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What Can Education Learn from the Arts about the Practice of Education?

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Abstract

My subject is what the practice of education can learn from the arts. I describe the forms of thinking the arts evoke and their relevance for re-framing conceptions of what education can accomplish.

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 of 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.

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 (Boring, 1957). 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.

(Thorndike, 1990)

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.¹ 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 (Callahan, 1962).

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 (Callahan, 1962).

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 (Toulmin, 1990). 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 (Toulmin, 1990).

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 (Read, 1944). 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, skillfully 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.

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.

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" (Goodman, 1978). 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 *feels* 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 *saying*, but how someone has *constructed* 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.

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 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 (1938) called “flexible purposing”. 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.

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.

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 (1967) who speaks of tacit knowledge and says "We know more than we can tell." 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.

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.

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 1930s 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.

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; (it's OK 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 emphasize 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.

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" (Browning/Allison, 1983).

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” (Dewey, 1934).

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.

Note

1. For a lucid history of research in education, see Lagemann, E. (2000). *An elusive science: The troubling history of educational research*. Chicago: University of Chicago Press.

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