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what can education learn from the arts about the practice of education?

Elliot W. Eisner argues that the distinctive forms of thinking needed to create artistically crafted work are relevant not only to what students do, they are relevant to virtually all aspects of what we do, from the design of curricula, to the practice of teaching, to the features of the environment in which students and teachers live. [Originally given as the John Dewey Lecture for 2002, Stanford University.]

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see, also, elliot w. eisner, connoisseurship, criticism and the art of education

Before I begin my remarks I want to express my gratitude to the Dewey Society for inviting me to deliver this address. It's the third time I have been asked to do so. The first invitation came from the University of Chicago in 1976, the second from the Dewey Society in 1979 and the third this year. I regard the invitation as both a pleasure and a privilege. For both the pleasure and the privilege I thank you.

I want to talk with you today about what education might learn from the arts about the practice of education. In many ways the idea that education has something to learn from the arts cuts across the grain of our traditional beliefs about how to improve educational practice.

Our field, the field of education, has predicated its practices on a platform of scientifically grounded knowledge, at least as an aspiration. The arts and artistry as sources of improved educational practice are considered, at best, a fall back position, a court of last resort,

something you retreat to when there is no science to provide guidance. It is widely believed that no field seeking professional respectability can depend on such an undependable source.

Despite prevailing doubts I intend to examine what a conception of practice rooted in the arts might contribute to the improvement of both the means and ends of education. What I want to do is to foreshadow the grounds for a view of education that differs in fundamental ways from the one that now prevails. To do this I will be describing the forms thinking the arts evoke and their relevance for re-framing our conception of what education might try to accomplish. To secure a perspective for the analysis, let's first look at the historical context within which our current assumptions about reliable and effective practice have been based.

The development of a technicized cognitive culture

As we know when, in the fourth quarter of the 19th century, education was coming into its own as a field of study it received its initial guidance from psychology. It was the early psychologists who were interested in making psychology a scientific enterprise, one that emulated the work done in the so-called "hard sciences." Their aim was to develop a physics of psychology; what they called psychophysics and, consistent with their mission, made laboratories rather than studios the venues for their work.[1] People like Galton in England and Helmholtz and Fechner in Germany were among its leaders and even William James, Charles Spearman, and G. Stanley Hall made passage to Europe to learn the secrets and methods of those seeking to create a science of mind. One example of the faith placed in a science of psychology can be found in Edward L. Thorndike's 1910 lead article in the *Journal of Educational Psychology.* He writes:

> A complete science of psychology would tell every fact about everyone's intellect and character and behavior, would tell the cause of every change in human nature, would tell the result of every educational force--every act of every person that changed any other or the person himself--would have. It would aid us to use human beings for the world's welfare with the same surety of the result that we now have when we use falling bodies or chemical elements. In proportion as we get such a science we shall become the masters of our own souls as we now are masters of heat and light. Progress toward such a science is being made. [2]

Thorndike's optimism was not shared by all. James and Dewey, for example, had reservations regarding what science could provide to so artful an enterprise as teaching. Never-the-less, by the end of the first quarter of the 20th century the die was cast. Except for some independent schools, Thorndike won and Dewey lost.[3] Metaphorically speaking, schools were to become effective and efficient manufacturing plants. Indeed, the language of manufacture was a part of the active vocabulary of Thorndike, Taylor, Cubberly and others in the social efficiency movement. In their vision of education students were raw material to be processed according to specifications prescribed by supervisors trained in Fredrick

Taylor's time and motion study.[4]

I suspect that even teachers working during the first quarter of the 20th century could not be coaxed into employing wholeheartedly the Taylorisms that were prescribed. Yet for many, especially for those in school administration, the managed and hyper-rationalized educational world that Fredrick Taylor envisioned became the methodological ideal needed to create effective and efficient schools.[5]

The influence of psychology on education had another fall-out. In the process science and art became estranged. Science was considered dependable, the artistic process was not. Science was cognitive, the arts were emotional. Science was teachable, the arts required talent. Science was testable, the arts were matters of preference. Science was useful and the arts were ornamental. It was clear to many then as it is to many today which side of the coin mattered. As I said, one relied on art when there was no science to provide guidance. Art was a fall-back position.

These beliefs and the vision of education they adumbrate are not altogether alien to the contemporary scene. We live at time that puts a premium on the measurement of outcomes, on the ability to predict them, and on the need to be absolutely clear about what we want to accomplish. To aspire for less is to court professional irresponsibility. We like our data hard and our methods stiff—we call it rigor.

From a social perspective it is understandable why tight controls, accountability in terms of high stakes testing, and the pre-specification of intended outcomes—standards they are called—should have such attractiveness. When the public is concerned about the educational productivity of its schools the tendency, and it is a strong one, is to tighten up, to mandate, to measure, and to manage. The teacher's ability to exercise professional discretion is likely to be constrained when the public has lost confidence in its schools.

It does not require a great leap of imagination or profound insight to recognize that the values and visions that have driven education during the first quarter of the 20th century are reappearing with a vengeance today. We look for "best methods" as if they were independent of context; we do more testing than any nation on earth; we seek curriculum uniformity so parents can compare their schools with other schools, as if test scores were good proxies for the quality of education. We would like nothing more than to get teaching down to a science even though the conception of science being employed has little to do with what science is about. What we are now doing is creating an industrial culture in our schools, one whose values are brittle and whose conception of what's important narrow. We flirt with payment by results, we pay practically no attention to the idea that engagement in school can and should provide intrinsic satisfactions, and we exacerbate the importance of extrinsic rewards by creating policies that encourage children to become point collectors. Achievement has triumphed over inquiry. I think our children deserve more.

The technically rationalized industrial culture I speak of did not begin with psychology; it

began with the Enlightenment. The move by Galileo from attention to the qualitative to a focus on the quantification of relationships was, as Dewey points out, not merely a modification in method; it was a conceptual revolution.[6] It represented a fundamental shift in the way the world was viewed and represented. According to philosopher and historian of science Stephen Toulmin the shift was from attention to the timely to attention to the timeless, from an emphasis on the oral to an emphasis on the written, from attention to the particular to the pursuit of the universal.[7]

The calculation of relations and the search for order represented the highest expression of our rationality. The ability to use what one learned about nature in order to harness it to our will was another. Rationality during the Enlightenment was closer in spirit to the proportions of the Parthanon than to the expressive contours of the Sistine ceiling. This search for order, this desire for efficiency, this need to control and predict were then and are dominant values today. They are values that pervaded the industrial revolution and they are values that reside tacitly beneath current efforts at school reform. Current educational policy expressed in President Bush's 26 billion dollar educational reform agenda is an effort to create order, to tidy up a complex system, to harness nature, so to speak, so that our intentions can be efficiently realized.

There is of course virtue in having intentions and the ability to realize them. What is troublesome is the push towards uniformity, uniformity in aims, uniformity in content, uniformity in assessment, uniformity in expectation. Of course for technocrats uniformity is a blessing; it gets rid of complications—or so it is believed. Statistics can be a comfort; they abstract the particular out of existence. For example, we comfort ourselves in the belief that we are able to describe just what every fourth grader should know and be able to do by the time they leave the fourth grade. To do this we reify an image of an average fourth grader. Of course very few policy makers have ever visited Ms. Purtle's fourth grade classroom where they might encounter red headed Mickey Malone. Mickey is no statistic. As I said particulars like Mickey Malone complicate life, but they also enrich it.

The point of my remarks thus far is to identify the roots of the increasingly technicized cognitive culture in which we operate. This culture is so ubiquitous we hardly see it. And it is so powerful that even when we do recognize it too few of us say anything. What President Bush has said about our students also applies to us: When the bandwagon starts rolling we too don't want to be left behind.

As you can tell I am not thrilled with the array of values and assumptions that drive our pursuit of improved schools. I am not sure we can tinker towards Utopia and get there. Nor do I believe we can mount a revolution. What we can do is to generate other visions of education, other values to guide its realization, other assumptions on which a more generous conception of the practice of schooling can be built. That is, although I do not think revolution is an option, ideas that inspire new visions, values, and especially new practices are. It is one such vision, one that cuts across the grain, that I wish to explore with you

today.

The contours of this new vision were influenced by the ideas of Sir Herbert Read, an English art historian, poet, and pacifist working during the middle of the last century.[8] He argued and I concur that the aim of education ought to be conceived of as the preparation of artists. By the term artist neither he nor I mean necessarily painters and dancers, poets and playwrights. We mean individuals who have developed the ideas, the sensibilities, the skills, and the imagination to create work that is well proportioned, skilfully executed, and imaginative, regardless of the domain in which an individual works. The highest accolade we can confer upon someone is to say that he or she is an artist whether as a carpenter or a surgeon, a cook or an engineer, a physicist or a teacher. The fine arts have no monopoly on the artistic.

I further want to argue that the distinctive forms of thinking needed to create artistically crafted work are relevant not only to what students do, they are relevant to virtually all aspects of what we do, from the design of curricula, to the practice of teaching, to the features of the environment in which students and teachers live.

Artistically rooted forms of intelligence

What are these distinctive forms of thinking, these artistically rooted qualitative forms of intelligence? Let me describe six of them for you and the way they might play out in school.

1. Experiencing qualitative relationships and making judgements

Consider first the task of working on a painting, a poem, a musical score. That task requires, perhaps above all else, the ability to compose qualitative relationships that satisfy some purpose. That is, what a composer composes are relationships among a virtually infinite number of possible sound patterns. A painter has a similar task. The medium and sensory modality differ but the business of composing relationships remains. To succeed the artist needs to see, that is, to experience the qualitative relationships that emerge in his or her work and to make judgments about them.

Making judgments about how qualities are to be organized does not depend upon fealty to some formula; there is nothing in the artistic treatment of a composition like the making and matching activity in learning to spell or learning to use algorithms to prove basic arithmetic operations. In spelling and in arithmetic there are correct answers, answers whose correctness can be proven. In the arts judgments are made in the absence of rule. Of course there are styles of work that do serve as models for work in the various arts but what constitutes the right qualitative relationships for any particular work is idiosyncratic to the particular work. The temperature of a color might be a tad too warm, the edge of a shape might be a bit too sharp, the percussion might need to be a little more dynamic. What the arts teach is that attention to such matters matter. The arts teach students to act and to judge in the absence of rule, to rely on feel, to pay attention to nuance, to act and appraise

the consequences of one's choices and to revise and then to make other choices. Getting these relationships right requires what Nelson Goodman calls "rightness of fit."[9] Artists and all who work with the composition of qualities try to achieve a "rightness of fit."

Given the absence of a formula or an algorithm, how are judgments about rightness made? I believe they depend upon somatic knowledge, the sense of closure that the good gestalt engenders in embodied experience; the composition <u>feels</u> right. Work in the arts cultivates the modes of thinking and feeling that I have described; one cannot succeed in the arts without such cognitive abilities. Such forms of thought integrate feeling and thinking in ways that make them inseparable. One knows one is right because one feels the relationships. One modifies one's work and feels the results. The sensibilities come into play and in the process become refined. Another way of putting it is that as we learn in and through the arts we become more qualitatively intelligent.

Learning to pay attention to the way in which form is configured is a mode of thought that can be applied to all things made, theoretical or practical. How a story is composed in the context of the language arts, how an historian composes her argument, how a scientific theory is constructed, all of these forms of human creation profit from attention to the way the elements that constitute them are configured. We need to help students learn to ask not only what someone is <u>saying</u>, but how someone has <u>constructed</u> an argument, a musical score, or a visual image. Curriculum activities can be designed that call attention to such matters, activities that refine perception in each of the fields we teach. This will require activities that slow down perception rather than speed it up.

Much of our perception, perhaps most of it, is highly focal. We tend to look for particular things in our perceptual field. The virtue of such a mode of attention is that it enables us to find what we are looking for. The potential vice of such perception is that it impedes our awareness of relationships. The up and back movement of the visitor to the art gallery when looking at a painting is an example of an effort to secure both focal awareness and attention to configuration. Teachers perform similar activities. One of the important tasks of teaching is to be able to focus on the individual while attending to the larger classroom patterns of which the individual is a part. To complicate matters these patterns change over time. The good teacher, like the good short order cook, has to pay attention to several operations simultaneously, and they do.

2. Flexible purposing

A second lesson that education can learn from the arts pertains to the formulation of aims. In western models of rational decision-making the formulation of aims, goals, objectives, or standards is a critical act; virtually all else that follows depends upon the belief that one must have clearly defined ends: Once ends are conceptualized means are formulated, then implemented, and then outcomes are evaluated. If there is a discrepancy between aspiration and accomplishment, new means are formulated. The cycle continues until xz ends and

outcomes are isomorphic. Ends are held constant and always are believed to precede means.

But is this true? In the arts it certainly is not. In the arts ends may follow means. One may act and the act may itself suggest ends, ends that did not precede the act, but follow it. In this process ends shift; the work yields clues that one pursues. In a sense, one surrenders to what the work in process suggests. This process of shifting aims while doing the work at hand is what Dewey called "flexible purposing."[10] Flexible purposing is opportunistic; it capitalizes on the emergent features appearing within a field of relationships. It is not rigidly attached to predefined aims when the possibility of better ones emerge. The kind of thinking that flexible purposing requires thrives best in an environment in which the rigid adherence to a plan is not a necessity. As experienced teachers well know, the surest road to hell in a classroom is to stick to the lesson plan no matter what.

The pursuit, or at least the exploitation of surprise in an age of accountability is paradoxical. As I indicated earlier, we place a much greater emphasis on prediction and control than on exploration and discovery. Our inclination to control and predict is, at a practical level, understandable, but it also exacts a price; we tend to do the things we know how to predict and control. Opening oneself to the uncertain is not a pervasive quality of our current educational environment. I believe that it needs to be among the values we cherish. Uncertainty needs to have its proper place in the kinds of schools we create.

How can the pursuit of surprise be promoted in a classroom? What kind of classroom culture is needed? How can we help our students view their work as temporary experimental accomplishments, tentative resting places subject to further change? How can we help them work at the edge of incompetence? These are some the questions that this aim suggests we ask.

3. Form and content is most often inextricable

A third lesson the arts can teach education is that form and content is most often inextricable. How something is said is part and parcel of what is said. The message is in the form-content relationship, a relationship that is most vivid in the arts. To recognize the relationship of form and content in the arts is not to deny that for some operations in some fields form and content can be separated. I think of beginning arithmetic, say the addition of two numbers such as 4+ 4. The sum of the numerals 4+4 can be expressed in literally an infinite number of ways: 8, eight, //// ////, VIII, 300,000- 299,992 and so forth. In all of these examples the arithmetic conclusion, 8, is the same regardless of the form used to represent it. But for most of what we do form-content relations do matter. How history is written matters, how one speaks to a child matters, what a classroom looks like matters, how one tells a story matters. Getting it right means creating a form whose content is right for some purpose. The architecture of a school can look and feel like a factory or like a home. If we want children to feel like factory workers our schools should look and feel like factories. Form and content matter and in such cases are inseparable.

Indeed, the discovery that form and content are inseparable is one of the lessons the arts teach most profoundly. Change the cadence in a line of poetry and you change the poem's meaning. The creation of expressive and satisfying relationships is what artistically guided work celebrates.

In the arts there is no substitutability among elements (because there are no separate elements), in math there is. The absence of substitutability promotes attention to the particular. Developing an awareness of the particular is especially important for those of us who teach since the distinctive character of how we teach is a pervasive aspect of what we teach. The current reform movement would do well to pay more attention to the messages its policies send to students since those messages may undermine deeper educational values. The values about which I speak include the promotion of self initiated learning, the pursuit of alternative possibilities, and the anticipation of intrinsic satisfactions secured through the use of the mind. Do we really believe that league tables published in the newspaper displaying school performance is a good way to understand what schools teach or that the relentless focus on raising test scores is a good way to insure quality education? The form we use to display data shapes its meaning.

4. Not everything knowable can be articulated in propositional form

Closely related to the form-content relationship is a fourth lesson the arts can teach education. It is this. Not everything knowable can be articulated in propositional form. The limits of our cognition are not defined by the limits of our language. We have a long philosophic tradition in the West that promotes the view that knowing anything requires some formulation of what we know in words; we need to have warrants for our assertions. But is it really the case that what we cannot assert we cannot know? Not according to Michael Polanyi who speaks of tacit knowledge and says "We know more than we can tell."[11] And Dewey tells us that while science states meaning, the arts express meaning. Meaning is not limited to what is assertable. Dewey goes on to say that that the aesthetic cannot be separated from the intellectual for the intellectual to be complete it must bear the stamp of the aesthetic. Having a nose for telling questions and a feel for incisive answers are not empty metaphors.

These ideas not only expand our conception of the ways in which we know, they expand our conception of mind. They point to the cognitive frontiers that our teaching might explore. How can we help students recognize the ways in which we express and recover meaning, not only in the arts but in the sciences as well? How can we introduce them to the art of doing science? After all, the practice of any practice, including science, can be an art.

It's clear to virtually everyone that we appeal to expressive form to say what literal language can never say. We build shrines to express our gratitude to the heroes of 9/11 because somehow we find our words inadequate. We appeal to poetry when we bury and when we marry. We situate our most profound religious practices within compositions we have

choreographed. What does our need for such practices say to us about the sources of our understanding and what do they mean for how we educate? At a time when we seem to want to package performance into standardized measurable skill sets questions such as these seem to me to be especially important. The more we feel the pressure to standardize, the more we need to remind ourselves of what we should not try to standardize.

5. Looking to the medium

A fifth lesson we can learn from the arts about the practice of education pertains to the relationship between thinking and the material with which we and our students work. In the arts it is plain that in order for a work to be created we must think within the constraints and affordances of the medium we elect to use. The flute makes certain qualities possible that the bass fiddle will never produce, and vice versa. Painting with watercolor makes certain visual qualities possible that cannot be created with oil paint. The artist's task is to exploit the possibilities of the medium in order to realize aims he or she values. Each material imposes its own distinctive demands and to use it well we have to learn to think within it.

Where are the parallels when we teach and when students learn in the social studies, in the sciences, in the language arts? How must language and image be treated to say what we want to say? How must a medium be treated for the medium to mediate? How do we help students get smart with the media they are invited to use and what are the cognitive demands that different media make upon those who use them. Carving a sculpture out of a piece of wood is clearly a different cognitive task than building a sculpture out of plasticine clay. The former is a subtractive task, the latter an additive one. Getting smart in any domain requires at the very least learning to think within a medium. What are the varieties of media we help children get smart about? What do we neglect?

It seems to me that the computer has a particularly promising role to play in providing students with opportunities to learn how to think in new ways. Assuming the programs can be developed, and it is my impression that many already have, operations are performable on the computer that cannot be executed through any other medium. New possibilities for matters of representation can stimulate our imaginative capacities and can generate forms of experience that would otherwise not exist. Indeed, the history of art itself is, in large measure, a history studded with the effects of new technologies. This has been at no time more visible than during the 20th century. Artists have learned to think within materials such as neon tubing and plastic, day glow color and corfam steel, materials that make forms possible that Leonardo daVinci himself could not have conceived of. Each new material offers us new affordances and constraints and in the process develops the ways in which we think. There is a lesson to be learned here for the ways in which we design curricula and the sorts of materials we make it possible for students to work with.

Decisions we make about such matters have a great deal to do with the kinds of minds we develop in school. Minds, unlike brains, are not entirely given at birth; minds are also forms

of cultural achievement. The kinds of minds we develop are profoundly influenced by the opportunities to learn that the school provides. And this is the point of my remarks about what education might learn from the arts. The kinds of thinking I have described, and it is only a sample, represents the kind of thinking I believe schools should promote. The promotion of such thinking requires not only a shift in perspective regarding our educational aims, it represents a shift in the kind of tasks we invite students to undertake, the kind of thinking we ask them to do, and the kind of criteria we apply to appraise both their work and ours. Artistry, in other words, can be fostered by how we design the environments we inhabit. The lessons the arts teach are not only for our students, they are for us as well.

Winston Churchill once said that first we design our buildings and then our buildings design us. To paraphrase Churchill we can say, first we design our curriculum then our curriculum designs us. What I think many of us want is not only a form of educational practice whose features, so to speak, "design us," but a form of educational practice that enables students to learn how to design themselves. Thus it might be said that at its best education is a process of learning how to become the architect of our own education. It is a process that does not terminate until we do.

6. The aesthetic satisfactions that the work itself makes possible

Finally, we come to motives for engagement. In the arts motives tend to be secured from the aesthetic satisfactions that the work itself makes possible. A part of these satisfactions is related to the challenge that the work presents; materials resist the maker, they have to be crafted and this requires an intense focus on the modulation of forms as they emerge in a material being processed. This focus is often so intense that all sense of time is lost. The work and the worker become one. At times it is the tactile quality of the medium that matters, its feel, the giving and resisting quality of the clay. At other times it is the changing relationships among fields of color. The arts, in a sense, are supermarkets for the senses. But the arts are far more than supermarkets for sensory gourmets. In the arts there is an idea which the work embodies. For the impressionists the idea was light, for the surrealists it was the unconscious, for the cubists it was time and space, for the American regionalists of the 1930's it was the ordinary lives of ordinary people that was celebrated. These interests provided direction to the work but the quality of the work was always appraised by what it did within experience.

The arts are, in the end, a special form of experience, but if there is any point I wish to emphasize it is that the experience the arts make possible is not restricted to what we call the fine arts. The sense of vitality and the surge of emotion we feel when touched by one of the arts can also be secured in the ideas we explore with students, in the challenges we encounter in doing critical inquiry, and in the appetite for learning we stimulate. In the long run these are the satisfactions that matter most because they are the only ones that insure, if it can be insured at all, that what we teach students will want to pursue voluntarily after the

artificial incentives so ubiquitous in our schools are long forgotten. It is in this sense especially that the arts can serve as a model for education.

The agenda I have proposed gives rise to more than a few questions. One is whether a conception of education that uses art as its regulative ideal is realistic? Is it asking for too much? My answer is that ideals are always out of reach. It is no different for education's ideals. The arts provide the kind of ideal that I believe American education needs now more than ever. I say now more than ever because our lives increasingly require the ability to deal with conflicting messages, to make judgements in the absence of rule, to cope with ambiguity, and to frame imaginative solutions to the problems we face. Our world is not one that submits to single correct answers to questions or clear cut solutions to problems; consider what's going on in the Middle East. We need to be able not only to envision fresh options, we need to have feel for the situations in which they appear. In a word, the forms of thinking the arts stimulate and develop are far more appropriate for the real world we live in than the tidy right angled boxes we employ in our schools in the name of school improvement.

The creation of a new culture of schooling

This brings us to the final portion of my remarks. Thus far I have tried to describe my concerns about our current efforts to use highly rationalized standardized procedures to reform education and to describe their historical roots. I then advanced the notion that genuine change depends upon a vision of education that is fundamentally different from the one that guides today's efforts at school reform. I proposed that education might well consider thinking about the aim of education as the preparation of artists and I proceeded to describe the modes of thinking the arts evoke, develop and refine. These forms of thinking, as I indicated earlier, relate to relationships that when acted upon require judgment in the absence of rule, they encourage students and teachers to be flexibly purposive; (its O.K. for aims to shift in process), they recognize the unity of form and content, they require one to think within the affordances and constraints of the medium one elects to use and they emphasize the importance of aesthetic satisfactions as motives for work. In addition, I alluded to some of the locations in the context of schooling in which those forms of thinking might be developed.

In describing some of the forms of thinking the arts occasion, of necessity I had to fragment what is a seamless, unified process. I want therefore to emphasis here that I am not talking about the implementation of isolated curriculum activities, but rather, the creation of a new culture of schooling that has as much to do with the cultivation of dispositions as with the acquisition of skills.

At the risk of propagating dualisms, but in the service of emphasis, I am talking about a culture of schooling in which more importance is placed on exploration than on discovery, more value is assigned to surprise than to control, more attention is devoted to what is

distinctive than to what is standard, more interest is related to what is metaphorical than to what is literal. It is an educational culture that has a greater focus on becoming than on being, places more value on the imaginative than on the factual, assigns greater priority to valuing than to measuring, and regards the quality of the journey as more educationally significant than the speed at which the destination is reached. I am talking about a new vision of what education might become and what schools are for.

Conclusion

I want to bring my remarks to a close by reminding all of us here that visions, no matter how grand, need to be acted upon to become real. Ideas, clearly, are important. Without them change has no rudder. But change also needs wind and a sail to catch it. Without them there is no movement. Frankly, this may be the most challenging aspect of the proposal I have made. The public's perception of the purpose of education supports the current paradigm. We need to sail against the tide.

Our destination is to change the social vision of what schools can be. It will not be an easy journey but when the seas seem too treacherous to travel and the stars too distant to touch we should remember Robert Browning's observation that "A man's reach should exceed his grasp or what's a heaven for."[12]

Browning gives us a moral message, one generated by the imagination and expressed through the poetic. And as Dewey said in the closing pages of Art as Experience, "Imagination is the chief instrument of the good." Dewey went on to say that, "Art has been the means of keeping alive the sense of purposes that outrun evidence and of meanings that transcend indurated habit."[13]

Imagination is no mere ornament, nor is art. Together they can liberate us from our indurated habits. They might help us restore decent purpose to our efforts and help us create the kind of schools our children deserve and our culture needs. Those aspirations, my friends, are stars worth stretching for.

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Links

For an assessment of Eisner's work see: Elliot W. Eisner, connoisseurship, criticism and the art of education.

How to cite this article: Eisner, Elliot W. (2002) 'What can eduction learn from the arts about the practice of education?', *the encyclopedia of informal education*, www.infed.org/biblio /eisner_arts_and_the_practice_or_education.htm .

[The headings in this piece were added by infed.org and were not in the original.]

Educational Researcher

Scientific Culture and Educational Research

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Published on behalf of

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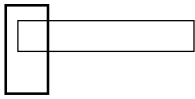
Scientific Culture and Educational Research

by Michael J. Feuer, Lisa Towne, and Richard J. Shavelson

The No Child Left Behind Act of 2001 requires federal grantees to use their funds on evidence-based strategies. The law includes definitions of research quality, which are also featured prominently in the administration's strategic plan and in draft language for the reauthorization of the U.S. Office of Educational Research and Improvement. These initiatives pose a rare opportunity and formidable challenge to the field: What are the most effective means of stimulating more and better scientific educational research? In this article, which draws on a recently released National Research Council report, the authors argue that the primary emphasis should be on nurturing and reinforcing a scientific culture of educational research. Although the article focuses on scientific research as an important form of educational scholarship, the call for building a stronger sense of research community applies broadly. Specifically, the authors argue that the development of a scientific culture rests with individual researchers, supported by leadership in their professional associations and a federal educational research agency.

To rejoice or to recoil: That is the question faced by educational researchers today. Unprecedented federal legislation exalts scientific evidence as the key driver of education policy and practice, but—here's the rub—it also inches dangerously toward a prescription of methods and a rigid definition of research quality.

The good news, surely, is that the American people through their elected leaders are (again) manifesting their faith in science as a force for improved public policy. Amid the cacophony of reform proposals and the relentless barrage of data on every aspect of schools and schooling, decision makers at all levels are clearly thirsting for the rational and disciplined evidence provided by science. The No Child Left Behind Act of 2001 (HR1), which reauthorizes the Elementary and Secondary Education Act and provides billions of dollars in federal aid, contains 111 references to "scientifically-based research"—already granted acronym status inside the Beltway as SBR. In all areas of the law's broad reach, including the big ticket items—teacher quality, safe and drug-free schools, and Title 1—states and localities will have to demonstrate that they plan to spend those funds on programs with a scientific track record.[1] After years of envy for federal support received by their compatriots in medical, technological, agricultural, and physical research, educational researchers can now rejoice: Research is in.[2]

And yet there is trepidation in the ranks. Educational researchers, like other researchers, worry that the good intentions[3] underlying the SBR movement will go awry, that narrow definitions of *research* or *science* might trivialize rather than enrich our understanding of education policy and practice, and that the splendors of unfettered scholarship will be eroded by creeping tides of conformity and methodological zealotry. Almost everyone can appreciate, intuitively, the advantages of evidence-based policy; it is another matter entirely to make this concept clear, operational, and valid. And it is another matter still to know if and how the field should respond; this is our topic. In this article we make the following arguments:

1. Nurturing and reinforcing a scientific culture of educational research is a critical task for promoting better research.
2. Scientific culture is a set of norms and practices and an ethos of honesty, openness, and continuous reflection, including how research quality[4] is judged.
3. Individual researchers and research institutions have the responsibility for developing a scientific culture.
4. A federal educational research agency and the American Educational Research Association (AERA) can and must play crucial leadership roles in fostering, supporting, and protecting a scientific culture among their grantees and members.

In making these arguments, we draw heavily from a recent report of the National Research Council (NRC) of the National Academies[5] (NRC, 2002)—authored by a committee of scholars inside and outside of education and educational research[6]— that articulates the nature of scientific research in education and offers a framework for the future of a federal educational research agency charged with supporting high-quality scientific work.

Background

Why the National Academies

This was not the first time that the federal government approached the National Academies or NRC for advice about educational research. In *A Proposed Organization for Research in Education* (1958), NRC recommended establishing a research organization for advancement and improvement of education; *Fundamental Research and the Process of Education* (NRC, 1977) called for basic research into educational processes; and *Research and Education Reform: Roles for the Office of Educational Research and Improvement* (NRC, 1992) laid the groundwork for a complete overhaul of the federal educational research agency.

The federal government's involvement of the National Academies reveals a number of underlying assumptions: First, educational research can or should be at least in part scientific. Second, the federal government specifically seeks scientific research for policy and practice decisions. Third, the quality of educational research is wanting. And fourth, consideration of the scientific

basis of educational research is itself worthy of scientific attention and should be at least partly shielded from political influence.

Recent law and impending federal policy put those assumptions into particularly sharp relief. Continuing a growing trend, Congress has codified into the most important elementary and secondary education legislation a set of requirements for SBR as a condition for receipt of federal funds. Moreover, draft language authored by Representative Michael Castle (Delaware) for reauthorization of the U.S. Office of Educational Research and Improvement (OERI), on the Congressional agenda for this year, attempts to define—in law—scientifically valid quantitative and qualitative methods, issues that are obviously more commonly treated in textbooks. The current Department of Education's Strategic Plan (http://www.ed.gov/pubs/stratplan2002-07/index.html; see Goal 4) reinforces the general principle and moves even closer to precise definitions of research quality. The unmistakable theme is for more experimentation as the basis for sound policy judgments, an issue that has been the subject of longstanding debates in the field (Boruch, DeMoya, & Snyder, in press; Cronbach et al., 1980; Cronbach, 1982; Guba & Lincoln, 1981).

Academic scientists are usually startled to find the arcana of their craft inserted in law; but surprise turns to anxiety when the law appears to instruct them on methodology and to tie public funding of research to specific modes of inquiry. The combined force of HR1 and the impending OERI reauthorization has rekindled old debates over the nature of educational research and has spurred scientists in many domains to reexamine the nature of scientific inquiry in a democracy: For many, the key question is whether legislators or scientists should ultimately decide issues of research method.

At one level, then, there is a familiar collision between science and politics, between the culture of free inquiry that bristles at governmental encroachment and the equally compelling culture of democratic accountability that demands evidence that public monies are wisely spent.[7] In fact, though, it is not solely or even mostly a conventional debate about control and funding levels for science. That would presuppose at least some amount of agreement that educational research can be scientific and a consensus on its defining scientific qualities. We believe that by requesting a study on this topic the National Educational Research Policy and Priorities Board (NERPPB), the policy arm of OERI, was again acknowledging (a) that fundamental definitional problems need to be addressed first; (b) questions of scientific method in education can easily become politicized but need to be treated scientifically; and therefore (c) the logic in approaching the institution that has been independently advising government about science, technology, and the public interest for the last 138 years (Alberts & Feuer, in press).

Some Caveats

First, the NRC committee (NRC, 2002) did not offer blanket judgments about the quality of the field or the institutions that support it.[8] The committee did acknowledge that educational research suffered from uneven quality, noting that this was also true of most fields. Similarly, if we (the article's authors) had a bias, it would be that conventional wisdom about the weaknesses of scientific educational research relative to other sci-

ences is exaggerated, and the criticisms would be equally worthy of serious investigation if leveled at other branches of the social and physical sciences or at other applied fields like medicine or agriculture.

However, we do have evidence to support the contention that educational research is perceived to be of low quality. Lack of confidence in the quality of educational research is certainly not limited to federal lawmakers. Nor has it prevented them from demanding more of it.[9] Educational researchers themselves are often their own harshest critics (e.g., Kaestle, 1993). They are often joined by a chorus of social and physical scientists, engineers, and business leaders who lament weak or absent theory, accumulations of anecdote masquerading as evidence, studies with little obvious policy relevance, seemingly endless disputes over the desired outcomes of schooling, low levels of replicability, large error margins, opaqueness of data and sources, unwillingness or inability to agree on a common set of metrics, and the inevitable intrusion of ideology at the ground level.[10]

Recent political developments—in Congress, the administration, and within the major associations that represent professional educational researchers—are also plausible indicators. Indeed, even if current interest in evidence-based policy were no more than a continuation of historical trends, it would be sufficient to warrant a careful systematic analysis.[11] Clearly the emergence of similar concerns in other sectors (e.g., the advent of evidence-based medicine) strengthens the case to revisit fundamental principles of science and their special applications to educational research.

Our final caveat concerns an important and subtle distinction between education scholarship generally and scientific educational research specifically. We focus on the latter. Though we assume unapologetically that scientific research is an endeavor that can uniquely contribute to greater understanding and improvement of education, we do not intend to minimize the significance of humanistic, historic, philosophical, and other nonscientific forms of study in education.[12] Indeed, the NRC report itself rests on a solid base of historical lessons about, and philosophical understanding of, the complexities of the topic.

We do believe, however, that the arguments we make about promoting a scientific culture can be applied to educational scholarship more broadly, in the sense that establishing a stronger sense of community within the scholarly profession would propel the field forward (Shulman, 1999). We therefore use terms like *science, research, scholarship*, and *inquiry* as essentially interchangeable in the specific context of discussing the norms and ideals of the educational research field while recognizing that these words have different meanings generally.

Taking a Step Back: SBR Redux

The current trend of bringing research to bear on education policy and practice has its roots in the broader education reform movement of the last few decades. The advent of standards-based accountability systems in the 1980s created new reasons for decision makers to rely on research. The trend has been steady, beginning with notions of bridging educational research and practice that quietly but steadily crept into federal law through the 1990s. Examples are the Reading Excellence Act of 1988[13] and

the Comprehensive School Reform Demonstration Act of 1997, which were major components of the evolving federal education enterprise and included explicit reference to the use of research-based programs.

As accountability for results became the clarion call in education reform, and as the stakes associated with measurable outcomes were raised quickly and dramatically, new incentives developed for educators to seek guidance from the research community on strategies proven effective in boosting student achievement. The transition was ably summarized by a participant in a workshop on scientific inquiry in education: ". . . Educators have never asked much of educational research and development, and that's exactly what we gave them. That's not true any more" (NRC, 2001).

This linking of standards-based reform (SBR) to scientifically-based research (SBR) has been complicated by the increasingly popular view that other fields already do better at integrating research findings into practice and education needs to catch up. A commonly heard lament is posed as a biting rhetorical question: When will education produce the equivalent of a Salk vaccine? This translates to a denunciation of educational research as being woefully inadequate at treating the fundamental pathologies of our school system, especially as compared to how medical research has informed the science of healing. The fact that "evidence-based medicine" is relatively new (see, e.g., Willinsky, 2001a); the medical community remains divided on the extent to which scientific information can or should drive practice (e.g., "Evidence-based," 2001); even the most sophisticated medical research often results in conflicting or transitory results (e.g., "Circling," 2002); and analogies between education and medicine are limited[14] does not change the underlying reality: Most people consider education behind medicine (and other fields) in the design, execution, and application of high-quality research (Raudenbush, 2002).

Against this backdrop, we develop our notion of a scientific culture and its importance in educational research by providing a summary and elaboration of select points within the NRC report. We begin with a brief history of scientific research in education and focus on the ways in which educational research shares fundamental principles with other scientific endeavors. We then argue that though all of science follows a core set of principles, each field—including education—develops its own specific norms and procedures. In this context, we discuss method: why the choice of method must be linked to the question being studied and some methods are better than others for certain types of questions. We briefly discuss the topic of randomized field trials given its current prominence in recent initiatives. Finally, we turn to the institutional question of how a federal educational research agency and AERA can promote a professional research culture, thereby fostering high-quality scientific educational research.

Culture and Community

Throughout its treatment of the history and philosophy of educational research, its depiction of the core nature of scientific inquiry in education, and its proposed framework for a federal educational research agency, the unifying theme of the NRC report is the importance of community and culture within the field. In arguing that it is the self-regulating norms of a community of investigators that propels scientific understanding forward, the committee challenges the field to develop and nurture such a culture. In this section, we elaborate on this theme and make the challenge explicit.

In Search of the Community: History and Philosophy of Science (of Education)[15]

The history of educational research is not a simple tale of progress, and its story provides important insights for its future. Educational research has a long history of struggling to become—or to ward off—science (Lagemann, 2000). It began as a branch of psychology at a time when psychology was still a part of philosophy. Moreover, many of the social and behavioral sciences that form the disciplinary core of educational research themselves have struggled to attain a sense of unity as a community of investigators (Wilson, 1998).

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In the first decade of the 20th century, psychology was emerging as a distinct field, as were the budding fields of educational psychology, history of education, and educational administration. By the 1930s, subfields of work that centered on different subjects of the school curriculum—notably reading, mathematics, and social studies—had also emerged. As educational research continued to develop new methods and questions and in response to developments in the social and behavioral sciences, research fields proliferated (Cronbach & Suppes, 1969; Lagemann, 2000).

During this time, the philosophy of the social and behavioral sciences and education was evolving, as were methods and norms of social science research. Significant advances included attention to the complexities of human thought and action (Phillips, 2000; Phillips & Burbules, 2000) and new theories and evidence on rational decision making (e.g., March & Simon, 1958). Further, more sophisticated definitions of *progress* in science and the achievement of it emerged. Linear models of progress were put aside in favor of more jagged ones. Mistakes are made as science moves forward.[16] The process is not infallible (see Lakatos & Musgrave, 1970). Critically, the history of science teaches that there is no algorithm for scientific progress, but rather that science advances through a complex combination of professional criticism and self-correction (e.g., Popper, 1959).

Given the history and epistemological evolution of educational research, the rapid growth of the field, and the sheer complexity of the enterprise, it is hardly surprising that the cadre of researchers

who study education are an eclectic mix of professionals. In the NRC report and this article we point to this fact as evidence of both a strength and a weakness of educational research. However, for the purposes of discussing a research community as the key driver promoting scientific understanding (Kuhn, 1962), it is clear that this diversity has made the development of common ground difficult.

Principles of Scientific Inquiry[17]

In elucidating the nature of scientific inquiry in education, the NRC committee had to grapple with a set of comparative questions: Is educational research different from its cousins in social and behavioral sciences or for that matter different from its more distant relatives in the physical and life sciences? If so, how? Is the so-called medical model appropriate?

The NRC report argues that all the sciences—including the scientific study of education—share a set of epistemological or fundamental guiding principles. Although no universally accepted description of the principles of inquiry exists, we argue nonetheless that all scientific endeavors

- Pose significant questions that can be investigated empirically,
- Link research to relevant theory,
- Use methods that permit direct investigation of the questions,
- Provide a coherent and explicit chain of reasoning,
- Yield findings that replicate and generalize across studies, and
- Disclose research data and methods to enable and encourage professional scrutiny and critique.

These principles need to be understood not as an algorithm, checklist, or how-to guide but rather as norms of behavior that reflect expectations for how scientific research will be conducted. It is very unlikely that any one study would possess all of these qualities although a successful program of research is likely to embody all of them.

Ideally, as in all professional communities, scientific researchers internalize these norms and community members monitor them. In short, the principles define a culture of inquiry. This culture fosters objectivity through enforcement of the rules of its "form of life" (Wittgenstein, 1968)—the need for replicability, the free flow of constructive critique, the desirability of blind refereeing—and concerted efforts to train scientists in certain habits of mind: dedication to the primacy of evidence; to elucidation and reduction of biases that might affect the research process; and to disciplined, creative, and open-minded thinking. These habits, together with the watchfulness of the community as a whole, result in a cadre of investigators who can engage differing perspectives and explanations in their work and consider alternative paradigms. Perhaps above all, communally enforced norms ensure as much as is humanly possible that individual scientists are willing to open their work to criticism, assessment, and potential revision.

What Makes Education Special?[18]

We have proposed here a broad characterization of science and argued that guiding principles apply generically to all scientific endeavors. Does this mean that educational research is the same as astronomy? Or that economics is the same as cell biology? Or that the medical model can be imported wholesale into the study of education? No. The point is that while all science shares a set of underlying principles of inquiry, the ways these norms are in-

stantiated vary in clear and important ways. Each field has features that influence what questions are asked, how research is designed, how it is carried out, and how it is interpreted and generalized.

The NRC committee described several features in education that shape its systematic study: for example, the role of values and democratic ideals in the schools; the volition and diversity of people (teachers, students, administrators); and the variability of curriculum, instruction, and governance across educational settings. The committee argued that these features, while not individually unique among professional and disciplinary fields of study, are singular in their combination and require close attention to powerful contextual factors in the research process. Scholars working in a particular area collectively—as a community—establish the scientific traditions and standards for how to most appropriately apply the guiding principles to their area of study (Diamond, 1999).

The characteristics of the profession of educational research affect the nature of the work as well as conceptions of community. For example, the presence of numerous disciplinary perspectives (e.g., anthropology, psychology, sociology, economics, neuroscience) focusing on different parts of the system means that there are many legitimate research frameworks, methods (Howe & Eisenhart, 1990), and norms of inquiry. But because numerous fields focus on different parts of the system, seemingly contradictory conclusions may be offered, adding fuel to the debates about both the specific topic and the value of the research to aid decision making. The challenge for the field of education is to bring diverse communities—both scientific and otherwise—together to integrate theories and empirical findings across domains, cultures, and methods.

Further, as in other applied fields—such as agriculture, health risk reduction, crime, justice, and welfare—educational research relies critically on relationships between researchers and those engaged in professional practice: teachers, administrators, curriculum developers, university deans, school board members, and a host of others. The educational research enterprise could not function without these relationships, and its vitality depends in part on the willingness of practitioners to participate in, or otherwise support, research.

Method Matters[19]

The NRC report argues that particular designs or methods in a study or program of research do not make them scientific. However, if (educational) research is in line with scientific principles and attends to the relevant contextual features (of education), it could then be considered scientific. Judgments about scientific merit of a particular method can only be accomplished with respect to its ability to address the particular question at hand. To organize its discussion of method around this core principle, the NRC committee used a typology based on the questions commonly framed in educational (and much social science) research: What is happening (description); is there a systematic effect (cause); and why or how is it happening (process or mechanism)? A range of methods can legitimately be employed to address each type of question, and the choice should be governed by the particular purposes and circumstances of the research.

This said, it is also true that some methods are better than others for particular purposes:

> We know that some methods of inquiry are better than others in just the same way in which we know that some methods of surgery, arm-

ing, road-making, navigating, or what-not are better than others. It does not follow in any of these cases that the "better" methods are ideally perfect. . . . We ascertain how and why certain means and agencies have provided warrantably assertible conclusions, while others have not and cannot do so. (Dewey, 1938, p. 104)

In approaching the highly contested terrain of method in educational research, the NRC report makes two major points for our purposes. First, it dispels the myth that science is synonymous with a particular method. Although method is key to science, method does not uniquely define science and choices of method are often highly nuanced. Second, specifically with respect to developing a common research culture, the report implicitly cautions researchers against organizing themselves exclusively according to common methods. The question drives the methods, not the other way around. The overzealous adherence to the use of any given research design flies in the face of this fundamental principle.

For example, when well-specified causal hypotheses can be formulated and randomization to treatment and control conditions is ethical and feasible, a randomized experiment is the best method for estimating effects.[20] Due to its prominence in recent policy initiatives and its history of controversy, this point is worth brief elaboration. Although we strongly oppose blunt federal mandates that reduce scientific inquiry to one method applied inappropriately to every type of research question, we also believe that the field should use this tool in studies in education more often than is current practice. Randomly assigning units of analysis to various conditions in education is not always feasible. Studying the impact of teacher salary on student drop out rates, for example, does not easily lend itself to this design: randomly assigning teachers to different salaries, though scientifically attractive, will most likely be practically infeasible (see Loeb & Page, 2000).[21] In other cases, the external validity of a randomized field trial may be low relative to other designs (Cronbach, 1982). And perhaps most important from a practical standpoint is the high cost of implementing these designs effectively, which should always be weighed against the potential benefits as measured by improved understanding and validity of results. The bottom line is that experimentation has been shown to be feasible in education and related fields (e.g., Bogatz & Ball, 1972; Fuchs, Fuchs, & Kazdan, 1999; see also Boruch, DeMoya, & Snyder, in press; Orr, 1999; Murray, 1998) and is still the single best methodological route to ferreting out systematic relations between actions and outcomes.

We make these claims recognizing that the language associated with this method and its application has often contributed to a narrow view of science (both inside and outside education). Indeed, although not always explicit, the rhetoric of scientifically based research in education seems to denigrate the legitimate role of qualitative methods in elucidating the complexities of teaching, learning, and schooling. When a problem is poorly understood and plausible hypotheses are scant—as is the case in many areas of education—qualitative methods such as ethnographies (Agar, 1996) and other tools like design experiments (Brown, 1992) are necessary to describe complex phenomena, generate theoretical models, and reframe questions.

In keeping with our claim of the importance of attending to context in all scientific studies of education, we believe that understanding causal processes and mechanisms requires close attention to contextual factors and that capturing these complexities typically involves qualitative modes of inquiry. Indeed, clarifying the conditions and contexts that shape causal connections in social and behavioral queries is essential for the progression of science and for its use in informing public policy. Specifically, generalizing findings and thus enriching our understanding of the applicability of a particular educational strategy across diverse settings and peoples that characterize education are issues of highest concern to those championing evidence-based education.

We want to be explicit, then, that we do not view our strong support for more randomized field trials and our equally strong argument for close attention to context in the research process as incompatible. Quite the contrary: When properly applied, quantitative and qualitative research tools can both be employed rigorously and together often can support stronger scientific inferences than when either is employed in isolation. Again, the key to progress lies in the capacity and willingness of investigators from these different perspectives to constructively engage each other's differing perspectives around the common goal of advancing understanding.

Finally, although we have focused on causal studies of education programs to illustrate our point that method is driven by the particularities of the research question, we reiterate that such queries do not constitute the whole of educational research. Nor do such studies constitute the whole of educational research that can inform school improvement, although the current policy focus is unmistakably on establishing programmatic effects. Fundamental studies of cognitive processes, ethnographic studies of cultural influences on schools and schooling, and rich descriptions of the nature of educational change in school systems are but a few such examples (see the NRC report for an array of examples that more fully depicts this range). Our point here is not to debate the relative merits of methods. No method is good, bad, scientific, or unscientific in itself: Rather, it is the appropriate application of method to a particular problem that enables judgments about scientific quality.

Again, Culture and Community

In this selected summary of the NRC report, we reinforce the committee's depiction of a community of investigators with a strong scientific culture as the key to a healthy research enterprise. This emphasis places the challenge of improving the reputation of the profession squarely in the hands of the researchers themselves. Why do lawmakers feel compelled to codify methods of educational research in federal statute? Perhaps it is because they do not trust the field to monitor itself. Indeed, one wonders if policymakers would direct epidemiologists on such matters in the authorizing statute for the National Institutes of Health (NIH), for example. To be sure, the tension between science and politics we have described is evident in every field. However, the tension in the case of educational research reflects a crisis of confidence during a particularly important time in its history that must be addressed if the field is to take full advantage of the present opportunity.

In crude terms, a culture typically grows naturally within a fairly homogeneous group with shared values, goals, and customs. Yet as we have described, researchers in education are quite

heterogeneous, engaging in their craft from different disciplinary backgrounds, viewing the enterprise through divergent epistemological lenses, employing various methods, and even holding competing objectives. The NRC committee argued not only that this diversity of perspectives is predictable given the nature of education, but that it lends the field intellectual vitality. However, it is also not surprising that it has been difficult to cultivate and build on existing consensus to develop a public character of self-regulation and communal progress.

The notion of culture, however, has evolved beyond earlier conceptions that emphasized the universal sharing of ideas. Indeed, modern anthropologists typically view cultures as typified by a good degree of internal diversity (Hannerz, 1992). Similarly, the cultural norms and ideals of a professional research community we describe here as the driver of scientific advancement do not necessitate or encourage the standardization of thought. Such a scenario would be anathema to scientific innovation and would connote an oversimplified conception of education. Indeed, we must dispense with the myth that any scientific community will be of one mind at any given point in time or, related, that there is a simple panacea for the ills of schools just waiting to be discovered by educational researchers.

These acknowledgments notwithstanding, we stand by our call to the research community to focus on what unites rather than on what divides. It is vital to encourage stronger collective attention to ensuring rigor and objectivity and promoting consensus building, particularly at this unprecedented historical moment. Taking proactive steps to cultivate a "community of practice" (Wenger, 1998) in the profession can focus needed attention on guarding "against the dangers of compartmentalization . . ." and developing " . . . a sense of the big picture and how things fit together" (Schoenfeld, 1999, p. 170). It is in this sense that we argue for understanding and appreciating the multiple perspectives in education in the service of developing a strong, self-regulating culture. And we believe that a key part of this multifaceted task must include a focus on developing rigorous norms that ensure scientific principles are properly applied to the educational problems and questions that are the grist for the educational researcher's mill. In short, researchers must have a clear, commonly held understanding of how scientific claims are warranted.

We believe it is the failure of the field to develop such a community and to forge consensus on such matters as research quality and coordination of perspectives that has contributed to an environment in which members of Congress are compelled to impose them. And we are certainly not the first to suggest that attention to building a community is an essential task of the future for educational researchers (see, e.g., Pallas, 2001; Shulman, 1999). In stark terms, we believe that if the field is to argue convincingly that it is inappropriate for science to be defined by political forces—which we believe is true—then it is incumbent upon the field to cultivate its own form of life including, however difficult this may be, attention to bolstering research quality.

We do not purport to offer a comprehensive strategy for charting the course of the future. The talent pool in educational research is shaped by a number of structural, historical, and cultural factors, and the field is characterized by deep epistemological and methodological complexities. We also acknowledge that self-regulating

norms in other scientific disciplines are, in many instances, implicit rather than codified: that is, it is not necessarily the case that scientific societies have written enforceable rules for their own members, though the successful scientific disciplines do tend to operate at least to an extent as if such rules existed. For example, educational research would be naïve if it did not allow for multiple outcomes to be explored and measured: The historical, cultural, political, and ideological influences on education policy and hence on educational research are real and inescapable. At the same time, this proliferation of outcome measures presents a formidable obstacle to replicability, the accumulation of enduring knowledge, and the capacity to achieve consensus. We have tried, however, to provide a compelling justification that given the current policy environment and the importance of a cohesive community in scholarly endeavors generally, grass-roots action is warranted. And we do suggest that central institutions like a federal educational research agency and AERA must lead the way.

Institutional Leadership

A Federal Educational Research Agency[22]

The NRC committee did not join the debate about the future of OERI by taking on the specific battles of the day (e.g., should OERI be organizationally separate from the U.S. Department of Education? Should evaluation of federal programs be placed under OERI?). Rather, it offered a set of design principles for a federal educational research agency with the overarching goal, again, of developing a scientific culture that promotes rigorous scientific research. The premise is that just as the scientific enterprise is supported through the norms of the research community, cultivating these values within a research agency is a key to its success.

Human resources. A scientific culture begins and ends with people. Attracting and retaining qualified leaders, staff, board members, and peer reviewers is therefore critical to a healthy federal educational research agency. Unfortunately, however, the current federal educational research agency, OERI, suffers from a poor reputation, and meager resources have resulted in drastic reductions in staff in the last few decades (Vinovskis, 2001). No quick policy fix will improve the situation. Federal educational research agency leaders will need to work hard to make federal service attractive; this would likely involve a mix of strategies to improve its reputation and to develop a staff that includes both core permanent staff and short-term visiting scholars. Providing ongoing professional development opportunities for research staff will also be critical to allow continuing and sustained interaction with the broader research communities. Still another way for a federal educational research agency to cultivate scientific norms and practices in its staff is to engage in collaborative research efforts with other agencies to encourage interdisciplinary interaction and learning. Above all, agency leadership and staff must themselves be highly respected researchers who espouse and understand scientific norms, especially with respect to issues of research quality. Adequate funding is of course a critical issue in itself,[23] but it is also related to the ability to staff the agency with high caliber researchers. Increasing funding levels will make educational research generally and federal service specifically more attractive professional options.

Ultimately, the responsibility to engage topflight researchers in the work of the agency in the short term and to enhance the profession in the long term does not rest solely with the federal government. It is the professional responsibility of researchers to participate in efforts that promote scientific collaboration, consultation, and critique, and a federal agency is a natural place to engage in that work. The future of the field—and the federal agency that supports it—will depend in no small part on finding new ways to harness the scholarly potential of its diverse perspectives. Formal peer review is potentially a critically important mechanism in this regard.

Self-regulation and focus. Peer review is the single most commonly used mechanism for nurturing a scientific culture within and outside federal research agencies and should play a central role in a federal educational research agency. Ideally, peer review is both a process by which scientific work is assessed and funded and a product that provides a venue for the scientific culture of self-regulation (Chubin & Hackett, 1990). Peer review can be successfully employed as a feedback mechanism for the field (NRC, 2001). The review process encourages the development of an active community of scientists working together on education problems: The process of reviewing proposals and communicating feedback fosters the development of common standards of quality and other scientific norms in the field over time.

The process of peer review, then, is an essential mechanism for fostering a common culture among the diverse group of researchers who study education. If standing review panels (akin to NIH study sections) are used as primary peer review vehicles, researchers can provide continuity in overseeing research programs that focus the resources of the agency on solving core problems in education. This suggestion reinforces the recommendations of several other groups to target federal educational research resources in this way, including the RAND panels (see http://www.rand.org/multi/achievementforall/), the NERPPB (2000) in its policy statements, and the NRC's Strategic Educational Research Partnership (1999).

Such programs would focus the diverse strengths of the field on common problems and provide a framework for the development of regular syntheses of related work. Although the NRC report points to several successful lines of work that have generated cumulative knowledge over a sustained period, it also argues that more such focused inquiry is needed. Taking stock of the state of current knowledge on a regular basis is a key part of the culture of inquiry that enables scientific consensus, extends the boundaries of what is known, identifies knowledge gaps, and lays the groundwork for future investigation.

A final word on peer review: Although we strongly believe in its merits as a mechanism for developing the community character of scientific educational research, it is not perfect. It can stifle innovation (Cicchetti, 1991), and its successful implementation will require diligence and care with respect to the composition of review panels. The key to peer review, of course, is competent peers, and understanding what *competent* means in scientific educational research is complex given the diversity associated with the field.

Political insulation: A porous buffer. A federal educational research agency must be designed to prevent inappropriate political criteria from entering into the agency's agenda for research, its

choice of research studies, its selection of grantees, and its scientific norms. Ensuring that political interference is minimal will help foster a scientific culture, protect the scientific process, and prevent research from being sacrificed to the policy passions and practice fads of the day. However, it is unrealistic and undesirable to buffer the agency from politics completely. It would be simply incompatible with the American tradition of democratic governance to exclude political and social influences from decisions about research priorities or to assume that the research community (unlike any other sector in U.S. society) deserves complete immunity from external accountability. Although research should not be driven only by the needs of the moment, proper attention must be paid to concerns of the general public and the nation's leaders.

Another reason to allow for what we call a "porous buffer" is more practical: For the research community to gain the respect and credibility it needs to ensure continuous financial and intellectual support and promote better research, stewards of the enterprise need to maintain healthy and collegial relations with the potential "consumers" of their work both in and out of government. To do so requires more sustained interaction between researchers and other education stakeholders than is currently typical.[24]

Infrastructure: People and processes. To promote high-quality educational research, a federal educational research agency must also invest part of its annual appropriations in research infrastructure. Simply funding more studies will not be enough to foster the development of the field in the long term. Importantly, the federal government is uniquely positioned to make substantial funding available for promoting the long-term capacity of the research community. The NRC committee specifically recommended investment in three connected pillars of the scientific research infrastructure: the research community; data development, information sharing, and access; and links to practice and policy communities. We elaborate on the first two as they relate to developing a scientific culture.

A federal agency must play a role in nurturing the community of educational researchers. The greater the field's ability to conduct high-quality scientific research in education and to monitor and maintain high scientific standards, the greater is the likelihood the agency will succeed in its mission. Further, a federal agency can leverage its investment in human resources through partnerships with other federal agencies, scholarly professional associations, colleges and universities (especially schools of education), journal publishers, and others. These partnerships could lay the foundation for broad-based efforts aimed at various parts of the system that interact with the educational research profession. For example, partnerships with journal publishers and professional associations could lead to the development and monitoring of guidelines or standards for journal publications and professional meetings. Collaborations with professional associations might feature training and fellowship programs for young scholars, such as the AERA Institute on Statistical Analysis for Education Policy (http://www.aera.net/grantsprogram/subweb/SIFly-FR.html) at AERA annual meetings, part of the AERA Research Grants Program (Shavelson, 1991).[25] The agency could also forge links with schools of education, schools of arts and sciences, and other uni-

versity departments to develop strategies for training and supporting future scientists in educational research.

Investing in the community is a long-term undertaking. Current scholarship in education is generated by investigators trained in schools of education as well as in, for example, psychology, history, economics, sociology, mathematics, biology, and public policy departments. In schools of education, students often pursue non-research-oriented goals (e.g., school administration) and may therefore reach the graduate level without research training. Beyond graduate training of educational researchers, publication standards and peer review also vary considerably in education journals as in other fields. These complex structural issues will require careful study and innovative approaches to address them effectively. These efforts on the part of a federal agency cannot be accomplished without the active cooperation of individual investigators in pursing these common goals.

Investing in data development, promoting secondary data analysis, and fostering ethical access to research participants is another key infrastructure investment of a federal educational research agency. Data derived from multiple methods (e.g., surveys, videos) and stored centrally can facilitate professional communication and collaboration and in particular attempts at replication—a fundamental principle of all scientific endeavors. The development of common constructs can also contribute to a cohesive knowledge core and further enhance theoretical understanding. Related, technological advances such as listservs, bulletin boards, and rising capacities for database storage and analysis offer rich resources for the research community and the potential to advance the field in turn (Pea, 1999).

The American Educational Research Association

To its credit, AERA, an international professional organization with the primary goal of advancing educational research and its application, has taken important steps to improve the educational research infrastructure in recent years (often, it should be noted, in collaboration with OERI). For example, a Research Advisory Committee focuses on issues related to research quality, the preparation of new researchers, and funding. (See http://www.aera.net/about/whoswho/radcomm.htm).

Moreover, AERA sponsors research-training programs at its annual meeting and at other times during the year. For example, for the past 11 years, the AERA Research Grants Program (http://www.aera.net/grantsprogram), sponsored by National Center for Education Statistics (NCES), National Science Foundation (NSF), and OERI, has had the goals of stimulating quantitative policy and practice related research on U.S. education using large-scale, nationally representative NCES and NSF data sets; encouraging and training in the use of these data sets; and placing scholars at NCES and NSF to learn about the education policy environment and to serve as resident resources while conducting independent research. And the new AERA/OERI Grants Program's goals are stimulating research on fundamental educational issues (with a priority for the education of poor, urban, or minority students and for mathematics and literacy education); attracting a cadre of talented scholars and enhancing their research preparation; building a network of scholars whose collaborations focus on high priority educational issues; and contributing to basic knowledge, policy, and the improvement of practice in educationally important contexts (http://www.aera.net/anews/announce/af01-002.htm). We commend AERA for these initiatives but suspect that only a small fraction of its more than 20,000 members are aware of—let alone influenced by—these efforts. To borrow from a phrase made famous in corporate America, quality is still "Job 1," and AERA needs to be empowered by its members to do what it can to maintain and nurture its continuous improvement.

Tough questions for AERA, a federal educational research agency, and the field to address include the following: What are the key experiences and practices that should form the core of a scientific community and culture? In particular, what are the possibilities and barriers to forging consensus about what constitutes quality in scientific and other educational research? How can conceptual understandings based on warranted knowledge be accumulated? How can AERA researchers capitalize on the strengths that emanate from a diversity of perspectives? What are the implications for research training and professional development, both inside and outside schools of education? Will educational research need to be parsed into smaller subgroups or coalesced into larger groups—some of which exist to some degree already (e.g., mathematics education; see Romberg, 2001)—to maximize commonalities and thus the likelihood of consensus and progress? What are the responsibilities, if any, of the field to monitor research quality as well as to engage other education stakeholders in its work?

This is a unique time of possibility—and peril—for the field.

We Have Seen the Enemy . . .

This article has, perhaps presumptuously, focused on the nature of the educational research craft and the responsibilities of participating in a culture of inquiry and likely raised more questions than provided answers. We have emphasized that generic principles apply to all scientific endeavors but argued how those principles can and should be customized to the multiple contexts in which education takes place. We have opined that method is a function of purpose and cautioned against the overzealous adherence to any single research design. We have also unapologetically supported scientific educational research without retreating from the view that the ecology of educational research is as complex as the field it studies and that education scholarship therefore must embody more than scientific studies.

This is a unique time of possibility—and peril—for the field. We accept the diagnosis that a self-regulating professional community does not exist in education (Lagemann, 2000), but we believe the future holds great promise. The potential exists for developing a stronger sense of community among educational researchers. The current demand for scientific understanding of

educational phenomena is unmatched in history. Now is the time for the field to move beyond particularized views and focus on building a shared core of norms and practices that emphasize scientific principles. We also encourage the field, and especially AERA, to engage in studies similar to that conducted by the NRC (2002) into the warrants for other forms of educational research. We hope that this article and the NRC report will provide a springboard for meeting the challenge.

NOTES

This article draws heavily from the recent report of the NRC Committee on Scientific Principles in Education Research for which Shavelson was the Chair and Towne the Study Director. We would like to thank committee members Margaret Eisenhart, Norman Hackerman, and Robert Hauser and three anonymous reviewers who provided very helpful comments on a draft. However, the analysis and opinions in this article are solely those of the authors and do not necessarily represent the positions of the National Research Council, the National Academies, or the Committee.

[1] See http://www.edweek.org/ew/newstory.cfm?slug=20whatworks.h21 for a story in *Education Week* (Olson & Viadero, 2002) that describes this legislative change and chronicles initial reactions from prominent researchers in the field.

[2] At least rhetorically. We note, however, that at the time we submitted this article as a manuscript, pending appropriations requests and funding authority for the OERI would provide substantial increases for educational research funding.

[3] We acknowledge that some do not believe the policy is well intended. We take the policy at face value.

[4] Throughout this article, we refer to the need to attend to research quality. We occasionally use the word *standards* in this context, but we recognize that this term may connote too small a "grain size" to be workable. Specifically, we recognize that detailed prescriptions are unworkable in educational research or any other research endeavor.

[5] The National Academies comprises the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. NRC is the operating arm of the Academies, a scientific organization chartered in 1863 to provide independent advice to the government. See http://www.nas.edu/about/faq1.html for a description of the organization and Alberts and Feuer (in press) for a brief history.

[6] We are immensely grateful to each and every one of the members of the committee. In addition to Shavelson as the chair, the committee members were Donald Barfield, Robert Boruch, Jere Confrey, Rudolph Crew, Robert DeHaan, Margaret Eisenhart, Jack Fletcher, Eugene Garcia, Norman Hackerman, Eric Hanushek, Robert Hauser, Paul Holland, Ellen Condliffe Lagemann, Denis Phillips, and Carol Weiss.

[7] This is a recurrent interest among some philosophers and policy analysts who specialize in science and society. See, for example, Kitcher's (2001) and Strawson's (2002) reviews of this work.

[8] To render such sweeping judgments would require consensus on a set of evaluative criteria and review of a massive body of published and fugitive literature—neither of which were in the scope of the committee's charge.

[9] There is an exquisite irony in the way lawmakers and many education leaders seem to want more reliance on research even as they denigrate its quality and rigor. Heralding its promise in one breath, policymakers disparage its quality in the next. As one of the champions of an improved federal presence in educational research put it, "Education research is broken in our country . . . and Congress must work to make it more useful. . . . Research needs to be conducted on a more scientific basis. Ed-

ucators and policymakers need objective, reliable research. . . ." (Michael Castle (R-DE), as quoted in Viadero, 2000).

[10] We borrow Joseph Schumpeter's lament about the role of ideology in economic doctrine: "ideology enters on the very ground floor, into the pre-analytical cognitive act. . . ." See his *History of Economic Analysis* (1954); also Dobb (1973).

[11] See, for example, Lagemann (2000) for the history of efforts to strengthen the science base for educational research.

[12] We recognize that some forms of these fields are scientific (e.g., historical science) and that, more broadly, science does not neatly map onto disciplines or fields.

[13] The Reading Excellence Act was replaced by the Reading First Initiative, fully implemented in HR1. This initiative retains the emphasis on SBR.

[14] Specifically, many have argued—and we agree—that the complexities of education are not analogous to the physiology of disease and thus the expectation that any single intervention could adequately "cure" an educational "ill" is misplaced. We include the reference here as an illustration of public perceptions and policy rhetoric; we do not intend to take on the underlying substantive issues. For particularly important insights to this and related questions, see, for example, Nelson (1977) and Murnane and Nelson (1984). For the strongest argument in favor of adoption of the randomized clinical trial in education research, see Cook (2002).

[15] This section draws mostly from NRC (2002), chapter 1.

[16] This is also true of the physical and natural sciences. See Stranges (1982) for a fascinating historical example of this complex progression of science in developing the electron theory of valence.

[17] This section draws mostly from NRC (2002), chapter 3.

[18] This section draws mostly from NRC (2002), chapter 4.

[19] This section draws mostly from NRC (2002), chapter 5.

[20] We recognize that many who espouse the "realist" view of causation reject randomized field trials as legitimate tools to address causal claims in social queries (see, e.g., Pawson & Tilley, 1997). Although we, and the NRC committee, share some of the ideas that underlie this model (e.g., attention to context and mechanism), we do not believe that these arguments provide a basis to reject experiments and indeed maintain our strong support for them as appropriate and powerful methods in establishing causal effects.

[21] Researchers in a range of fields have successfully employed random assignment models in similar situations (e.g., experiments charting the behavioral consequences of randomly determined variations in family income). Such innovations can increase the likelihood that these methods can be used in practice but do not eliminate completely the practical limits on their feasibility.

[22] This section draws mostly from NRC (2002), chapter 6.

[23] The NRC committee concurs with those who have argued that the enterprise has been significantly hamstrung by a lack of resources (NRC, 1999, 2001; President's Committee of Advisers on Science and Technology, 1997; Shavelson & Berliner, 1988; Vinovskis, 2000). Funding has not been aligned historically with the intended scope of the educational research enterprise, and the current breadth of the educational research agenda warrants sustained increases into the future if it is to meet its mandate. But increased funding without attention to fundamental design issues—as described in the NRC report—will be inadequate to elevate and sustain quality in federally funded scientific educational research.

[24] The NRC's Strategic Education Research Partnership aims to develop the capacity and infrastructure for such collaboration. See NRC (1999) and Willinsky (2001b). Indeed, on the subtle problems of maintaining independence while nurturing healthy interaction with government sponsors, the 138-year experience of the National Academies could be instructive.

[25] The AERA Grants Program is jointly funded by National Center for Education Statistics (NCES), National Science Foundation (NSF),

and OERI. In addition to an annual statistics institute, the program supports dissertation and field-initiated research studies and research fellows at NSF (Leigh Burstein Research Fellows) and NCES (Jeanne Griffith Research Fellows).

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Educational Researcher

Comment: "Science" Rejects Postmodernism

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Published on behalf of

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Comment

"Science" Rejects Postmodernism

by Elizabeth Adams St. Pierre

The National Research Council report *Scientific Research in Education* claims to present an inclusive view of science as it responds to federal government attempts to legislate educational research. This author argues, however, that the report in fact narrowly defines *science* as positivism and *methodology* as quantitative. These definitions are made possible by the outright rejection of postmodernism and the rejection by omission of other theories including queer, feminist, race, postcolonial, critical, and poststructural theories. The chief issue in this report is, in fact, not "science" but the larger issue of epistemology, from which methodologies like conventional science emerge. After using postmodern analyses to illustrate the danger of the report's normalizing and totalizing discourse, this author urges researchers to be on guard against those who would reject diverse epistemologies and methodologies in educational research.

F euer, Towne, and Shavelson's article "Scientific Culture and Educational Research," which appears in this issue of *Educational Researcher*, interprets for American Educational Research Association members the National Research Council's (NRC) (2002) Committee on Scientific Principles for Education Research's longer report, *Scientific Research in Education*. The NRC committee's report professes to temper the desires of those in the federal government who want, in the words of Representative Michael Castle (R–DE), to end "education fads that masquerade as sound science" (quoted in "House Passes Legislation," 2002). *Fads* here refers to practices informed by research that is not scientifically based (SBR) or evidence based (EBR); that is, research that is not "real" science. Though the NRC report initially seems well intentioned and claims to resist the narrow view of science proposed by those in the federal government who would legislate educational research, it fails to achieve the inclusiveness its rhetoric promises.

One example of this failure, and the focus of this article, is the report's outright rejection of postmodernism (not mentioned in the Feuer et al. article) in spite of alleged support for scientific diversity, rigor, and critique. For example, Feuer et al. write the following encouraging statement that seems to support an inclusive view of science, in which they worry that the "SBR movement will go awry, that narrow definitions of *research* or *science* might trivialize rather than enrich our understanding of education policy and practice, and that the splendors of unfettered scholarship will be eroded by creeping tides of conformity and methodolog-

ical zealotry" (p. 4). Other beliefs about science that suggest an open mind in both the NRC report and the Feuer et al. article are as follows: belief in "an inclusive view of 'the science of education'" (NRC, 2002, p. 24), in a "diversity of perspectives" (Feuer et al., p. 11), that researchers should recognize the "crucial role of theory" (NRC, 2002, p. 130) and "consider alternate paradigms" (p. 53), that "knowledge accumulation [should be] contested" (p. 46), that "criticism is *essential* to scientific progress" (p. 72), and that science should be characterized by "honesty, openness, and continuous reflection, including how research quality is judged" (Feuer et al., p. 4).

However, this rhetoric is contradicted at the outset of the NRC report (2002) when the committee includes among the five core assumptions that guided its work the following assumption: "we assume that it is possible to describe the physical and social world scientifically so that, for example, multiple observers can agree on what they see. Consequently, we reject the postmodernist school of thought when it posits that social science research can never generate objective or trustworthy knowledge[2]" (p. 25). The footnote to that statement elaborates: "This description applies to an extreme epistemological perspective that questions the rationality of the scientific enterprise altogether, and instead believes that all knowledge is based on sociological factors like power, influence, and economic factors" (p. 25). Of course, postmodernists and others might say that the idea that multiple observers can agree on what they see is also an extreme epistemological and ontological perspective and that a scientific researcher is pretty naïve not to believe that power, influence, and money affect what counts as knowledge.

Unfortunately, it is often the case that those who work within one theoretical framework find others unintelligible (St. Pierre, 2000a). For example, it is not that a postmodernist (if anyone should claim that label) would reject reality or objectivity or rationality as the committee's mistaken definition of *postmodernism* claims; rather, a postmodernist would say these concepts are situated rather than universal because they are understood differently within different epistemologies.

The difficulty in rejecting postmodernism, however, is that it is a very supple category that includes diverse and contradictory theories that resist, refuse, and subvert the category (St. Pierre, 2000b). As John Rajchman (1987) explained, postmodernism "does not comprise a School of Thought" but refers to a "motley and elastic range of things" (p. 49) that includes certain feminist theories, critical theories, postcolonial theories, race theories, queer theories, poststructural theories, and others. Judith Butler (1992) asked a pointed question about the motives behind such wholesale dismissals of postmodernism:

> Do all these theories have the same structure (a comforting notion to the critic who would dispense with them all at once)? Is the effort

to colonize and domesticate these theories under the sign of the same, to group them synthetically and masterfully under a single rubric, a simple refusal to grant the specificity of these positions, an excuse not to read, and not to read closely? (p. 5)

I doubt that a postmodernist would be as quick to dismiss other epistemologies as the NRC committee is to dismiss postmodernism because postmodernists study the possibilities, limits, usefulness, and dangers of any theoretical position—including their own—in the production of knowledge and lives. As Foucault (1984/1988) wrote, "I believe too much in truth not to suppose that there are different truths and different ways of speaking the truth" (p. 51). It seems to me that a rigorous science would seek out rather than reject diverse perspectives and alternate paradigms.

The early rejection of postmodernism in the name of quality science in the NRC report is the first tip-off that epistemology as well as methodology is at stake. Patti Lather (1996) commented on what seems like the willful ignoring of extensive and readily available critique of conventional science in work like the NRC report when she pointed out that in educational research "methodology often diverts attention from more fundamental issues of epistemology" (p. 2). Much educational research, in fact, does not even acknowledge its epistemological grounding, much less take into account the limits of that epistemology, and its methodology, in the production of knowledge. The NRC report is shockingly silent about its epistemological allegiance.

During the last 50 years at least, scholars and researchers in all disciplines have acknowledged that there are different ways of knowing the world, and thereby investigating it, and that the particular kind of science—what Sandra Harding (1991) called "science-as-usual" (p. 1)—privileged in the NRC report is only one of them. But this large body of critique, much of it produced in response to unconscionable atrocities committed in the name of science, is ignored. It is as if the report were written in a time warp, in a period when many naively believed science was "objective" and outside relations of power—when we actually believed that science would save us and set us free.

Epistemology is also the issue in the second failure of the committee's rhetoric of inclusiveness—its rejection of qualitative methodology even though it claims to support it. This is not surprising given that qualitative methodology has often been the vehicle for knowledge production by researchers employing the rejected epistemologies. Notice in the following quotations how epistemological and, therefore, methodological differences are deliberately erased: "Because we see quantitative and qualitative scientific inquiry as being epistemologically quite similar and as we recognize that both can be pursued rigorously, we do not distinguish between them as being different forms of inquiry" (NRC, 2002, p. 19). The second, longer quotation follows:

all the sciences—including the scientific study of education—share a set of epistemological or fundamental guiding principles . . . all scientific endeavors: pose significant questions that can be investigated empirically, link research to relevant theory, use methods that permit direct investigation of the questions, provide a coherent and explicit chain of reasoning, yield findings that replicate and generalize across studies, and disclose research data and methods to enable and encourage professional scrutiny and critique. (Feuer et al., pp. 6–7)

These general statements about scientific research in education become much more specific throughout the NRC report: "quality" science states testable hypotheses, is objective, without bias, randomized, replicable, generalizable, "predictive" (NRC, 2002, p. 82), and capable of being synthesized. This quite positivist description of research does not describe most qualitative research.

The very dangerous claim that is made here is that a single epistemology governs all science. With this not-so-subtle Hegelian appropriation, Difference is assimilated into the Same, and the "diversity of perspectives" that Feuer et al. claim to champion is denied in a rather brutal dialectical synthesis. Now this theoretical move, like all theoretical moves, has very real, material effects on both educational research and on educational researchers.

For example, near the end of the NRC report (2002), this master epistemology is translated into specific practices when the report claims that "the advancement of scientific knowledge is facilitated when investigators work with the same set of variables and theoretical constructs." Further, the report recommends the creation of centralized systems and databases—housed in a federal educational research agency—that collect data nationwide from these new studies and analyze that data using a "common conceptual frame" (p. 151). That frame is never named, though it is clearly some form of positivism. Only a single kind of science will be advanced with such practices.

But the committee recommends that researchers as well as science be disciplined and controlled. The NRC report (2002) strongly recommends that educational research be organized into a "cohesive community with self-regulating norms" (p. 22). Such a research community will "acquire the values of the scientific community," will "foster objectivity through enforcement of the rules of its 'form of life,'" and will train scientists in "certain habits of mind" that will be policed by the "watchfulness of the community as a whole" (p. 53). A postmodernist immediately recognizes the deployment of *disciplinary power* (Foucault, 1975/1979) in statements like those above that result in one group controlling the production of reason, science, knowledge, and researchers themselves. No doubt, certain theorists will be disciplined right out of this "cohesive" community of scientists, as they have been disciplined right out of the NRC report. In

> # Unfortunately, it is often the case that those who work within one theoretical framework find others unintelligible.

fact, that disciplinary work has already begun with the publication of the report.

The NRC report should scare us all to death. The report's master narrative of science is what Jean-François Lyotard and other postmodernists reject "as the unacceptable remnant of a 'totalizing' philosophical tradition and as the valorization of conformist, when not 'terrorist' ideals of consensus" (Jameson, 1984, p. x). Why do people fear difference when "*dissensus* stirs the pots of democracy" (Caputo, 1993, p. 120)? If educational researchers follow the recommendations of the NRC report, we will be unable to "produce different knowledge and produce knowledge differently" in the service of education (St. Pierre, 1997, p. 175). Is that what we want?

It is difficult to know what to make of the NRC report. How scared should we be when the federal government endorses a particular view of science and rejects others? Is the NRC report a volley in another skirmish of the paradigm wars? Is it another example of a federally sponsored report that, in the long run, will carry little, if any, weight?

My position is that we cannot afford to take it lightly. This latest attempt to marginalize certain epistemologies and methodologies in order to discipline and control science, to reduce it, to *center* it, cannot go unanswered. Fortunately, postmodernism is firmly entrenched in educational research, and, like Foucault (1984/1985), postmodernists are always prepared "to begin and begin again" (p. 7) their work of decentering, in this case, an oppressive science that produces the "creeping tides of conformity and methodological zealotry" (p. 1) that Feuer et al. claim to reject. Postmodernists are well practiced in the "*persistent* critique" (Spivak, 1993, p. 235) that is necessary to keep educational research an open field of play in which science does not obstruct but enables the proliferation of knowledge.

How scared should we be when the federal government endorses a particular view of science and rejects others?

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MAKING SENSE
TOGETHER
AN INTRODUCTION TO
WILD SOCIOLOGY

John O'Neill

1
Approach

Every approach needs to presume upon its reception. And, so, in beginning we never fear that we shall be wholly misunderstood; we trust that our hesitancy, our stumbling talk, and our choice of words are not a search in the dark. To begin is confidently part of the work of building and sharing an understanding. It is ideally the institution of making sense together within a common life and a common world.

Any approach asks for an understanding. In this sense our approach is never just a casual opening, any more than the opening of a Platonic dialogue or the break of dawn is irrelevant to the experiences that are to follow. An opening is never just a beginning except in retrospect. We begin in the midst of things, that is to say, when it is already late and we are caught irrevocably in the web of understandings, borrowed back and forth against the time we have spent together—in thought, in work, in play, in love or in hate.

Our approach is self-consciously a presentation: the presence of others and of ourselves to them. Thus it is **we** who are latently the resource and circumstance that permits us to

choose our ground, to start here rather than there, to abide and concede, to question and answer. And we would never get under way were it not for a certain surrender to the tide of presence, the invitation of a look, or of a word that launches us on a voyage of meaning and truth in which each will have different tasks and different dreams, yet all come safely to the shore. For such a voyage the irresistible call is that of truth to which we must fit our talk and all it involves; just as we fit out our ships, not knowing everything they will encounter but trusting everything men have learned from the sea to build into themselves and into their ships in order to sail. In this enterprise we can be confident of ourselves only in the chain of work. We have not to start from the posture of loneliness, nor amidst any babel of tongues. This does not mean that we may not in search of truth keep lonely watch or fall upon exotic islands and strange sights. Yet all these things can be told in our tales, which are somehow suited to bringing back and keeping memory for the telling of things unseen and deeds unheard.

Nor can we set out until we are ready; and thus our voyage begins at home in the world of familiar objects, among friends and everyday scenes. We cannot take our leave without a word or a smile; without checking the ropes, our trusty knife, the matches, the salt, the back door, the tickets, and the passports. Whether we leave for the Orient, the cottage, or the moon, we do not expect to encounter a totally alien scheme of things. We take along toothpaste, a clean shirt, and everyone's best wishes for our new life, whether in marriage or in Canada. We remember all we have been told by friends, novelists, poets, wise men, and even science-fiction writers. We never go alone; we are always ambassadors, representatives of the people, missionaries, or anthropologists.

And something of the sort must be true. Or else by what right do we leave home and friends? By what right do we exchange day and night and wander into regions where our own language and customs become self-conscious, strained, and perhaps unusable? What is it that drives us to know more, or to know anything else than what those around us know, those who have always known us and loved us and never thought we would leave or want anything else than what we had between us? For this is a difference at the heart of things, greater than all the variations of man and woman, of childhood and maturity, of race or class or history. Once we no longer believe that all knowings and misunderstandings and all loves or hates lie within the same flesh and fold of humanity, we do not simply invite the philosopher's loneliness, we suffer the agony and ridicule of solipsism. This is not just to think bravely on one's own, as it might seem to be, but a betrayal of the bond between us and man that, for all it has cost him, God himself has never wholly broken. We shall have to deal with the temptations of solipsism, but not as a beginning. First we must make our preparations for leaving. For then the bustle of getting ready pushes loneliness into a sentiment of things to come, an adventure within our journey rather than the ground from which we start.

To begin is to approach our work; to be alone is to be at work. Yet we must remember the variety and seasons of work to understand its common load. We must remember the terraced vineyards, the railroads, and the docks; we must not forget the insides of factories, mines, and ships; we must be able to hear the roar of trucks, the screech of sawmills. We must feel the fisherman's cold, the weight of things, how they tear and waste those who work them. But if we wish to start right, it is not enough to remember these things in a casual glance, the way we might thumb through an atlas. We must think of the joys of labor as well as its pains, its celebration in things as well as its struggle with them. We must know what it is people do in their work, how they feel, what they see, what they hear, what they need from steel, or marble, or bread; and how all this is metamorphosed into everyday life and in the simplest exchange

between us, in friendship, in families, in love, in fear, in anxiety, and in cruelty, in strikes and reconciliations.

In approaching our own task of making sense together, we naturally reach backward and forward, and in this we heighten our sense of commitment to the commonplaces of meaning, habit, and community to which we have been accustomed. For years now I have read and talked and studied. I have written books and critical papers. I have attended conferences and discussions, quarreled over methodologies and relevances, and taken sides. I have been persuaded as well as persuasive. I have learned how to lecture, to give a talk, to chat, to amuse and cajole, to criticize and anger. On every occasion I needed an audience as much as I was needed by them. And yet this exchange hides all that went into the years in which I learned to make an audience what it wanted to be and to find in the audience what I could not find in myself. I needed them because of a simple conviction that the sense of things is not alien and that knowledge and truth have only messengers and no experts. Truth has a face: it is the work of man and earns his bread. Thus in the work of knowledge we intend only to open paths that others can follow. Messengers, of course, carry news that they do not know will be well received in the community. But at first they are made welcome, brought in from the cold and rain, given food and drink and a place to rest from their journey. And it is the same when we get our news from the morning paper over a cup of coffee. We think of the truth as part of the well-being of our community; we receive it as sustenance, or as a friend or guest. That is why the truth is painful when it reveals that things are not well in the land, in our lives, or in our community.

To begin a work is to solicit an encounter between ourselves and others present to us here and now, or through their work and its legacy. Such a beginning is of the order of intimacy and revelation in which we discover a primitive sense of closeness. Yet our approach would be unbearable if it were not like the meeting of eyes in which there can be no primacy of the self or of the other but only a kind of alternating life. Our approach is rather an invitation to friendship and love, unsure yet certain. It is a warm embrace in which we are caught up in that overlap in which we spend our lives together and which invites comparison and understanding as much as fear or uncertainty. This is the ground for starting with one another. The encounter with someone or something new to us awakens in us a sense of openness, the sharing of need, that provides the horizon to our own vocation and is prior to all motivations of love, anonymity, creativity, or destruction. In this sense the encounter with beginnings, or first times, is not a radical break with everyday life. It is like a breath we draw more deeply at first and then let go, just as the fullness of life may rush in upon us and then recede, returning us to the ordinary absorption of living. This encounter of first things is both a nostalgia and an ideal to which we compare our everyday experience without willfully courting either terror or ennui, yet not without longing and yearning.

> We are talking now of summer evenings in Knoxville, Tennessee, in the time that I lived there so successfully disguised to myself as a child. . . .
> . . . All my people are larger bodies than mine, quiet, with voices gentle and meaningless like the voices of sleeping birds. One is an artist, he is living at home. One is a musician, she is living at home. One is my mother who is good to me. One is my father who is good to me. By some chance, here they are, all on this earth; and who shall even tell the sorrow of being on this earth, lying, on quilts, on the grass, on a summer evening, among the sounds of night. May God bless my people, my uncle, my aunt, my mother, my good father, oh, remember them kindly in their time of trouble; and in the hour of their taking away.
> After a little I am taken in and put to bed. Sleep, soft smiling, draws me unto her; and those receive me, who quietly treat me

as one familiar and well beloved in that home: but will not, oh, will not, not now, not ever; but will not ever tell me who I am.[1]

There is a kind of sufficiency to things in which they realize themselves, neither falling short nor exceeding their limits. Here we have begun the enterprise of exploring our need of one another, thereby making thematic something we always assumed. We are engaged in an exercise that will involve us in mentioning what might never need to have been said and in falling short, or rather falling back into that embrace that surpasses all reason. Our task then is one of memory, of the care of first and last things, and in this the world and those around us are our support. We wish to understand and love one another, to be understood by others and by ourselves. We look about for certainties and find the memory of a summer evening on the grass among our family invading us with the presence that comes in the weight and lift of our bodies, in the sight and sound of our brother and sister and the goodness of our mother and father. And we borrow our own presence from theirs who in all the comings and goings of their own lives are here with us this evening and dwell in our heart by a marvelous chance of warmth and love. These are arrangements that are lasting like a family that lasts against its own troubles and dyings, as summer evenings last all the while that they, too, are dying. It is certain that we are not deceived in these familiar memories and do belong to them. Yet in the slip of time we do not hold and so become a question to ourselves, even while those around us still care and treat us as one so well loved and known to them, but who will not now or ever tell us who we are. And who can ever forget the places of memory?

We need to understand what moves us, what it is in the way a table is set, a garden cared for, or the way a mother dresses her child, that holds us and makes us either cry or sing somehow to tell about it—to hold it against time, against profusion, against our own indifferences or the times we are not watchful. In part this is what we can mean by simplicity, that is to say, a way of allowing ourselves to be the occasion of the fullness of things, of the world, of man. For the rest, it is the transcendence or transfiguration of things through us that is love's union of the mind and heart in love's thought (amor intellectualis).[2] What I have in mind here is the "world-building" character of love that makes its objects absolutely necessary, sometimes in themselves but also altogether, so that we feel we shall burst with the world inside us. Not everyone knows this feeling; or rather, it is rarely a beginning. For many, the world is in pieces; analysis is their soul or else a methodology of indifference that separates and reduces the world so pitifully that a man can empty the world.

It is sometimes thought that the thinker is a man without passions, a homeless figure. But this is false to the passionate understanding that is the very circumstance of things; it is false to the world that the thinker beholds and moreover shares in principle, though for want of company he may appear to hoard his love.[3]

Since Descartes we have been persuaded that a solitary and sedentary thinker could achieve certain and public knowledge of the world. The price of such subjective certainty, namely, the split between mind and nature, including the thinker's own embodiment, has been considered "proper" to thinking. Indeed, insofar as embodiment enters thinking or the effort to think, it

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1. James Agee, **A Death in the Family** (New York: Bantam Books, 1969), pp. 11, 14.

2. M. C. D'Arcy, S.J., **The Mind and Heart of Love: Lion and Unicorn: A Study in Eros and Agape** (Cleveland and New York: The World Publishing Company, Meridian Books, 1956).

3. Soren Kierkegaard, **Concluding Unscientific Postscript**, trans. David F. Swenson and Walter Lowrie (Princeton, N.J.: Princeton University Press, 1941), bk. 2, chap. 3, sec. 4, "The Subjective Thinker: His Task, His Form, His Style."

has been only as something to be put out of play. The techniques of disembodied thinking have varied from closing one's eyes in order to shut out the fleeting world of the senses, or raising one's eyes toward heaven in thought or prayer, in order at least to be in the right way of what is noble and abiding, not to mention the practice of more ascetic spiritual disciplines of the body and soul. These gestural and postural choreographies of thought, to which must be added a number of other seclusive devices, such as the study cell lined only with the silent voices of the past, or the habit of working at night when the world shuts down and the senses in particular are handicapped, run deeper than the behavioral quirks of philosophers. For all kinds of work result in a certain physiognomy, in the peasant's bent back, the waitress's varicose veins, the heavy shoulders of the truck driver. Indeed, certain kinds of work, such as surgery, piano playing, tightrope and high wire walking, are essentially body work and as such demand a regime that can no more be reduced to a technique than can thinking in the true philosopher. The activities of the body, whether proper to such work as that of the acrobat, or apparently circumstantial, as in the work of the philosopher, cannot be reduced to a lower order, except as a metaphysical posture—as the determination to redeem nature, or to dominate it by means of an ascesis.

Once we understand the world-building nature of love, we can make sociological thinking a daily practice that does not isolate us before things or them before us—which is the favorite mode of contemplation—but is instead beholden to the scenes in which we live, in streets, in gatherings, in labors, in ways and customs. In other words, we shall understand love's thought as a mode of everyday care. In addition, we can see that it is ordinarily improper to separate knowledge and morals. For we do not look upon things indifferently but rather for the goodness that is in them; and we measure our own maturity by what it is we can appreciate in this life. In this sense, then, the simplest heart is the most learned; for it knows how to take account of the ways of things and of people in their ways.

What is the direction of such thinking? To some it will be quite beside the concern with the accumulation of sociological knowledge and the domination of the world. To others it will seem to ignore the hierarchy of being and concern that has been the essence of philosophical thought. Well, this thinking, like love itself, does not move out of the plenitude in which it finds itself; it dwells in a concern with the things and people around us. Such thought does not treat its circumstances as a background for its own act; it does not abstract from its circumstances, rising above them. I do not mean, however, that we cannot learn to think heroically, forever leaving the land of circumstance and the place of everyday cares. But then the hero dies young, for there is nothing to age him, nor anyone whose ways borrow from his life so that he and they grow older together. Today, more than ever, we need to cultivate what is near to us, to make of thought a garden rather than a bypass or a perishable collection that can only land us on the moon. Such a retreat would not weaken the universality of sociological thought. "We must try to find for our circumstance, such as it is, and precisely in its very limitation and peculiarity, its appropriate place in the immense perspective of the world. We must not stop in perpetual ecstasy before hieratic values, but conquer the right place among them for our individual life. In short, the reabsorption of circumstance is the concrete destiny of man."[4]

We make our lives from what is around us, from our family, our house, street, playmates, school, teachers, friends, books, comics, and church. But we forget this. Our projects take us away from home; they sweep everything behind us as a past we

4. José Ortega y Gasset, Meditations on Quixote, trans. Evelyn Rugg and Diego Marin (New York: W. W. Norton & Co. 1961), p. 45.

hardly remember. We move on, looking for wider perspectives, new experiences, unseen things. Our thoughts destine us for utopia and in this we are for a time heroic figures, resisting the inertia of things, giving them our own extraordinary accent. But things beckon us back—the weight of things, their touch, their smell; the time of things, their seasons; the way of things, their uses—all these offer us a chance of salvation, a redemption rooted in things, often comically, but in an ultimate wisdom. For the truth of the life-world is that the way of things is the way of ourselves with them, like the friendship of a man and his dog —a bond of faith, a mutual need, each unthinkable apart from the other, even in argument and anger.

To think sociologically is to dwell upon a question we have answered long ago: How it is that men belong to one another despite all differences? This is the task of a **wild sociology**, namely, to dwell upon the platitudes of convention, prejudice, place, and love; to make of them a history of the world's labor and to root sociology in the care of the circumstance and particulars that shape the divine predicaments of ordinary men.[5] The work of sociology, then, is to confront the passionless world of science with the epiphany of family, of habit, and of human folly, outside of which there is no remedy. This is not to deny scientific sociology. It is simply to treat it as a possibility that has yet to convince the world. Wild sociology is mindful of the poverty of sociology, of its ambitions and its easy alliances. It sees no other way than to remain in the world it needs for its own vocation and for the particulars of its reasoning. It has no unprecedented claims, and its meditations draw ever deeply

5. "The essential is to describe the vertical or wild Being as that pre-Spiritual milieu without which nothing is thinkable, not even the spirit, and by which we pass into one another, and ourselves into ourselves in order to have **our own** time." Maurice Merleau-Ponty, **The Visible and the Invisible,** ed. Claude Lefort, trans. Alphonso Lingis (Evanston, Ill.: Northwestern University Press, 1968), p. 204.

from the very ground they seem to make strange. Wild sociology exhibits without end its appeal to the ancestral orders of our everyday conventions. Yet this does not mean that sociological thinking lacks any election. It simply means that the vocation of sociology is never in hand as a hard and fast beginning but is to be found over its way and through its concerns. It is therefore never reducible to a matrix of procedural rules. The success of wild sociology lies in the integrity of its concerns and not in the division of its labor.

Our approach to sociology cannot be hasty with the imperatives of science if we are ever to know its worth. What is the necessity of sociology, in what need do we stand of its particular concern? This is a question of fulfillment, like asking someone we love what it is they are doing so as to bring their labor closer to us than our very eyes because we want to take it in and hold it to our heart. Wild sociology cannot be self-serving. Nor should it borrow from others mindlessly. Either way, we accumulate with nothing to call our own. We need to start conscious of others, willing to learn, to be overwhelmed, to struggle, to fight back, and to stand. But this is a time of waiting even when it hides itself as worldly success. True growth needs origins, a return to first things, to place, time, and pattern. Intellectual order is not simply an instrument of domination; it involves just as much a capacity for reliving our thoughts. It is perhaps more like housecleaning, a rearrangement that in welcoming others leaves more room for ourselves. In such welcome there is a yield of being that is achieved in the arrangement of simple things to do honor to one like ourselves. The integrity of our beginnings is the source of our welcome. It also strengthens our speech and the commitment of our interests and thereby reminds us of our freedom. For in thinking and speaking we choose paths much as in life we choose careers and marriages, that is, as ways of resolving the history and geography of our lives.

The language and history of sociology may seem far removed from all this. It is, indeed, if we think of our approach to sociology as an initiation into a logic of generalization and precision to which we have no native claim. But it is just this way into sociology of which I do not want to take advantage; I do not want to settle before I begin the question of the relation of scientific languages to everyday speech and talk. I have begun by trying to show a concern for how it is we manage any departure together, how we approach understanding building upon the great platitudes of our experience as embodied beings, with our speech set in local needs and circumstances. To say that we are sociologists is only to remark on the materials at hand, upon the necessity of working on this rather than that. We must first raise the question of what it is that is presupposed by the field we have chosen to work. The practice of sociology, like any other discipline, is precarious. It soon leaves us unable to remember our first motives for doing it at all. The aim of method, as I understand it, is to test in us that strange distance between our work and those for whom we intend it. Sociologists are particularly attached to methods for the sake of their claim to scientific status; I am concerned with the poetic claims of method. I think these two belong together in our working lives. Method plays the music in what is of interest to us; it shapes our sensibilities, determines our passions, and defines our world. Method is our practical idealism; it is the opening in things and of ourselves toward them. This is possible because we are able to convert our private enthusiasms into objective enterprises that, in turn, are never accomplished once and for all and so require of us a constant response according to our own need.

Finally, in what follows, I have adopted the commonplace method, as I understand it. The notes and texts upon which I have relied, whether shown for themselves or through my own reflection, are intended as places of embellishment. Their work

is to celebrate the world's own appeal rather than to defend the authority of science. They are copied as holy works seeking the redemptions of correct spelling in the salvation of divine and human reading.[6]

6. Cassiodorus Senator, An Introduction to Divine and Human Readings, trans. Leslie Webber Jones (New York: Octagon Books, 1966), p. 133.

But at no time is human nature, whether bestial or savage, heroic or divine, anything less than man's nature. This nature is not wholly passionate, for otherwise we should not have established any public grounds of truth nor any of the fixed institutions of society. Yet we ought not to attribute to men more of reason and calculation than governs the present age. For then we should make of society a preposterous contract, or else a noble lie, instead of a family that has gathered despite what it has reasoned for itself, despite its lusts and its powers.

Vico's wild sociology is a science of reason renewed. Although it is born in the age of men, wild sociology gathers its own beginnings poetically from the temples of the sky from which all human institutions and sciences are handed down. Vico's wild sociology collects its own rough origins, recalling what it owes to our domestic labors in gathering acorns and animals, binding men and letters in law and parliament.

Vico's wild sociology is ultimately a life science. He who undertakes its work must penetrate the veil of time that separates his thinking life from the brooding body that is the place of reason and sense and their sole monument. For man is a work of his own hands and eyes, of his own lips and ears, a drama of his own passion and his own reason. Thus the eloquence of science and the civil beauty of law and religion are the true embellishments of humanity.

4
Wild Sociology

Science always obliges us to forget what we know. In this way we learn much though we may still lack wisdom. In the case of the natural world, our power over things is compensation enough for the separations of knowledge. But in the social world we cannot start with any certain distance between what we know ordinarily and the reports of sociology. For the social world does not wait upon the constructions of scientific reasoning. It makes sense from the first day until the last in the all-day and everyday surroundings of others whose life we share. Nothing lies outside of this circumstance, neither its ignorance nor its fears, neither its joys nor its injuries. The mystery of this circumstance measures the poverty of sociology.

Wild sociology seeks to establish how it comes about that without any explicit appeal to rule or benefit of science, what we ordinarily know and value, and in the variety of ways that we come to know it, has the massive feature of being "known in common with others"—how, in other words, commonsense knowledge and values achieve the status of fact or, rather, **moral fact.** It is here that we adopt Garfinkel's recommendation

that we treat the presuppositions of the natural attitude of daily life as maxims of everyday conduct through which we derive our average sense of competence and moral membership with the institutions and values that are our daily circumstance. In other words, wild sociology treats the natural attitude as an **ethnomethodology** in which, for example, questions and answers, time and place, work, self-revelation, and advice, are the ways we have of deciding the sensible and warrantable status of events or actions by referring to their particulars as occasional evidence of our institutions of family, home, school, manhood, sincerity, and true love. These are in turn the reasonable grounds of our talk and commitments and could never be wholly the work or accomplishment of the social sciences.

We ordinarily experience the everyday social world as something that has preceded us and now faces us as an orderly scheme of things whose interpretation is handed on to us by parents, teachers, and almost anyone with whom we live and learn. On the basis of the general legacy of language and knowledge into which we are born, we use and enjoy the world in typical ways; we sit in the shade of trees, avoid barking dogs, drink milk, eat the right things, and run to mother for protection. The way in which we speak and act in the world and among others is shaped by our immediate purposes and conventions, which furnish a schema of relevances regarding what features of the world are to be selected for generalization, rule of thumb, reminiscence, use, and avoidance. We commonly assume that things will continue to be as we have known them and that we can go about our business in a routine way . . . and so on . . . and so forth . . . so as to minimize doubt and decision. Or, when something goes wrong, we expect to be able to regularize it, to fix it without having to take apart the whole scheme of things on which we have relied so far.

In the natural attitude of our daily lives the world has for us certain and constant features. We assume that the objects,

persons, and regions of the world with which we are familiar will continue to be as they are; similarly, we assume that the experiences and emotions we have relied upon hitherto will continue to work for us as before. We assume that the world is amenable to our purposes and needs and that we shall be able to realize our interests through action in and upon the world. Of course, each of these expectancies may fail to be realized, producing practical and emotional as well as theoretical problems. When this happens we do not entertain open and permanent doubts about our knowledge in general but only insofar as this enables us to restore what is questionable in our working knowledge, belief, and values.[1]

The world as we know it presents itself to us in a massive face, the faces of family and friends, of street and neighborhood, with receding contours of familiarity and reach that we expect to be able to penetrate without becoming entirely lost and without meeting others with totally incommunicable ways. Each of us has a certain amount of "expert knowledge" for his particular needs, or else available upon thorough inquiry and application. But the greater part of this knowledge will be merely what it is necessary to know for all practical purposes, as tricks of the trade, rules of thumb, proverbial and folk wisdom. Where our general knowledge suffices for the definition of our task and situation, that is to say, where it enables us to discover its theme and its elaboration in and by particulars of the situation so as to engage its normal values, likelihoods, and causal texture, then we are able to treat what is required of us as a routine matter. We may, of course, be frustrated in our expectations and activities. But any stoppage in our conduct is

1. Alfred Schutz, **Collected Papers**, vol. 3, **Studies in Phenomenological Philosophy**, ed. Ilse Schutz (The Hague: Martinus Nijhoff, 1966); Alfred Schutz, **Reflections on the Problems of Relevance**, ed. Richard M. Zaner (New Haven, Conn.: Yale University Press, 1970); José Ortega y Gasset, **Man and People**, trans. Willard R. Trask (New York: W. W. Norton & Co., 1957).

perceived in the frame of its overall temporal course, which allows for others to see what has gone wrong, give help where needed, and so get us on our way.

These commonsense presumptions of conduct are the basis, then, for our being open to the influence of others, to their advice and aid. It enables others to see what we are up to and where we are, and thus to sustain a common schema of here-and-now, here-and-there relevances, that is to say, to locate the **occasional** or **indexical** properties[2] of the other person's action or talk and thus to generalize its sense. Thus in the common-sense attitude our own presence in the world is regarded as directly relevant to our understanding of the world and others and in turn their understanding of us. For example, what I am saying now depends very much on how I have approached this work, on how I try to breathe into it the sense to be made of it by us together once you share in it as a reader and as one who can be called upon to have some general sense of the allusions, the references, and the overall question that I am addressing. I am aware, of course, that you will not see things exactly as I do, reading rather more or rather less into what I am saying than what I have in mind to say. By the same token, there is a chance that I am thinking along the very same lines as some of my readers, or that they are even ahead of me. But whatever the background differences among us, we assume as a matter of course, though not without art, that we can share viewpoints, sentiments, and beliefs without elaborate recourse to the disciplines of logic and science. This reasoning, however, is not established without general discussion, through which we al-ways seek the resource of agreement.

2. Harold Garfinkel, **Studies in Ethnomethodology** (Englewood Cliffs, N.J.: Prentice-Hall, 1967), chap. 1, "What is Ethnomethodology?" pp. 1–34; and Edmund Husserl, **The Crisis of European Sciences and Transcendental Phenomenology: An Introduction to Phenomenological Philosophy,** trans. David Carr, (Evanston, Ill.: Northwestern University Press, 1970), p. 122.

In exactly the way that persons are members to organized affairs, they are engaged in serious and practical work of detect-ing, demonstrating, persuading through displays in the ordinary occasions of their interactions the appearances of consistent, coherent, clear, chosen, planful arrangements. In exactly the ways in which a setting is organized, it **consists** of methods whereby its members are provided with accounts of the setting as countable, storyable, proverbial, comparable, picturable, representable—i.e., accountable events.[3]

The commonsense attitude of everyday life is not just a given. It is something that is evinced in our social conduct as part of our claim to a grasp of how things are, as our ability to handle our social surroundings, relevant others, and our own face. The attitude of everyday life is thus not simply a cognitive attitude but also an expressive or ethical attitude, which Garfinkel refers to under the concept of **trust,** or "a person's compliance with the expectancies of the attitude of daily life as a morality."[4] It is a feature of everyday life that it supports our self-conceptions much of the time so that it is only when for some reason it leads us on to a disappointment or failure that we become aware of our self-investment in the way we see things. To withdraw such investments and to find new outlets for old selves can be painful indeed; it requires the presence of others, even of the very persons who may have led us on, as they may later confess.

We are naturally surprised and shocked when things do not conform to our commonsense expectations of them. Every question of fact raises questions of moral identity as well as cognitive competence. We assume there is a world held in common that has certain constitutive features of sharedness which we manage in a self-patterned way, working back and forth, glossing meaning, taking particulars as evidence of an

3. Garfinkel, **Studies in Ethnomethodology,** p. 34.
4. Harold Garfinkel, "A Concept of, and Experiment with 'Trust' as a Condi-tion of Stable Concerted Actions," in **Motivation and Social Interaction,** ed. J. O. Harvey (New York: The Ronald Press Company, 1963), pp. 187–238.

order of events yet to be established and, in turn, using this emerging order of events as "evidence" of the sense of its particulars. We regard the working of this scheme of things not just as an essay in knowledge but rather the same thing as a moral claim to our grasp of reality, of our competence and responsibility in the working of an order of events to which we are partner, so that commonsense knowledge of social structures is for us the same thing as moral knowledge.

The scientist, it is said, breaks with the daily world of the natural attitude. He lays aside the common fabric of belief, habit, and custom in the service of a systematic doubt and his subscription to rationally constructed knowledge. In the pursuit of doubt the scientist aims at the overthrow of conventional knowledge, the destruction of routine, and the emancipation of choice and decision. To achieve this the scientist must disengage himself from the world of pragmatic interest and relevances and thereby reinterpret the world solely in keeping with his own scientific purposes, namely, to achieve the solution of a problem for its own sake.[5] Even with regard to his solution, the scientist is prepared to see it defeated, improved upon, or made more rigorous and free of contradiction. The scientist also suspends the spatiotemporal relevances motivated by his own presence in the world. He adopts a timeless and objective stance in which space-time coordinates function solely to state the conditions for repeating an experiment. Because the scientist has no "here" within the world and is immune to the reciprocity of viewpoint, with its horizons of intimacy and generality, he is obliged to construct a **model actor** to whom he

5. Max Weber, "Science as a Vocation," in **From Max Weber: Essays in Sociology**, trans. and ed., Hans Gerth and C. Wright Mills (New York: Oxford University Press, 1958) pp. 129–156. Cf. Herminio Martins, "The Kuhnian 'Revolution' and Its Implications for Sociology," in **Imagination and Precision in the Social Sciences**, ed. T. J. Nossiter, A. H. Hanson, and Stein Rokkan (London: Faber and Faber, 1972) pp. 13–58; Robert W. Friedrichs, **A Sociology of Sociology** (New York: The Free Press, 1970).

imputes a **rational consciousness** interacting with others destined similarly to act like any-rational-man.

> The homunculus is invested with a system of relevances originating in the scientific problem of his constructor and not in the particular biographically determined situation of an actor within the world. It is the scientist who defines what is to his puppet a Here and a There, what is within his reach, what is to him a We and a You or a They. The scientist determines the stock of knowledge his model has supposedly at hand. This stock of knowledge is not socially derived and, unless especially designed to be so, without reference to social approval. The relevance system pertinent to the scientific problem under scrutiny alone determines its intrinsic structure, namely, the elements "about" which the homunculus is supposed to have knowledge, those of which he has a mere knowledge of acquaintance and those others he just takes for granted. With this is determined what is supposed to be familiar and what anonymous to him and on what level the typification of the experiences of the world imputed to him takes place.[6]

Sociological accounts are beset by the pervasive problem of the encounter between the everyday world of the commonsense natural attitude and the problem-specific interests of scientific inquiry and explanation. There are a variety of ways to express this difficulty. The particular approach that I should like to develop starts from the problem of the **mutual accountability** of the commonsense and scientific attitudes. It is possible, for example, out of evolutionary and rationalist fervor, to dismiss the articulation of commonsense knowledge as an idol of the marketplace from which science delivers us. Such an attitude has the support of the philosophical tradition and serves to qualify the superior social status that men of knowledge claim for themselves by appealing to the asceticism of rational thought in its struggle with license and foolishness. But this tradition belies itself inasmuch as it also appeals to the

6. Alfred Schutz, **Collected Papers**, vol. 1, **The Problem of Social Reality**, ed. Maurice Natanson (The Hague: Martinus Nijhoff, 1964), pp. 41–42.

sobriety of common sense to rescue us from the intoxications of speculative thought. For what is reasonable in human affairs is often found to be closer to common sense than is flattering for the scientists of conduct. Men are ordinarily aware that they are born much like any other men into a world whose ways and wisdom precedes them. So far from inspiring subjectivity and disorder, common sense allies itself with that proper human folly that men find it necessary to acquire to live with themselves. True folly is alien to the corrosive fantasy of perfectly rational character and community.

It is in the interest of scientific sociology to destroy custom and to deride convention in order to make of human assembly a rule of reason. In this unseasonable aspiration sociology strives to be immune to the exigencies of conviviality and collective sentiment. If this were at all a possibility, then sociology would truly be a science of difference, that is, of egoism, interest, and violence collected in the division of labor, in contract, and in the republic of method. But it is precisely this aspiration that limits scientific sociology to the rule of appearances. This rule in turn saves the rational management of social life by hiding its antisocial foundations. It is in this fashion that Erving Goffman reveals to us the folly of descriptive social science. That is to say, his labor shows that there is nothing behind the surfaces of sociological description once sociology itself is no longer beholden to the grounds of collective life.[7] In such a situation sociological description merely glosses the practices of vanity, equal hope, and the fear of death. Once scientific sociology engages in the unseasonable folly of breaking with communal sense, its own appeal becomes problematic, or

7. Erving Goffman, The Presentation of the Self in Everday Life (Garden City, N.Y.: Doubleday & Co., Anchor Books, 1959); Relations in Public: Microstudies of the Public Order (New York: Harper & Row, Harper Colophon Books, 1973); Daniel C. Foss, "Self and the Revolt against Method", Philosophy of the Social Sciences 2, no. 4 (December 1972): 291–307.

rather, it is reduced to an uncertain voice crying against an uncommon society. For the assembly of society and sociology is not a power of science.

But suppose, right here, some wise man who has dropped down from the sky should suddenly confront me and cry out that the person whom the world has accepted as a god and a master is not even a man, because he is driven sheeplike by his passions; that he is the lowest slave, because he willingly serves so many and such base masters. Or again, suppose the visitor should command some one mourning his father's death to laugh, because now his father has really begun to live—for in a sense our earthly life is but a kind of death. Suppose him to address another who is glorying in his ancestry, and to call him low and base-born because he is so far from virtue, the only true fount of nobility. Suppose him to speak of others in like vein. I ask you, what would he get by it, except to be considered by everyone as insane and raving? As nothing is more imprudent than unseasonable prudence. And he is unseasonable who does not accommodate himself to things as they are, who is "unwilling to follow the market," who does not keep in mind at least that rule of conviviality, "Either drink or get out"; who demands, in short, that the play should no longer be a play. The part of a truly prudent man, on the contrary, is (since we are mortal) not to aspire to wisdom beyond his station, and either, along with the rest of the crowd, pretend not to notice anything, or affably and companionably be deceived. But that, they tell us, is folly. Indeed, I shall not deny it; only let them, on their side, allow that it is also to play out the comedy of life.[8]

It belongs to scientific folly to reckon men more rational than they care to be. Such folly easily allies with political pride to make men the instruments of rational organization beyond their will. Sociology is soon conscripted to this task. Or rather, without self-knowledge sociology never comes to terms with the temptations of scientific folly. It is essential, therefore, that we investigate the nature of the conduct that is inquiry into the

8. Desiderius Erasmus, The Praise of Folly, trans. Hoyt Hopewell Hudson (Princeton, N.J.: Princeton University Press, 1941), pp. 37–38. Reprinted by permission of Princeton University Press.

lives of others. We must ask what it is—faith or method—that supports us in decentering our own life among others in order to make of it a dedicated focus of concern with the otherness of others. How do we accomplish this, what motivates its concern, how is it to be fulfilled? We are not to presume that it is the work of alienation: for it is not practiced outside of the umbilical ties between us and others who feed us, smile upon us, help, hurt, and puzzle us. Among men rationality is the incarnate pursuit of understanding that breeds in bodily presences. This is the sustaining bond of sociological inquiry. What would it mean to cut ourselves off from this union in order to make of sociology a science? If we could achieve such a distance, to what in the end should we apply sociology?

In the face of this question sociology attaches itself to scientific description. Yet in modern literature and science nothing is less certain than description. Or rather, there have been times and places where narrative was more of a settled attitude—or the very composition of a settled attitude. But today words come apart and leap from the sentences that try to hold them to literary conventions. Sense and nonsense are if anything rival sensibilities rather than the frame and limit of understanding. Thus nothing can be more passionate than the commitment to true social narrative, that is, to a narrative that is patient with the intimacies of ordered and disordered life, through which the body becomes flesh of the world and the world in turn is fleshed into the sense and nonsense of character and society.

Wild sociology acknowledges that it is born into the desperate circumstance of having to earn its living. For sociology is preceded by the marvelous acquisitions of commonsense living and pragmatic reasoning that make it impossible for sociology to begin, as does science, with a lack of confidence in man. Wild sociology has no other way than to assume its conventional debts to the great traditions of our senses, manners, and natural reason. Thus it has no other narrative allegiance than to

the virtues and ways of daily living from which we build up the institutions of understanding and good will. Wild sociology cannot suspend the intimacies of need, of hope and injury, of tools and engines, of family and first love, nor of hate and broken friendship. These are never virtual engagements of ours attendant upon the commitments of speculative reason and its contracts of utility and profit. For our social life is not convertible to a thing of use, nor into an image of itself. Let this stand in the surrounds of abuse, utility, fantasy, machination, and contract that we bear, much as life holds against all its afflictions:

> The plainness and iterativeness of work must be one of the things which make it so extraordinarily difficult to write of. The plain details of a task once represented, a stern enough effort in itself, how is it possibly to be made clear enough that this same set of leverages has been undertaken by this woman in nearly every day of the eleven or the twenty-five years since her marriage, and will be persisted in in nearly every day to come in all the rest of her life; and that it is only one among the many processes of wearying effort which make the shape of each one of her living days; how is it to be calculated, the number of times she has done these things, the number of times she is still to do them; how conceivably in words is it to be given as it is in actuality, the accumulated weight of these actions upon her; and what this cumulation has made of her body; and what it has made of her mind and of her heart and of her being. And how is this to be made so real to you who read of it, that it will stand and stay in you as the deepest and most iron anguish and guilt of your existence that you are what you are, and that she is what she is, and that you cannot for one moment exchange places with her, nor by any such hope make expiation for what she has suffered at your hands, and for what you have gained at hers: but only by consuming all that is in you into the never relaxed determination that this shall be made different and shall be made right, and that of what is "right" some, enough to die for, is clear already, and the vast darkness of the rest has still, and far more passionately and more skeptically than ever before, to be questioned into, defended, and learned toward. There is no way of taking the heart and the intelligence by the hair and of wresting it to its feet, and of making it look this terrific thing in the eyes: which are such gentle eyes: . . . and they are to be

multiplied, not losing the knowledge that each is a single, un-repeatable, holy individual, by the two billion human creatures who are alive upon the planet today; of whom a few hundred thousands are drawn into complications of specialized anguish, but of whom the huge swarm and majority are made and acted upon as she is: and of all these individuals, contemplate, try to encompass, the one annihilating chord.[9]

Repetition is the ground of character and true narrative and it is in our ways and it is what sociology needs to settle in our daily living. But sociology need not know what it needs to know, and that is what is difficult in the narrative it undertakes. For it may forsake its task in generalities, failing to call upon the names of the things that are its poetic sources. Sociology en-lightens us with talk of individualism, equality, progress, and environmental improvement. But character and place each have roots that hold against what scientific sociology has in store for us. Sociology lets self go free, without place, or past, or any injury of family. Yet these things return upon us. Soci-ology, to save itself, treats them as "problems."

Wild sociology abides in the daily necessity of having every day to make of necessity a daily thing and not tomorrow's mother. We know this and what we know of it is that it is repetition, the daily repetition of our lives, which is in our lives every day and in our talk and in all our senses, that is the conversable ground of sociology's way. For this reason wild sociology hides its own name. It is neither outside nor above the holy places it seeks to enter. It has no commanding voice, for it shuns the prescriptions of method and the forced entries of science. Wild sociology seeks therefore to persuade and to charm; yet not irresponsibly, for it is faithful to the poetry and prayers of mankind. Method presumes upon its own practice and in this it is careless and indifferent toward the particulars

9. James Agee and Walker Evans, **Let Us Now Praise Famous Men** (New York: Ballantine Books, 1966), pp. 290–291.

that fall under its rule. Wild sociology rejects the rudeness of method that lacks any respect for the community that suffers its practices. By the same token, it is not simply conservative; rather it imposes upon its actions and speech the obligation to bring our lives together.

Wild sociology is beholden to its community. For the sociolo-gist needs other men, just as men make a family out of their happiness and their sorrows and do not bear these alone. No man really seeks privilege and exception but as gifts to be shared in the celebration of family and community in remember-ing our victories and defeats, welcoming our arrivals, and mourning our departures. Such community is rarely granted to us and is not to be usurped by the privilege of science intolerant of the ways of welcome. Thus wild sociology defends the com-munity it chooses to inhabit as the place of its deeds. In this it solicits the community's own reminiscence and powers of repe-tition, which furnish the commonplaces of its reflection and self-appraisal. In this way wild sociology is obliged to observe and to listen for the bottom nature of things, where they are not ruled by passivity but rather launched upon the resolution to bring life together in work, in speech, in faith, and in under-standing. Wild sociology is therefore without any method of its own beyond this very celebration that counts upon the labors of others to bring together our thoughts and speech, to offer us a chance of love and understanding. Thus in making sense together we appeal to the world as flesh, as an omnipresence that is never the material of science, for it lacks distance and indifference upon our part.

> Many things then come out in the repeating that make a history of each one for any one who always listens to them. Many things come out of each one and as one listens to them listens to all the repeating in them, always this comes to be clear about them, the history of them of the bottom nature in them, the nature or natures mixed up in them to make the whole of

them anyway it mixes up in them. Sometime then there will be a history of every one.

When you come to feel the whole of anyone from the beginning to the ending, all the kind of repeating there is in them, the different ways at different times repeating comes out of them, all the kinds of things and mixtures in each one, anyone can see then by looking hard at any one living near them that a history of every one must be a long one. A history of any one must be a long one, slowly it comes out from them from their beginning to their ending, slowly you can see it in them the nature and the mixtures in them, slowly everything comes out from each one in the kind of repeating each one does in the different parts and kinds of living they have in them, slowly then the history of them comes out from them, slowly then any one who looks well at any one will have the history of the whole of that one. Slowly the history of each one comes out of each one. Sometime then there will be a history of every one. Mostly every history will be a long one. Slowly it comes out of each one, slowly any one who looks at them gets the history of each part of the living of any one in the history of the whole of each one that sometime there will be of every one.[10]

The physicalism of scientific observation and reflection, by which I mean the presumption of distance, seems to me to lead sociology into an imperialism of method and rationality that undermines the ritual wholeness of the daily particulars which constitute the fabric of individual integrity and communal endurance. Every individual and community stands to us as a monument of human possibility expressed in the faces, the hands, the music, the food, dwellings, and tools that men endure against the earth and the twistings of man's own arrangements. The cycle of these things is born in an expansion of hope and possibility that is gradually simplified toward death. It is the burden of wild sociology and its imaginative power to cultivate this cycle, to follow its seasons, its shaping and its bearings of life. Scientific sociology cannot be faithful to this task so long

10. Gertrude Stein, **The Making of Americans** (New York: Harcourt, Brace & Co., 1934), p. 128. Reprinted by permission of Harcourt Brace Jovanivich, Inc.

as it is the instrument of the willfulness within modern society to deny the cycle of life, to subvert its repetitions by externalizing them into mechanical organs of production and reproduction.

Sociology's pride lies in its method of scientific analysis and unification, the aim of which is to make of the world a thing of construction through and through. We should not accept without reflection the physics built into the very notion of reflection's distance. What is the distance between men? How should thinking stand outside of greetings, comings, and goings? In short, is not everything **between** men, is not everything nurtured in the fold of their **presence**? Sociology's face is toward the world though it does not love the world in its nature, its houses, its food and furniture, its music and dance, its prayers and its terrors. Sociology is outward-looking, for it seeks to reshape destinies in the mold of environment. It shrugs off the weight of birth and family, the connections of blood, and the inevitability of death, in favor of reform and revolution. Sociology is democratic and progressive. Its method is the future via men's souls. It espouses the contingencies of love in order to write freedom into the chances of birth, family, class, and neighborhood. Sociology is convinced that what is difficult in its task is corrigible through the efforts of education, science, and politics to reduce all human arrangements to matters of rule.

Wild sociology needs time, for it deals with surfaces beneath which there lies the silent, wild being that is our lives made from the legacy of this body and family of ours and from the work of our senses and intellect where they have touched others and taken from them some kind of knowing that can never be refused and must always venture itself again. Wild sociology is governed by a profound respect for the particulars of place, time, and conduct from which men build their associations and the institutions of trust that sustain their communal lives. Its narrative keeps faith with this trust through a self-conscious

artfulness, in knowing that things are not as they are in order to facilitate a superficial realism or to indulge an idle aestheticism. These are species of contemplative thought that fail to attach us to the awesome work of particular and local deeds which are the connections of social life. For true sociological narrative is not the empty iteration of how things are, apart from how it is we know them to be as they are. That is to say, true narrative is the soul's conversation with its senses through which we are engaged in where we live and live as we know we do. This is the real ground of sociological description and inquiry, and thus wild sociology is irredeemably a folk art. To keep its word it requires of us a holy vigil.

5
The Holy Watch

Wild sociology opens in the reversal of the look, in the seer who is seen in that moment of prayer that joins us despite our daily trespasses. For the trespass of hands and eyes, of warmth and rejection, is the bread of our lives together. Sociological distance is not an empty space between us: it is the reach for what we have in common through our mundane needs and their natural orders of commerce and ritual. To stand outside of these ancestral bonds, as does the observer, is to risk home and loss of faith.

Sociology is the study of man. How strange! For how does man become an object of study? What are the motives for such a practice and how does it coexist with the forms of daily life that come under the optic of sociological observation? What is the faith that supports the sociologist in his life? How does he live with the conscience of seeing men other than how they see themselves? To whom does he attribute the folly of difference: to the vanity of those whom he observes or to the vanity of the community of rational men that guides his own comparisons? Such questions are likely to be regarded as mere rhetorical

EDUCATION WEEK

Published Online: June 23, 1999
Published in Print: June 23, 1999, as **What Is (and Isn't) Research?**

What Is (and Isn't) Research?

By Debra Viadero

At a national conference in 1994, two prominent education researchers--Howard Gardner and Elliott W. Eisner--started a lively debate that would go on for two more years. The question was: Should novels count as doctoral dissertations in education?

It's the kind of question that might be dismissed out of hand in medicine, physics, or any of the other "hard sciences." But in education, a field in which alternative forms of research proliferate like gnats in springtime, the debate has serious implications.

At its heart are differing views about what constitutes good education research. And how do you know it when you see it?

"There are so many alternative paradigms in education research that we're not really agreed upon what knowledge counts and what's good research," says Penelope L. Peterson, the dean of the school of education and social policy at Northwestern University in Chicago.

Such questions are taking on a new urgency now, as education research and the federal system that feeds it come under the microscope at the national level. A host of commissions, advisory groups, former U.S. Department of Education officials, and other interested parties this year have sought to spell out what researchers ought to be studying, how they ought to conduct those studies, how the federal government can best support the whole enterprise, and how to ensure that findings get used in real schools and classrooms.

The implications of this soul-searching are important. How education scholars decide what ''counts'' could ultimately raise or lower the field's credibility with the teachers and policymakers increasingly hungry for advice. If education researchers can't determine for themselves what good scholarship is, how can anyone else?

Mixing of Traditions

To some degree, all the social sciences, tied up as they are in measuring complex and unpredictable qualities of human behavior, wrestle with the same issues. Even medical researchers--often held up as exemplars by critics of their education counterparts--use different methodologies to point them to conclusions. They might, for example, draw on both lung-tissue samples and epidemiological studies to study the effects of smoking, notes Lorrie A. Shepard, the president of the American Educational Research Association, a Washington-based group

representing 23,000 researchers.

But in education, the growth of so many different forms of research may be more pronounced because the field itself is an amalgam of academic traditions. Anthropologists, psychologists, economists, political scientists, sociologists, and historians--to name a few--all engage in education research. And the tools they use in their work range from questionnaires to field notes to videotapes.

Education researchers do surveys, longitudinal studies that track students' progress over time, and meta-analyses--a statistical technique that enables researchers to summarize effects found across many studies. They might delve into national databases, or into schools themselves with strictly controlled experiments or quasi-experiments to find out if an educational intervention really makes a difference. They might sit for months in classrooms and produce narrative descriptions of teachers, schools, classrooms, and thinking processes at work.

They might even write novels.

Psychology an Early Model

The Gardner-Eisner debates were no pie-in-the-sky intellectual exercises. By 1994, the first year the two scholars took up the topic, Hofstra University in Hempstead, N.Y., had already accepted a novel as a doctoral dissertation in education, according to one scholar who took part in those debates.

"In a sense, this flowering of methods is a healthy consequence of the fact that we've outgrown some of the methodological straitjackets we lived in 30 or 40 years ago," said Alan H. Schoenfeld, the AERA's immediate past president and an education professor at the University of California, Berkeley. "But now I think there's probably too much, in the sense that the number of methods we have now will either turn out not to be robust or will be eclipsed by other things."

In earlier decades, education research predominantly modeled itself on psychological studies. Experiments were often conducted in laboratories, rather than real schools, and the results were always neatly quantifiable. Gradually, however, some researchers came to believe that the traditional methodologies weren't giving them the whole story. The study of schooling, they reasoned, needed to take place in schools and other real-life contexts.

What is more, statistical studies examining simply whether or not an intervention worked only scratched the surface. If a new program or classroom technique succeeded, statistics couldn't answer the big question: Why?

Notions of objectivity also came into question. Even though standard empirical or quasi-scientific studies may give the appearance of objectivity, some academics pointed out, the outcomes could easily be biased by the researchers' choices of measures or comparison groups.

Thus was born a move, which became almost a flood during the 1980s, toward more descriptive studies, known as qualitative research. At the same time, interest revived in research done by teachers and in "action research"--where researchers themselves often are active participants

in the changes they are studying. Why bother to try to be a dispassionate observer, some proponents of those approaches may have reasoned, when objectivity may be an impossible goal?

Good vs. Bad

Now the pendulum is swinging again.

"There's beginning to be some serious skepticism about the movement in education toward qualitative analysis," Marshall S. Smith, the Education Department's acting deputy secretary, told researchers last month at a meeting in Cambridge, Mass., organized by the American Academy of Arts and Sciences. "People are beginning to realize that case studies are only useful when they're well-grounded in theory."

Part of the problem has been that descriptive studies, some of them involving a single school or classroom, don't carry much weight with policymakers. And while some qualitative studies have drawn accolades for their elegance, their detail, and their ability to shine a spotlight on what really goes on in some classrooms or in the minds of learners, others add little to the field's collective knowledge.

"It's not qualitative versus quantitative," Henry M. Levin, an education professor at Teachers College, Columbia University, told the Cambridge gathering. "It's good research versus bad research, and the qualitative field opens up a lot more possibilities for bad research."

Even when qualitative research is good, some scholars note, there is no mechanism that enables such findings to accumulate so that they become more than anecdotes and isolated stories.

An example of the type of solid, experimental work that policymakers are demanding is a noted Tennessee study on the effects of smaller classes. The study, begun in 1985, is also significant in that it set out to examine a question with direct and far-reaching policy implications.

With more than $12 million in total funding from the state legislature, researchers from the Student/Teacher Achievement Ratio, or STAR, project conducted a classic experiment in which thousands of students from 79 schools across the state were randomly assigned to either small classes of 15 to 18 students or classes of 22 to 25 students.

The researchers found that students from the smaller classes outscored their counterparts in every year of study. Those students held on to their academic edge years after returning to larger classes. (**"Tenn. Class-Size Study Finds Long-Term Benefits,"** May 5, 1999.)

All but ignored when it was first published widely in 1990, the study has since drawn the eye of state legislators and President Clinton. And the findings have become powerful ammunition in the movement to reduce class sizes in the early grades.

Cost a Factor

What made the STAR study so influential, experts say, was its use of a random-assignment research methodology that reduced the risk of bias and made it possible to look across different

school populations.

If the Tennessee researchers could pull off that kind of rigorous, scientific experiment on such a large scale, proponents of such experimental methods say, why can't other education researchers?

But conducting reliable random-assignment studies also presents some practical challenges. A big one is cost--a major concern in a field that is widely considered to be underfunded.

"The Tennessee study is a good example of the expense involved in doing [such research] on a scale that's credible," says the AERA's Ms. Shepard, who is a professor of education and research methods at the University of Colorado at Boulder. "It's clear that doing this in education means bigger-scale investments."

Another practical obstacle is that school districts sometimes find it hard to refuse parents' demands to include or exclude their children in experimental groups. Accommodating such wishes can dilute a study's strength.

"The chances for controlling for what we should be controlling for are pretty slim," says Lauren B. Resnick, a co-director of the Learning Research and Development Center at the University of Pittsburgh. "There are problems with that approach, but there are certain questions that can be addressed that way."

And certain questions that can't. One example Mr. Schoenfeld, the former aera president, cites is studies on "metacognition," or people's awareness of their own learning strategies.

Standards for Research?

The bigger issue for many researchers is defining and maintaining quality in the midst of all the ferment in their profession. And they are divided over whether setting common standards for education research would help.

"If anyone right now were to say, 'These are the standards, and they're carved in stone,' they'd wind up setting the field back rather than moving it forward," Mr. Schoenfeld says. But, he adds, within particular academic disciplines, "there are serious questions to ask about what kinds of claims you can make and on what grounds."

To some extent, research standards already exist. Academic journals act as gatekeepers when they send prospective articles out for peer review. Reviewers also screen the funding proposals that come before the Education Department's office of educational research and improvement.

But one recent federal report questions whether the OERI's peer-review panels are doing an adequate job. The report by the National Educational Research Policy and Priorities Board notes that while most peer reviewers appear to be qualified for the task, a few panels that screened proposals for research competitions held in 1996 and 1997 had few or no members with any expertise in research. (**"Panel Urges Tighter Review of Research-Grant Proposals,"** March 24, 1999.)

The Education Department is considering creating standing review panels whose members

would work together over longer periods of time, learn from one another, and reach consensus on some common evaluation standards.

"There's no getting away, at the end of the day, that quality is to some considerable degree in the eyes of the beholder," says C. Kent McGuire, the department's assistant secretary in charge of the OERI. "But I think these things need to be publicly discussed, and the field needs to worry about quality."

Different Notions of 'Research'

So, is a novel a valuable enough piece of research to qualify as a dissertation? Or is it just a piece of fiction, with little value for those trying to build better schools?

After two years of talking, neither Mr. Gardner nor Mr. Eisner had moved any closer to agreeing on whether a novel could be a dissertation.

Mr. Gardner remained skeptical."Not only is art not true, it makes no effort toward truth," the Harvard University scholar, best known for his "multiple intelligences" theory, said the last time the two debated the topic, in 1996. "It seems to me the essence of research is effort, however stumbling, to find out as accurately as you can what's happening and then to report it accurately."

For his part, Mr. Eisner, of Stanford University, conceded that while a novel might not be an appropriate vehicle for every sort of research imaginable, it could create deeper, more empathic understandings in its readers and convey some things that facts cannot reveal.

"If you want to know what it feels like to be an associate professor when you're 54, 'Who's Afraid of Virginia Woolf?' is a good way to find that out," he said in that exchange three years ago. "Exploring new forms of inquiry is part of trying to create an intellectual climate in schools of education where those contributions are not excluded because they don't match the existing categories."

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