widespread problem. The data were disseminated widely and had — and still have — an influence on policy.

But, in some ways, this is not a success story. Despite a growing awareness of the problem and its importance, out-of-field teaching remains, unfortunately, widely misunderstood.

For me, this professional experience has been both personally gratifying and personally frustrating. On the one hand, it can be gratifying and very flattering to see interest taken in, and use made of, one's work and research. On the other hand, it can be very frustrating to see one's work and research widely misrepresented and used to promote policies and remedies that are not supported by the data. The major area of misunderstanding has to do with what is perhaps the most crucial question: Why are so many teachers teaching subjects for which they have little background?

Many people assume that out-of-field teaching is a result of poor teacher preparation and education, especially a lack of academic coursework on the part of teachers. They further assume that the situation can be remedied by requiring prospective teachers to complete a "real" undergraduate major in an academic discipline or specialty.

My own case provides an illustration of just how misleading this view is. I graduated magna cum laude from the University of California with a bachelor's degree in sociology, with an additional concentration in history. Several years later, I returned to academe to take part in an intensive fifth-year teacher certification program in social studies. So I clearly had the background that policy makers would wish for. None of this background, however, kept me from being regularly assigned to teach subjects out of the field of social studies.

The truth is that almost all teachers in the U.S. have completed a college education, over 90% have full teaching certificates, and half have graduate degrees. The source of out-of-field teaching lies not primarily in the amount of education teachers have, but in the lack of fit between teachers' fields of training and their teaching assign-
ments. In short, many teachers are assigned by their principals to teach classes that do not match their training or education. There is no question that the teaching force can benefit from upgraded education and training, but such reforms will do nothing to eliminate out-of-field teaching assignments. Hence, by themselves, they will not solve the problem.

A second popular explanation of the problem of out-of-field teaching blames teacher shortages. This view holds that shortfalls in the number of available teachers, caused by a combination of increasing student enrollments and a "graying" teaching force, have led many school systems to resort to lowering standards to fill teaching openings, the net effect of which is out-of-field teaching.

This seems to be a reasonable explanation, but it is only partly correct. It is true that demand for teachers has increased in recent years, that substantial numbers of schools report difficulties filling vacancies, and that these difficulties are a clear factor that contributes to out-of-field teaching. But there are several problems with teacher shortages as an explanation for out-of-field teaching. First, shortages cannot explain the high levels of out-of-field teaching that exist in English and social studies fields that have long been known to have teacher surpluses. Second, not all schools experience recruitment problems, and the data indicate that about half of all misassigned teachers are employed in schools with no such problem.

Why then is there so much mismatch and misassignment in our schools? The answer, I have concluded, lies in a close examination of the way schools are run.

Unlike members of traditional higher-status professions, teachers have only limited authority over key workplace decisions. The data show, for instance, that teachers have little say over which courses they are assigned, or misassigned, to teach. The allocation of teaching assignments is usually the prerogative of school principals. Principals not only have the authority to decide who teaches which courses, but they also have an unusual degree of discretion. In this context, some principals find that assigning teachers to teach out of their fields of expertise is more efficient and less expensive than the alternatives. For example, rather than trying to hire a new science teacher to teach a newly mandated science course, a school principal may find it more convenient and less expensive to assign a couple of English and social studies teachers to teach a class or two in science. Similarly, when faced with the choice between hiring a fully qualified candidate for an English position and hiring a less qualified candidate who is also willing to coach a major varsity sport, a principal may find it more expedient to do the latter. If a full-time music teacher is under contract, but student enrollment is sufficient to fill only half a day of music classes, the principal may find it cost-effective in a given semester to assign the music teacher to teach half a day of English classes, in addition to music.

All of these managerial choices to misassign teachers may save time and money for the school — and ultimately for the taxpayer — but they are not cost-free. Moreover, with the advent of NCLB, they have become illegal.

The comparison with traditional higher-status professions is stark. Few would require cardiologists to deliver babies, real-estate lawyers to defend criminal cases, chemical engineers to design bridges, or sociology professors to teach English. The commonly held assumption is that such traditional professions require a great deal of skill and training; hence, specialization is assumed to be necessary. The prevalence of out-of-field teaching suggests that this assumption does not hold for elementary and secondary school teaching.

The policy implications of this alternative explanation of out-of-field teaching are clear. The way to make sure there are qualified teachers in every classroom is not to assume that the problem stems solely from a deficit in the preparation or the supply of teachers. Shifting the blame to teachers, colleges of education, or larger forces of supply and demand diverts attention from the way teachers are managed and mismanaged.

However, if assigning teachers to teach out of their fields has been a prevalent practice in school administration for decades because it is more efficient and less expensive than the alternatives, then eliminating it will not be easy and certainly won’t be accomplished simply by legislative fiat. Our analyses of the most recent data confirm this. Two years into NCLB — in the 2003-04 year — out-of-field teaching had declined very little from pre-NCLB levels. This is a discouraging finding, but perhaps also to be expected. In order to meet the goal of ensuring that all students are provided with highly qualified teachers, states will need to rethink how districts and schools go about managing their human resources — a tall order. There is a clear role here for scientific data and research, but I offer my experience with data on out-of-field teaching as a cautionary tale — one that, I hope, is not yet finished.

1. For articles and reports summarizing my research on out-of-field teaching, readers should visit www.gse.upenn.edu/faculty/ingersoll.html.
2. For a study of power and decision making in schools, see Richard Ingersoll, Who Controls Teachers' Work? Power and Accountability in America's Schools (Cambridge, Mass.: Harvard University Press, 2003).
Research and the Reading Wars

Mr. Kim looks back at the troubled history of the relationship between research and practice in the area of early reading instruction. From it he draws valuable lessons about improving the relationship between educational research and practice in general.

BY JAMES S. KIM

How do researchers resolve scientific controversies in the area of early reading instruction? Leafing through a 2005 *Kappan* special section on reading research, one might conclude pessimistically that even distinguished scholars are unable to agree on the scientific consensus about best practices in beginning reading instruction. Indeed, I was struck by the continued scholarly debate about the implications of the National Reading Panel Report of 2000 nearly five years after its publication and by the heated exchange between researchers about the efficacy of using decodable texts, sustained silent reading, and other instructional strategies for improving children’s reading skills. A cursory reading of these articles might suggest that the reading wars are alive and well in the 21st century.

However, I recently reached a more optimistic conclusion. In reviewing major research syntheses on reading since the publication of Jeanne Chall’s 1967 classic, *Learning to Read: The Great Debate*, I concluded that a broad consensus about effective reading instruction has evolved slowly over four decades. In this article, I describe how researchers have historically addressed controversies about reading instruction and explain why good research seems to have a delayed and limited impact on reading policy and practice. To conclude, I offer ideas for accelerating the communication of research to practitioners and empowering teachers to establish norms of excellent practice.

Research and Early Reading Instruction

In *Learning to Read: The Great Debate*, Jeanne Chall captured the essence of the reading wars. She noted that the many controversies about reading instruction in first grade boiled down to one question: “Do children learn better with a beginning method that stresses meaning or with one that stresses learning the code?” In her synthesis of experimental studies conducted during the 20th century, Chall found that an early code emphasis produced better outcomes in word recognition in the early grades and helped children read with better comprehension up to fourth grade than did instructional practices in which children were taught to read whole words and whole sentences.

Following the publication of Chall’s findings, Ken-
neth Goodman argued that reading was a “psycholinguistic guessing game.” In other words, good readers used context clues and background knowledge to predict, confirm, and guess at the identification of new words. Reading scholars Timothy Shanahan and Susan Neuman noted that Goodman’s study on oral reading miscues shaped the whole-language movement. Eventually, Goodman and his colleagues also influenced practice by challenging “phonics drills, word lists, and other skills-based approaches that take words out of context.”

In the 1970s and 1980s, the novel psycholinguistic theory of reading sparked the interest of cognitive psychologists seeking to understand the processes underlying skillful and fluent reading. Some researchers used eye movement technology to see if children skipped letters and words while reading text; others began to conduct experiments to understand whether context facilitated or impeded word recognition. Cognitive psychologist Keith Stanovich points out that the accumulation of research findings from the 1970s to the 1990s led to a “Grand Synthesis” of the processes underlying skillful reading. In *Toward a Literacy Society*, a 1975 publication sponsored by the National Institute of Education (NIE), Chall argued that neither phonics nor sight-word approaches were sufficient to help children become skilled readers. Instead, she reminded educators and the general public that an inflexible approach “may fail with a child if in the long run it plays down either of these aspects of learning to read. What is important is a proper balance between them.” A second NIE publication in 1985, *Becoming a Nation of Readers*, encouraged researchers to undertake multidisciplinary studies of reading, to examine the efficacy of diverse approaches to instruction, and to extend inquiry beyond decoding and early literacy instruction. One federal policy maker noted that the 1985 NIE report “shifted the entire agenda for research” by encouraging scholars to have a broader focus on reading comprehension and language development.

By the late 1990s, there was a sufficiently large body of basic research findings to forge a scientific consensus over the processes underlying skillful reading and the instructional practices that facilitated reading competence. In 1998 the National Reading Council (NRC) issued *Preventing Reading Difficulties in Young Children*, which recognized convergent findings from diverse scientific disciplines and provided an intellectual foundation on which to base evidence-based reading instruction. The editors of the NRC report noted that the consensus about how early reading developed and how instruction facilitated reading ability was “not difficult to reach.” In the preface, they underscored that teachers should “integrate attention to the alphabetic principle with attention to the construction of meaning and opportunities to develop fluency.”

Like previous reports by expert panels, the NRC report offered a new way of thinking about effective reading instruction and concluded that “research toward increasing the efficacy of classroom reading instruction in kindergarten and the primary grades should be the number one funding priority.” The National Reading Panel (NRP) report of 2000 focused squarely on the question of efficacy by reviewing empirical studies on different instructional strategies. The NRP’s review of nearly three decades of research indicated that children needed to apply letter/sound relationships to decode new words, to develop fluency through guided oral reading activities, and to use multiple strategies to improve their reading comprehension.

The findings of the NRP report directly influenced the goals of the Reading First portion of the No Child Left Behind Act, which requires eligible Title I schools to adopt scientifically based research practices in five areas of reading instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension. The five pillars of good reading instruction have encouraged practitioners to focus on a broad set of instructional strategies and reading outcomes. As Peggy McCordle and Vinita Chhabra noted in their 2005 *Kappan* article, the five pillars of scientifically based reading instruction should replace the “artificial dichotomy” between phonics and whole language. According to McCordle and Chhabra, the best science in reading suggests that “students need an integrated approach that includes instruction in all of these five key areas.”

**LESSONS LEARNED FROM THE READING WARS**

With the benefit of hindsight, we can learn several lessons about the influence of scholarship on reading
policy. First, researchers contributed to the debate about reading instruction by raising new questions, reframing issues, and articulating new definitions. Virtually every major synthesis on reading rejected the simple dualism between phonics and whole language and encouraged instruction that focused on helping children master the alphabetic principle and acquire meaning from text. In many ways, the key contribution of research to debates about early reading instruction lies not in a particular empirical finding but in a new grammar of schooling that redefines and broadens definitions of good and effective teaching.

Second, attempts to end the reading wars have typically relied on retrospective interpretations of existing research. For example, the NRP report applied selection criteria for reviewing only experimental and quasi-experimental studies published in peer-reviewed journals. Such explicit selection criteria imposed order on a morass of findings that had accumulated over three decades. However, critics of the NRP argue that the panel selectively excluded rigorous studies that might have altered some findings. Although the NRP found few experiments that examined whether encouraging children to read improved reading comprehension, Stephen Krashen and other scholars have suggested that the inclusion of a broader set of studies would have shown the positive impact of free reading activities on reading achievement. Making sense of a body of research as large and diverse as that associated with elementary reading instruction is a difficult task, and scholars from diverse disciplinary backgrounds are likely to place greater weight on different types of methodologies, studies, and results.

Prospective studies, however, would require adversaries to agree on basic design issues and research questions before conducting the study and before disseminating the findings. A 2001 article in Psychological Science provided an example of "adversarial collaboration," a formal protocol for adjudicating disputes between scholars and disseminating findings quickly to avoid controversy. The procedure requires antagonists to collaborate on a prospective study and agree on an arbiter who imposes the rules of engagement over the entire process. The arbiter helps adversaries decide on the design of the experiment, controls the data, determines the final venue for publication, and can even declare in the final publication if an uncooperative participant failed to comply with the agreed-upon protocol. One goal of adversarial collaboration is to speed up the dissemination of evidence that can potentially change the minds of skeptics. As James Cunningham has argued in his critique of the NRP report, the "best science has the power to change the thinking of those who previously disagreed with its conclusions but who are fair-minded enough to admit they were wrong once the case has been made." Ideally, encouraging adversaries to collaborate on prospective studies would accelerate the resolution of conflicts in the research community and provide more timely and relevant recommendations for educators.

Third, expert panels on reading research have had a conspicuous absence of teachers and a preponderance of university researchers. Without being represented on these expert panels, teachers and their allies have frequently argued that external mandates by federal lawmakers and university researchers threaten the professional autonomy of K-12 teachers. Convening professionally eclectic panels on reading, however, might give more teachers power to influence policy.

The use of a professionally balanced consensus panel can be seen in the United Kingdom’s response to a perceived literacy crisis in the late 1990s. When faced with the challenge of improving reading achievement in underperforming schools, leaders in the Labour Party formed a Literacy Task Force to review the research on teaching reading. One-half of the members of the task force were teachers, and none of the members of the task force had a national reputation for scholarship or for academic expertise in teaching reading.

Two important consequences flowed from the U.K.’s decision to include an even mix of teachers and non-teachers on the Literacy Task Force. First, the task force recommended a "literacy hour" that prescribed instruction on word-, sentence-, and text-level comprehension skills, and these recommendations were richly

"I won a lifetime achievement award today in kindergarten."
informed by actual observations of classroom instruction. The need for a mandatory literacy hour was prompted by inspections of classroom instruction in high-poverty schools, which revealed too much free reading time, too little teacher intervention, and insufficient attention to the teaching of phonics. Second, using a consensus panel with an equal number of teachers and researchers broadened the scope of research that informed national policy. The Literacy Task Force recommended improving reading instruction by incorporating what was a gold standard of “evidence from survey, experimental, and observational research; analyses and discussions from literary scholarship; and reports from curriculum development projects in school inspections.” The Literacy Task Force provided a voice to classroom teachers in setting national policy.

Speeding up the process whereby scientific controversies are resolved and giving classroom teachers more power to set policy are two simple strategies for making research more relevant to educators. To date, however, such strategies have been largely missing from our ongoing efforts to resolve debates in reading. As our nation faces new challenges in ensuring universal literacy for all children, my hope is that the research community will provide answers more quickly, that academic adversaries will agree to collaborate on prospective studies of reading instruction, and that expert teachers will participate in policy-making bodies. If these things happen, I am optimistic that we will be able to establish norms of excellent practice rooted in scientific research and governed by a community of peers. Ultimately, teachers must have access to truth and power if they are to create professional norms that nurture effective instruction and support efforts to help children become proficient readers.


6. Ibid., p. 15.


10. Ibid., p. 343.


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*I was acquitted.*
The Translators:
The Media and School Choice Research

What the public knows about educational research comes primarily from the media. But, Mr. Rotherham points out, few reporters have the training to judge the quality or significance of studies, and the tendency is to emphasize controversy rather than solid findings.

BY ANDREW J. ROTHERHAM

The media play a pivotal role in determining how and why research influences public opinion with regard to policy. Political scientists Shanto Iyengar and Donald Kinder have shown through experimental research involving televised news how the presentation of news stories can have a powerful impact on what Americans think about issues. Prominent columns and articles, especially in the big East Coast papers, influence political behavior among the policy and political elites and offer signals about elite thought and opinion on key issues. The debates about the research on school choice illustrate the broader challenges the media face when translating research for public consumption.

At a superficial level, school choice is a relatively easy debate for the media to cover. It can be simplified into arguments for and against vouchers, charter schools, and altering the definition of "public" schooling, and these arguments are often boiled down to an easy framework of "public" versus "private." Likewise, the question of increases in test scores fits readily into a debate about whether school choice is "working" or not. While such framing greatly oversimplifies the issues, it nonetheless drives much of the coverage precisely because it offers easy contrasts.

Yet research usually offers nuance rather than stark contrasts, and the intersection between school choice research and journalism brings to the surface a key tension between social science and journalism more generally: their different tolerance for and approaches to...
handling "error" with regard to how definitive findings are. This is not to say that journalists are cavalier about error. On the contrary, most publications employ elaborate fact-checking and editing procedures. But, in addition to its reliance on formal, replicable methods of inquiry to answer questions, social science often parts ways with journalism in its approach to error.

There are two kinds of error in social science research: saying something is true when in fact it is false, or saying something is false when in fact it is true. The bias within social science is toward making the latter mistake, known more formally as a Type II error. In other words, when in doubt, favor the non-finding over the finding. Conversely, the natural bias in journalism is toward the Type I error, reaching the conclusion that something is true (publishing the story) even if it later turns out to be false. Put another way, while both fields prize accuracy, journalists are necessarily more concerned with the time-bound nature of news and events and so prize timeliness over certainty.

This is not a new story. Richard Colvin, executive director of the Hechinger Institute on Education and the Media, notes that this has always been a source of friction between social scientists and the press. But, he observes, it is more and more prevalent because of growing competition from online media and increasing pressure on news outlets to report news quickly.

And it is a healthy tension. Newspaper stories are point-in-time projects, while the accretion of knowledge over time is the process in social science. People read newspapers to find out what is known at present. Research findings, which generally are part of a larger body of evidence and are often not definitive, must be presented in the appropriate context to be truly accurate and useful for readers. And, of course, single studies, regardless of their quality, should be considered cautiously.

The conflict arises when journalists seek a definitive angle to build a story around. Too often studies of test scores related to different school choice initiatives provide just such a slant. For instance, in a widely publicized episode, an analysis that offered no basis for causal claims, offered mixed results, and diverged from other research still landed on the front page of the New York Times in 2004 under the headline "Nation's Charter Schools Lagging Behind, U.S. Test Scores Reveal."

In addition, despite their central role as translators and referees for the public, few reporters claim to really understand research methodology or feel competent to judge it. "Most journalists don't feel comfortable sorting out good research from bad research," says Colvin. Even Jay Mathews of the Washington Post, one of the nation's leading education writers, says that while he feels more confident about judging research than most of his peers, he still consults experts for their judgment. So those who most significantly influence the public debate about research are, by their own admission, poorly suited to adjudicate it.

Unfamiliarity can also lead to "the one hand, on the other hand" arguments that leave readers to sort out multiple opinions. Grover "Russ" Whitehurst, director of the Institute of Education Sciences (IES) at the U.S. Department of Education, says, "Media reports of education research almost always try to create balance by quoting opposing points of view on the findings, as if the results were nothing more than opinion." Of course, some concerns about the validity and applicability of research are legitimate. But when given both sides of the issues, rather than some authoritative accounting, the public is understandably left confused — or worse, misled.

In an effort to help reporters on short deadlines make better use of research, Whitehurst initiated the Rapid Research Response service at IES in 2003. At no charge, the service offers analysis of education studies within two business days. Whitehurst foresaw "a tool that would help the media understand the strengths and weaknesses of education research findings. This would help them avoid reporting weak research uncritically and might also allow them to take an approach with strong research that was more in keeping with typical science reporting." In other words, Whitehurst hoped the service would lead the media to focus more on the relevance of the findings than the opinions or advocacy positions related to the study. IES has had not a single request for the service. The reasons are not clear, but the absence of requests raises important questions for those considering the rigor and reliability of media accounts of educational research.

Reporters and editors are understandably frustrated by the give-and-take of advocacy, which only confuses the issues more and makes journalists' jobs more challenging because knowledgeable, honest brokers are few and far between. In an effort to find seemingly reliable
sources of research, reporters can inadvertently look to sources that lack explanatory power. For instance, many journalists point to government-funded studies comparing public and private schools and charter schools and other public schools as especially influential and newsworthy. Allison Mitchell, education editor at the New York Times, noted that the paper had covered studies comparing traditional public schools with public charter schools and private schools because the studies were government funded. Yet recent federally funded studies of student achievement and of public, private, and charter schools are descriptive, not causal. In other words, while they document the heterogeneous nature of broad classes of schooling, these studies can’t tell us if these different kinds of schools help or hinder student learning. It is understandable that, in the adversarial world of school choice, journalists writing about research would seek a benchmark like public funding as a signal of the unbiased nature of a study, but it is still necessary for them to exercise some care and not inappropriately prioritize some studies over others.

Perspective also matters. Most education writers approach the subject from the point of view of local schools. Says the Washington Post’s Mathews, “I’m a classroom reporter, not a policy reporter.” Mathews is more interested in “using the research to identify what models are succeeding, which ones are not” than adjudicating disputes about the overall contours of choice schemes. Colvin agrees and notes that most journalists approach research seeking answers to the question “Is it working?” The problem, he says, is that such a question is inappropriate when applied to broad categories of schooling or educational inputs with substantial variation.

However, the New York Times, the nation’s most influential newspaper and a key source of information about education, does focus on education through a policy and political lens. Colvin describes the Times as covering “education from a political perspective, not from a research perspective, in terms of what we know or how our knowledge has evolved.” This orientation, he says, can at times be an “awkward imposition of a frame on a story.”

Perhaps the most noteworthy example of this political perspective was the Times’ front-page story on charter school student achievement, which I mentioned above. In August 2004 the Times published a story about the performance of charter public schools and traditional public schools on the National Assessment of Educational Progress (NAEP), a nationally representative test of student achievement. Several years earlier, charter school supporters had sought to have charters included in the NAEP sample, and the first charter data from NAEP became available in 2004.

The account in the Times was based on the release of data by the American Federation of Teachers (AFT). The data had been made publicly available on a government website, but the U.S. Department of Education had not yet released any formal analysis. The AFT should have presented the data in a way that made the findings more understandable to those unfamiliar with statistics, and it should have made the necessary caveats more obvious. The AFT’s charge, repeated by the Times, that the Bush Administration was seeking to squelch the data (despite its public availability) added drama to the story. Although the AFT did nothing to tamp down the ensuing firestorm, it did not actively misrepresent the data, and the burden of skepticism should fall harder on the Times anyway. After all, the AFT is an interest group doing what interest groups are supposed to do. It was the characterization of the data and the placement of the story by the Times, more than the underlying AFT report — which probably would have garnered little attention without the coverage — that set off the furor.

In particular, the Times story cast charter schools as a Bush Administration initiative, despite the bipartisan pedigree of the reform idea; included a chart that did not differentiate between findings that were statistically significant and those that were not; and failed to give readers context about what NAEP was, primarily the fact that it could not control for prior achievement of students, so that the effects ascribed to differ-
ent kinds of schools might have nothing to do with the schools themselves. The article also ignored a substantial body of research from studies with more explanatory power about charter schools, studies that were at odds with the thrust of the story.17

This episode, which set off an ongoing debate, demonstrates the power of the media to frame a debate on policy, and it also shows how discrete pieces of research that do hit the public debate are often shorn of any sort of context. In a single episode, all the liabilities of the debate about school choice research were highlighted: a hyperadversarial advocacy climate, reporters who have trouble making sense of complicated research evidence, and the ensuing inappropriate use of data points.

Because school choice initiatives can radically change the power arrangements in education, it's naive to expect advocates on any side of the debate to suddenly become completely fair and balanced. And, at least to date, the evidence is mixed about various school choice schemes and often depends on the questions being asked. As a result, there is plenty of fodder for advocates on both sides.

But the traits that make school choice research so hard for journalists to cover are hardly unique to that debate. Consequently, education reporters have their work cut out for them. It used to be that covering education was pretty much a "he said, she said" sort of affair, and balance meant giving both sides their say. Today, as a greater emphasis on empiricism takes hold in debates on educational research and policy, it is vital that reporters present this work in a way that allows readers to determine what new information does or does not mean. That is not easy work and is usually not black or white, but it is essential to a vigorous and healthy political debate about schools.

Unfortunately, reporters and editors say professional development for reporters is a low priority at most media outlets. Like any organization, news organizations are constantly dealing with the challenge of too much work and too few people. In addition, because reporters, especially at regional and local papers, tend to move off the education beat fairly quickly, editors are understandably skeptical of the returns they will get from professional development. Still, the sort of training that the Hechinger Institute on Education and the Media offers is one of the best ways that reporters can learn the ins and outs of consuming research and writing about it. Short of that, services like the one that IES' Whitehurst offers can also provide valuable feedback. At the end of the day, while researchers can do more to make their work — and its limitations — easily accessible for readers, there is no substitute for

"That's it, people — that's what I mean by 'forte'!"

the intelligent consumption of research. Those skills, however, can only come with training or the help of experts. As education thankfully becomes more empirical as a field and disputes over issues like school choice engage more research, those who write about education issues have to become more comfortable with empiricism, too.

2. Interview with Richard Colvin, 12 March 2007.
7. E-mail correspondence with Grover Whitehurst.
8. Ibid.
9. Ibid.
12. Colvin, op. cit.
13. Ibid.
15. For more information on NAEP, see www.nationsreportcard.gov.