Educational Researchers: Living With a Lesser Form of Knowledge

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In this article, I argue that key characteristics of educational knowledge—both constraining and enabling the work of educational researchers, as producers of this knowledge, in distinctive ways—educational knowledge is soft (vs. hard), applied (vs. pure), and provides use value (vs. exchange value). As a result, knowledge production in education is organized in a manner that is structurally egotistic and substantively divergent. Some consequences of this are negative. For example, educational researchers find themselves unable to speak authoritatively about their field and feel pressure to imitate unproductive forms of intellectual practice. Other consequences are positive. For example, they have the potential for speaking to a wider lay audience and for participating in a relatively open and unregulated mode of scholarly production.

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Education schools make easy targets. This is especially true in the United States, where education-school bashing has been a favorite sport for a wide range of participants over a long period of time. There are a number of characteristics of this institution that make it vulnerable to attack. Its origins are seen to be lowly (the 19th-century normal school), as is the standing of its primary clientele (disproportionate) drawn from the ranks of women and the working class, and it prepares students for one of the lesser professions. Its curriculum and academic standards are generally considered weak and its faculty and students less able than their counterparts elsewhere in the university.

All of these elements make the education school easy to pick on and difficult to defend. My aim in this article, however, is not to explore these familiar components of the education-school saga but to analyze the role of one particular element that has received less scrutiny than the others. The focus here will be on the kind of knowledge that education schools produce and the impact of this kind of knowledge, for better or worse, on the character of their institutional effort and the public perception of this effort. In speaking of the knowledge they produce, I mean the body of scholarly work that is generated by researchers within educational schools—as distinct from the knowledge about teaching practice that experienced teachers have and that education schools may or may not transmit to prospective teachers. The issue under study, in short, is research knowledge rather than practitioner knowledge.

My argument is this: The nature of education as a field of study leads to forms of research production that both constrain and enable educational researchers in distinctive ways. On one hand, the result is (for example) that these researchers find themselves unable to speak authoritatively about their field and feel pressure to imitate unproductive forms of intellectual practice. At the same time, they enjoy a number of advantages over researchers in contrasting fields, including a potential for speaking to a wider lay audience and for participating in a more egalitarian structure of scholarly production.

In what follows, I first examine the nature of the knowledge produced by educational researchers and compare it with other forms of knowledge generated within the university. Then I consider the implications of these forms of knowledge production for the ways in which educational and other researchers organize themselves to carry out their work. Next, I review a series of ways in which the nature of research-based educational knowledge and its organizational form produce consequences that are negative for education schools. Finally, I review some of the ways in which these same characteristics produce consequences that are positive for education schools.

The Kinds of Knowledge Produced by Education Schools

Tony Becher has written a richly suggestive book about the nature of the knowledge produced by the different academic disciplines and departments within the British and American university. In this work—with the wonderfully evocative title Academic Tribes and Territories (Becher, 1989)—he considers the impact of these knowledge differences on both the nature of the intellectual work carried on by academic practitioners and the form of organization employed to sustain this work. He starts with a familiar pair of distinctions—between hard and soft knowledge and between pure and applied knowledge—and builds his analysis from there. He identifies the following forms of educational schools and other professional schools only in passing, his argument provides lovely insights into many of the most familiar and significant characteristics of educational research.

Hard Versus Soft Knowledge

Disciplines seen as producing hard knowledge are those that are most successful in establishing the rhetorical claim that their research findings are verifiable, definitive, and cumulative. The natural sciences are the leading examples in this arena. Practitioners in the natural sciences have developed scientific methodologies, procedures, and verification rules that allow them to produce findings that can be reproduced by others, defended against challenges, and thereby become the foundation for further study.

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gradually validated to the point where the claims come to be accepted as definitive—seen as an accurate depiction of "what we know" about a particular component of the natural world. Once this kind of finding is established as functionally definitive, at least temporarily, within a scientific discourse community, then others can build on it, pushing the pursuit of knowledge in that field to the next level.

Disciplines that produce soft knowledge, by contrast, find themselves working in an intellectual terrain that is considerably less clearly defined. The humanities and most of the social sciences are the leading examples of this kind of intellectual endeavor. Research practitioners in these areas pursue various forms of inquiry in which it is much more difficult to establish findings that are reproducible and whose validity can be successfully defended against challenges by others. Such recurring causal claims is particular difficult in these fields, as the producers of soft knowledge necessarily focus the bulk of their attention on the problems of description and interpretation; how to portray and make sense of the texts or events under study in the absence of clear decision rules and validating methodologies. And practitioners in these fields often have the luxury of being able to build on a solid foundation of previous findings because these findings are always subject to challenge by researchers who adopt a different interpretive approach. As a result, producers of soft knowledge find themselves constantly re-building the foundations of their disciplines as they continually reinterpret the most fundamental issues in their fields.

I am not arguing that hard knowledge is foundational and soft knowledge is not, only that hard knowledge producers are in a stronger position rhetorically to make the claim that their work is definitive and therefore cumulative. After all, interpretation and proof are irreducible components of all inquiry. The claims of hard science are limited by community norms and purposes, and they are subject to revision and rejection by future researchers whose community norms and purposes are different (Kuhn, 1970). As a result, the validity claims of the hard disciplines are only claims difficult to contest but still contestable, durable in the short term but vulnerable over time. The advantage of hard over soft knowledge may be short-lived and largely rhetorical, but that doesn't make it any less substantial for practical purposes in the contest for contemporary credibility.

Two characteristics in particular make it difficult for researchers in soft knowledge fields to establish durable and cumulative causal claims. One is that, unlike workers in hard knowledge fields, they must generally deal with some aspect of human behavior. This means that cause only becomes apparent through the medium of willful human action, which introduces a large and usually error term into any predictive equation. These billiard balls are likely to change direction between the cue ball and the corner pocket. The other is that most projects in behavioral fields have embedded within them the values and the purposes not only of the researchers (like hard fields) but also of the actors under study. First is a messy interaction of the researcher and the research subject. From this perspective, education emerges as the softest of these fields of inquiry, the intersection of teaching and learning, curriculum and governance, educational organization and educational reform—of all these efforts by researchers to establish causal claims about them that are verifiable, de-
Evaluative approaches to those within that group's intellectual compound.

Pure versus Applied Knowledge

Disciplines that produce pure knowledge are primarily oriented around the construction of theory. Practitioners in these fields work a terrain that is abstractions from particular contexts, focusing on establishing claims of a more universal and generalizable sort than one could make if trapped within a local setting. There is an echo here of Robert Merton's distinction between cosmopolitans and locals, which is grounded in the scope of the cultural group to which people are committed belonging (Merton, 1968). In this sense, pure knowledge researchers are the cosmopolitans of intellectual inquiry, seeking to gain distance from the empirical in order to establish a larger pattern that is hidden in the clutter of detail within the close-up view. Much of the work in the natural sciences fits this description, but the latter also encompasses the most theoretical work that goes on in a wide range of disciplines, from philosophy to sociology and from literary criticism to mathematics.

Disciplines that produce applied knowledge, in contrast, focus primarily on practical issues that arise from specific contexts. The aim here is not to establish general patterns but to solve particular problems. Success is measured in relatively modest ways, according to whether or not a particular approach works in a particular setting better than alternatives that are available at the time in question. Professional schools in general have an applied orientation to knowledge and so do a wide array of disciplines—e.g., geology, psychology, and English—when they focus their attention on problem-solving more than theory-building.

From this perspective, educational knowledge production is overwhelmingly applied in character. For one thing, as stated above, education is not a discipline in the sense that cultural anthropology and physics are defined by a distinctive theoretical perspective for viewing the world (cultural and motion) and a distinctive research methodology (fieldwork and time-lapse observation). Instead, it is a public policy field focusing on a particular institutional sector. As a result, educational researchers are under pressure to focus their intellectual energies on the most vexing problems that arise within their institutional purview, rather than enjoying the intellectual freedom of pure knowledge researchers who can follow the chain of thought embedded within their own intellectual constructs. And for educational researchers, confinement to the educational arena is combined with necessity of following a normative mandate in exploring this arena. It is not enough to study what is interesting about education; the researcher is under pressure to improve it. Fields like education are sites of public policy, which means they are shaped by public goals for this sector of society and are responsible in part for the powerful consequences of this institution—for good or ill—in the lives of children and the health of society (Deonnay, 1985; Taintor, 1972). Students and learning what they need to know, race and gender and school educational outcomes, teachers are not being adequately prepared, school resources are not equally distributed, there are the kinds of concept-based and time-sensitive problems of practice that dictate the direction taken by researchers in the less-inviting applied field of education.

Exchange Value versus Use Value

In addition to the hard-core and pure-applied distinctions, there is another difference, not mentioned by Becker, that divides university researchers from each other based on the way they approach their work. In the various fields that affects the value of the education that a particular department or program provides for its students. On one hand, research can be conducted with the objective of advancing the field by exchanging it with something that is intrinsically valuable to the student, such as a good job and a niche standard of living. From this perspective, the curriculum they pursue and the actual learning that they accomplish at the university is less important than the reputation of the university (or the program within it) and the perception of its worth among employers and others in the community. On the other hand, universities can provide students with use value by giving them a set of skills and an accumulation of knowledge that will prove useful to them in carving out their varied roles in later life. From this perspective, the content of the knowledge acquired is the most important element of the educational process, quite independently of the university's (or program's) reputation. Consider how this plays out in a high school setting, where the upper curriculum tracks provide abstract academic knowledge that can be exchanged for college admissions and eventually a well-paid job (use value, high exchange value), whereas the lower tracks provide vocational knowledge that can be exchanged for a lower-level job (high use value, low exchange value).

A distinctive characteristic of the knowledge produced by educational researchers and the knowledge offered by education schools is that they have low exchange value and high use value. Educational knowledge is marked by the various stigmas that undermine its ability to provide credentials with high exchange value—for example, an association with women, the lower classes, public employment, and a "semi-profession," along with its weak academic standards and modest institutional origins. In addition, the broadly confirmed general perception of both the research and instructional programs of education schools is that they are weak, which further undermines their exchange value. In part, this is because of the hierarchy within academic knowledge pursuits, which dictates that hard knowledge production outranks soft and pure knowledge products, with applied subjects located at the bottom of both of these ranks.

Of course, the high use value of the knowledge in a field is not necessarily a threat to the prestige of that field. Medicine is an applied field whose knowledge provides high use value for its graduates, while at the same time occupying an extraordinarily high status within the university. Likewise, a number of hard pure fields with high social standing, such as mathematics or biochemistry, gain status when their efforts lead to useful social applications, such as computers and genetic testing. The key seems to be that high exchange value and hard knowledge together immunize a field from the potentially demeaning perception of being "merely useful." Medical schools are inextricably linked with the highest paid and most prestigious professions in the American occupational status order, and the demonstrable effectiveness of the hard knowledge they produce reinforces that elevated status. As a result, the exchange value they offer is...
unnecessary. But education schools are bonded to one of the
more lowly paid and more ordinary professions (closer to
nurses than doctors in the professional hierarchy), and the
visible weakness of their soft knowledge base to produce
predictable and duplicable educational outcomes only rein-
forces this subordinate position. Cursed with weak ex-
change value, education schools are doubly cursed by hav-
ing to justify themselves only on the basis of the use value
of the knowledge they produce, even though that knowl-
edge is not very useful! As we will see below, the strong as-
sociation between education and a weak use value has conse-
quences that are both negative and positive for the field.

Organizational Consequences

Becher (1989) argues that the kind of knowledge that pro-
vides the central intellectual focus for a discipline or an
area within a discipline brings with it its own distinctive
form of organization. Hard pure knowledge production calls
for a social organization of intellectual practice that he
calls arbor and convergent. The nature of hard knowl-
edge is that, for practical purposes in a particular intellec-
tual context, it can be treated as cumulative. This means
that at a given stage in the development of a discipline,
everyone is focused on solving the same intellectual prob-
lems. The intellectual structure has been raised to a partic-
ular level, and all of the thought workers are clustered
at that level. The result is that the work takes on a distinctly
urban feel. At the same time, this intellectual convergence
makes for a social structure that is quite hierarchical.
It takes novices a long time to learn the full body of knowl-
edge in order to reach the top point where the definitive knowledge ends and the real
work of intellectual inquiry begins. This means that senior people occupy a highly authoritative position because
they can direct the work at the very edge of under-
standing. It also means that the field needs to develop its
own set of rules and ways of such a field exists within itself, one
that necessarily assumes the reader or listener is informed
about all of the issues that are already resolved. As a result,
whether people write on the field or focus on the inter-
esting material at the top of the structure of knowledge
without having to bring the nonexpert up to speed.

By contrast, soft applied knowledge production calls
for a social organization of intellectual practice that Becher calls
rural and divergent. Researchers cannot build towers on the
foundations laid by others because these foundations are al-
ways being reconstructed. As a result, research work is
spread thinly over a wide area as individuals and groups
continually work at rethinking the most basic issues in the
field and as they each pursue their own interpretive ap-
proaches. The resulting terrain is laid out in a series of rural
dwellings and hamlets rather than in the kind of urban high
rises erected by researchers in a field like physics. Novices
in this setting find themselves induct quickly because the
field is wide open and no issues are considered closed off
from reconsideration. Senior people have less control over
the work of intellectual production because their own work
is so easily subject to challenge. And the field is less turned
in on itself because its boundaries are permeable, its body
of knowledge nonosteric, and its discourse diffused am-
ong a variety of divergent research communities.

The organization of knowledge production within edu-
cation schools fits the pattern of other soft applied fields
by being thoroughly rural and divergent. Intellectual work
within this field is spread all over the terrain. Researchers
feel free to charge off in all different directions without a
great deal of concern about what stage the development
of the field has attained at the moment or what directions
senior scholars want to set for the field. They constantly re-
examine old questions and reconstruct existing the-
ories. What works? Develop—for example, aroused teacher
preparation in one place and subject matter standards in
another—are the result of practical needs generated from
within the institution of education or from society’s con-
cerns about the state of this institution rather than from the
internal logic of the research effort itself. And these needs
and concerns are so numerous at any given time and so
likely to change with changing conditions that they pro-
vide only temporary and limited incentives to concentrate
resources in the classic urban manner that characterizes the
hard pure realm.

Gary Rhoades (1990) provides an insightful and influen-
tial analysis of the organizational peculiarities of American
colleges of education, which makes particular sense in light
of the preceding discussion about the kind of knowledge
that is produced in these institutions. One assertion he
makes about these institutions is the following:

Colleges of education are marked by greater technologi-
cal ambiguity and more resource dependency on well-
organized, vocal constituencies in an environment in flux
than are colleges of letters and science. As a result, col-
leges of education have more diversified organizational
structures across colleges and are more unstable both
within colleges and across fields of letters and science:
(Rhoades, 1990, p. 197)

Another assertion is this:

Colleges of education faculty are more likely than letters
and science faculty to expect and accede to managerial
category and are also more divided and thus less likely than
letters and science faculty to assert influence, forming
coalitions to defend and advance the collective inter-
ests of the college faculty. Thus, education faculty have
potentially more impact than letters and science deans.
(Rhoades, 1990, p. 205)

This argument by Rhoades follows naturally from the
argument that I have been developing about the role of
knowledge in shaping the organization of knowledge
production in education. As a soft applied field, educa-
tion is characterized by high “technological ambiguity”
(diffused intellectual focus) and high “resource depen-
dency” on “an environment in flux” (that is, a need to re-
respond to practical issues arising from school and society
rather than from the theoretical logic of the research ef-
fort itself). This means that faculty members in colleges of
education do not have natural intellectual communi-
ties to draw on for political strength, at least not in the
way that psychologists or astronomers, for example, can
draw on their national and international disciplinary
communities for support. The intellectual labor of education
school faculty is probably too diffuse, demands too diffuse de-
mands from the environment rather than to their own
colleagues or within a field of educational research. The
result is that they do not fall into intellectually distinctive
social groupings within or across colleges (education schools
do not have a standard departmental structure).
and therefore they have few social resources for asserting faculty power or for countering the managerial authority of the dean.

Negative Consequences for Education Schools

This analysis of the nature and social organization of knowledge production in education schools has significant implications for the way in which these institutions function and the way in which they are seen. Consider first some of the negative consequences for education schools and then some of the positive consequences.

Low Status Within the University

There is no doubt that education schools are located at the bottom of the academic hierarchy within the American university. An important source of this low status is the nature of the knowledge produced by faculty members in education. One characteristic of educational knowledge that hurts it in the status race is its relatively soft and applied character. The pinnacle of the academic status order is reserved for the hardest and purest of intellectual pursuits. It is not difficult to see why this would be so. Hard knowledge disciplines are able to maintain general respect because their claims to validity are so difficult to refute, while the other disciplines suffer from having to qualify, categorize, and particularize their claims.

Whereas the former seem to be standing on a firm empirical platform and speaking with a clear, loud voice, the latter waver around in a swamp of uncertainty and speak in a whisper. There is little doubt which of these will win greater attention and higher esteem. Likewise, pure knowledge fields, by addressing questions of broad theoretical scope, gain a decided status advantage over applied fields, whose scope of address is sharply limited by time and place.

In addition, educational knowledge suffers from its low exchange value. After all, exchange value is the coin of the realm in the market-based environment of the American university. These universities are unique in their extreme sensitivity to market considerations in comparison to their counterparts elsewhere in the world (Trow, 1988). Depending heavily on tuition and fees to compete for customers in a buyer's market for higher-education services, American universities have to give education consumers what they are looking for—credentials that can be exchanged for good jobs and attractive social positions (Brown, 1997). In this kind of environment, exchange value counts more than use value, and the rest of exchange value is the employers' and publics' general perception of the reputation of an institution and of the programs within that institution. This leaves education holding, as usual, the short end of the stick. What education offers is soft use value—useable knowledge of marginal validity—which is not a commodity that can compete effectively with the credentials from the more prestigious schools of the university, which offer hard and pure exchange value.

Weak Authority Within Education and Educational Policymaking

It follows from the preceding analysis that the nature of the knowledge produced within education schools also makes it so that the authority of these institutions is relatively weak, even within their own world of schools and educational policy. As Cohen and Garet (1997), in their study have pointed out, the impact of social science research on social policy is indirect at best (Cohen & Garet, 1975; Lieblich & Cohen, 1979) because of the difficulty it has in representing complete social policy consequences. The more widely researchers throw their net around a complex array of variables, the less valid and reliable their conclusions become, but the more narrowly and rigorously they construct their studies methodologically, the more likely it is that they are leaving out important variables and the more incomprehensible their findings are going to be to policymakers. Educators' researchers suffer from this syndrome at least as much as other social scientists. These problems are particularly acute for the universities within the field who are trying to create hard knowledge through educational research. The findings of educational studies that have the greatest claim to validity and reliability—are also likely to be the most trivial because real education takes place in extraordinary, complex settings where variables are intricately intertwined.

Educational researchers have an additional burden, however, that derives from their low academic status, their weak platforms, and their whispered voice. The knowledge base of educational researchers is limited by their position of marginal credibility with the educators and educational policymakers for whom their research findings should be of the greatest utility. As low-status purveyors of educational knowledge that is soft, highly contingent, and largely ungeneralizable, they are not able to speak in terms that are likely to command respect and to shape educational policy. In short, they can easily be ignored. And with the credibility of the institutional experts on education called into question like this, it leaves the field of educational reform and educational policy wide open to the influence of a wide range of others whose voices are granted at least equal standing.

Purposely Transform Education Into a Hard Science

One natural consequence of all of this is that educational researchers would seek to transform the nature of their knowledge production from soft to hard and applied to pure. This has been the mission of the American Educational Research Association over the past 40 years. All one has to do is examine the burgeoning production of scientific research on education that has arisen from this organization, as evidenced by the explosion in papers presented at its annual meetings and by the compilations of scientific research on current themes such as teaching and teacher education that have emerged from its membership.

This movement to make educational research harder and purer came to a head with the issuance of the first Horum-
There is little that researchers can do to construct towers of knowledge on the foundations of the work of others.

A Sense That the Field Is Never Getting Anywhere
One last problem that the form of educational knowledge poses for those who seek to produce it is that it often leaves them feeling as though they are perpetually struggling to move ahead but getting nowhere. If Stausburg were a scholar, his field would be education. At the end of long and distinguished careers, senior educational researchers are likely to find that they are still working on the same questions that confronted them at the beginning. And the new generation of researchers they have trained will be taking up these questions as well, reconstructing the very foundations of the field over which their mentors labored during their entire careers.

This poses a problem not only for the researcher's sense of professional accomplishment and self-esteem. It also leaves the entire field open to ridicule and lobotomizing from those who stand outside. If these people can't get to first base in their own field of expertise, then they must not be very good. So maybe they ought to step aside and let a

Pressures to Transform Education Schools

The distinctive nature of educational knowledge has produced another related form of negative impact on education schools by putting pressure on them to change their focus from the pursuit of knowledge to the production of knowledge. The result is that educational research has become a site of active controversy, one that is characterized by a lack of agreement about the nature of the research enterprise and the role of educational researchers. The controversy is fueled by a variety of factors, including the demands of the marketplace, the pressure to publish, and the desire to maintain a connection to the educational practice.
such efforts. In the absence of theoretical aspiration, edu-
cational research often seems rather patchy and pedes-
trian. But this failing arises more from intellectual laziness than from the characteristics of educational knowledge. The kind of practical knowledge that educational re-
searchers produce can be technically provocative even if it is somewhat restricted in theoretical scope, and in this context, its potential social usefulness can be both politi-
cally advantageous and vocationally gratifying for the pro-
ducers in ways that are not available to researchers in less
applied fields.

Freedom From Consumer Pressures

A related benefit for education that derives from the kind of knowledge it produces is that it is relatively free from the consumer pressures that have shaped the rest of the un-
iversity. In general, the American university has been com-
pelled to bend to the demand from consumers for programs and credentials that will serve individual ambition in the pursuit of social position. But the close identification of ed-
ucation schools with the vocational preparation of teachers and with the production of research to meet practical edu-
cational needs means that these schools are constructed around the accomplishment of social rather than individual ends. Their primary concern is social efficiency rather than individual mobility. This certainly puts constraints on both research and programs because both must be responsive to the most urgent and current societal concerns. As a result, educational researchers do not enjoy the luxury of pursuing pure inquiry in whatever direction theory might lead them—or pursuing idiosyncratic inquiry in whatever di-
rection personal preference might propel them. But at the same time, they are liberated from involvement in a market-
dominated instructional process that requires them to pro-
vide fickle educational consumers with whatever courses and programs the latter demand. And they have the satis-
faction of knowing that they are working on issues that mat-
ether, both for the individual actors within education (like teachers and students) and for the larger society.

Freedom From Disciplinary Boundaries

Another advantage that accrues to educational researchers from the nature of the knowledge they produce is that they are free to deal with educational questions from whatever disciplinary perspective or methodological approach they find appropriate. This, as in the previous example, involves several trade-offs. One is that they give up freedom of insti-
tutional focus—because educational researchers are com-
pelled to focus on education—in return for considerable freedom in the way in which they choose to explore this subject. Researchers in the disciplines are often subject to a test of disciplinary correctness that can be quite confining.

"Is this really political science?" they are asked (or history or philosophy or biology). If not, it doesn't count in the in-
ternal status order as measured by merit pay, promotion in rank, and professional recognition. But educational re-
searchers are free to be as eclectic as they wish in the way they choose to interrogate disciplinary perspectives or methodological orthodoxies. There is an attractive pragmat-
ism within educational research, which prefers to reward approaches that work rather than those that are canonical within a particular theoretical subculture. The downside here is that, at the same time that educational researchers

cut loose from unnecessary disciplinary constraints, they also frequently lose some of the methodological rigor that comes from working within a clearly defined disciplinary tradition. The result is a tolerance for poor research design and sloppy thinking. However, there is nothing in the nature of educational knowledge to prevent researchers in education from creating their own standards of rigor and from policing their own ranks in light of these standards.

Freedom From Hierarchical Constraints

The thoroughly rural and divertgent character of educational research makes for a social organization of research effort that is relatively egalitarian. Senior researchers are not in a strong position to control the research process because their authority rests on shaky foundations. The noncumulative nature of educational research means that the field is open and newcomers in a position to make contributions that are arguably as valuable as those made by the old hands. The same characteristics of educational research that allow policymakers to ignore it and other academics to ridicule it—namely its structural underdevelopment and its vulnerability to challenge—make it a field that is remarkably open and endlessly fascinating in the variety of its voices. There is nothing like confusion to create opportunity. The rural landscape of educational research provides on-dress possibilities for intellectual housekeepers to make a claim and start developing their own little piece of the terrain. Of course, large, centrally funded centers for educational research represent an important countermovement to this pattern because they resemble urban enclaves in a largely rural field and inevitably establish a kind of status order within them. But what is different about these centers in education compared with large projects in hard knowledge? And is it that they are best understood as collaborations among loosely related independent research projects, pulled together for the effort to obtain funding but not integrated into a strong social or epistemological hierarchy.

Producing Soft Knowledge Is Now the 'In Thing'

In the past decade or two, there has been a strong and highly effective series of attacks on positivism and on the validity of quantitative research. This process has been played out in a wide range of fields, beginning with the philosophy of science and moving eventually into education. All of this is thoroughly familiar to the members of the American Educational Research Association, who have seen the argument played out at great length in the pages of Educational Researcher over the past 15 years. As a result of this epistemological effort, the consensus has shifted toward a position that asserts the essential softness of hard knowledge and the essential uncertainty at the core of the validity claims made by the hard sciences. This means that soft knowledge fields such as education can now breathe a sigh of relief because the norm is now a positive reaction and not an affliction only affecting educational researchers.

Unfortunately, the newly relaxed philosophical position toward the softness of educational knowledge—combined with its freedom from disciplinary constraints and its openness to newcomers—car (and frequently does) lead to rather cavalier attitudes by educational researchers toward methodological rigor in their work. As confirmation, all one has to do is read a cross section of dissertations in the field or of papers presented at educational conferences. For many educational researchers, apparently, the successful attack on the validity of the hard sciences in recent years has led to the position that softness is not a problem to be dealt with but a virtue to be celebrated. Frequently, the result is that qualitative methods are treated less as a cluster of alternative methodologies that a license to say what one wants without regard to rules of evidence or forms of validation.

I bring up this point about the dangers of soft knowledge (paralleling earlier point about the dangers of applied knowledge and of nondiscipline-based research) as a caution to educational researchers against embracing too warmly the necessity imposed on them by the kind of knowledge they produce. For in looking for the silver lining in the cloud of problems surrounding the production of educational knowledge, we should not ignore the significance of the cloud itself. The characteristics of educational knowledge—present researchers with both advantages and disadvantages. These elements do not cancel each other out, but instead, in combination, they define a universe of working possibilities and enduring dilemmas within which educational researchers have to forge their way.

As Ability to Speak to a General Audience

From the perspective of someone in the harder and more disciplines, educational researchers speak, with a voice that is laughably amateurish. Their lack of professionalism is apparent in a discourse that does not have the lucid language and verbal shorthand of a truly advanced field of study. A paper that is truly interesting in a field such as math or biochemistry—that is, at the leading edge of theoretical development—is one that should be completely incomprehensible to an apprentice in the field, much less to a layperson. By comparison, the discourse within education is transparent in language and widely accessible in meaning. All the complaints about "educatization" only serve to prove the point because they tend to come from those completely outside the educational research community who are looking at its literature. They are not saying they cannot understand what the researchers are saying, only that they themselves could say it better. But none of these critics would think of trying to read the cutting-edge research in math or biochemistry or to complain about math- or biochem- speak because these fields are supposed to be esoteric and beyond the reach of the layperson. Education, however, is largely accessible to outsiders and therefore vulnerable to discourse critique from nonexperts.

This situation puts educational researchers in a position to become public intellectuals in a way that is not possible for scholars in fields whose knowledge development makes them incomprehensible to the ordinary citizen. It is easy for outsiders to look into education—there is, critique, criticism, and debate. But at the same time, this makes it easy for educational insiders to reach out directly to members of the public and make a case for dealing with the problems facing education and the ways in which we can do these problems in a sense, educational researchers may not have the kind of authority that comes with having a hard science, but they have a ready rhetorical access to the public that is lacking in more authoritative fields. As a result, the voices of knowledge produced by educational researchers may in fact offer them a political and social opportunity that is largely closed to the more prestigious rolins of the university.