A View from Somewhere: Explaining the Paradigms of Educational Research [1]

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ABSTRACT

In this paper I ask how educational researchers can believe the subjective perceptions of qualitative participant-observers given the concern for objectivity and generalizability of experimental research in the behavioral and social sciences. I critique the most common answer to this question within the educational research community, which posits the existence of two (or more) equally legitimate epistemological paradigms – positivism and constructivism-- and offer an alternative that places a priority in educational research on understanding the purposes and meanings humans attribute to educational practices. Only within the context of what I call a transcendent view from somewhere, -- higher ideals that govern human activities – can we make sense of quantitative as well as qualitative research findings.

INTRODUCTION

For some time now educational researchers have puzzled over the question: How can the subjective perceptions of single participant-observers in particular cases found in qualitative inquiry yield knowledge worthy of the name, given the concern for objectivity and generalizability inherent in the positivist approach to social and behavioral science?[2] Philosophers have long been concerned with questions of this kind. How, they ask, is one thing possible, supposing certain other conflicting or contradictory things? How is it possible for us to have free will, for example, supposing that all actions are causally determined or for evil to be possible, given the existence of an omnipotent omniscient good God? (Nozick, 1981, p.8) Addressing these sorts of questions requires what Robert Nozick has called a philosophical

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explanation, which articulates deeper principles that can remove the apparent conflict and put one's beliefs in alignment.

Perhaps the most common explanation offered in response to this question in educational research argues that qualitative inquiry such as phenomenology and ethnography is grounded in constructivism, an alternative epistemology to the positivist orientation of quantitative research (Guba 1990, Guba and Lincoln 1985, 1989, Shkedi 2003). According to this account, positivism is not the only epistemological game in town. We can distinguish at least two conceptions of knowledge, one that aims to discover and explain relations between dependent and independent variables and another that strives to understand human experiences, norms, and purposes (Von Wright 1981, also Snow 1990; Cronbach 1975). To buttress this approach, some authors refer to Thomas Kuhn's notion of a scientific research paradigm (Kuhn 1996), suggesting that qualitative inquiry constitutes a new paradigm in social and educational research that is as intellectually legitimate as the quantitative paradigm (Patton 1980, 1990).

I shall refer to this as the dual (or plural) epistemology thesis. Its chief advantage is that in the so-called methodology wars between quantitative and qualitative methods, this thesis allows for a strategy of mutual appeasement that enables the two orientations to coexist in the professions of social and educational research. Nevertheless, this explanation of the viability of both qualitative and quantitative research methods suffers from a number of serious flaws (Alexander 1986).

In this paper I offer an alternative to the dual-epistemology that avoids these difficulties. I argue that something like Dewey's pragmatism may offer a promising way out of the false dichotomies that have so often characterized this debate (Biesta

and Burbules 2003; Johnson and Onwuegbuzie; Maxcy 2003). However, avoiding the quagmires of self-defeating relativism to which pragmatism too often succumbs (e.g. Rorty 1980; 1982) requires appeal to a limited conception of transcendence – higher ideals that are not dependent upon but that govern human activities within space and time -- though tied more closely to what Aristotle called practical wisdom than to the sort of abstract theory or pure reason with which ideas of this kind have often been associated. Acknowledging the futility of what Thomas Nagel (1986) called "the view from nowhere" – a completely neutral account of objective reality -- requires admitting the possibility of a view from somewhere, even if we cannot come to agreement concerning where that view is from or what vantage point it allows. I call this alternative, rather provocatively, "transcendental pragmatism."[3]

The paper is divided into five parts. In the first section I discuss the reemergence of the so-called methodology wars between quantitative and qualitative methods in the educational research community. Next I consider some of the difficulties with the dual epistemology thesis as a basis for resolving tensions between the warring camps along with some of the historical debates that led me to search for an alternative. Section four lays out that alternative and the final section addresses some of its consequence for educational research.

1. NEW SKIRMISHES IN THE METHODOLOGY WARS

The question of how it is possible to believe the findings of qualitative inquiry, given concerns for causal explanation and generalization, gained prominence in the educational research community in the last part of the twentieth century. In the US, researchers such as Egon Guba (1990), Yvonna Lincoln (Guba and Lincoln 1985, 1989), Robert Stake (1995), Michael Patton (1990; 1980), and Elliot Eisner (1991)

questioned some of the central assumptions of the positivist orientation against which their emerging interest in qualitative methods was being judged. Interest in this question became more acute as radical scholars of education and those interested in post-modernism gained prominence, such as Henry Giroux (1992), Stanly Aronowitz (Aronowitz and Giroux 1993), Peter McLaren (1994), Michael Apple (1990, 1982), and Thomas Popkewitz (1984), who challenged not only the ways in which positivist educational researchers collect and analyze data, but the very possibility that knowledge in education (or elsewhere) could be distinguished from power and ideology.

After a quarter century of methodology wars, in which positivists and anti-positivists of different stripes attempted to expose and defeat one another's assumptions, it appeared for a time as though educational researchers had reached a truce that allowed different camps to tolerate if not also respect each other's positions, based at least in part on the doctrine of dual epistemology. That truce was broken, however, in 2001 when an act of the US Congress entitled "No Child Left Behind" endorsed randomized controlled experimentation as the so-called 'gold standard' of research methodologies. The research branch of the US Department of Education consequently allocated federal funds to support experimental research such as randomized field trials almost exclusively, or in a few instances quasi-experimental approaches such as regression discontinuity methods (Campbell and Stanley 1963, Shaddish, Cook, and Campbell 2002). The political environment in Washington during the period that led up to this endorsement was characterized by social conservatism and concern about the poor quality of much educational research. It prompted many interested parties in the US educational research community to call upon the National Research Council (NRC) of the National Academy of Sciences to

establish an independent group to, as one commentator put it, "jump the Congressional gun, and offer a less narrow and more reasoned account . . . of what it is to be 'rigorously scientific'" (Phillips 2005). The NRC report, which on this account was careful to recognize the academic respectability of a variety of disciplines in educational research, including for example, educational anthropology and ethnography, offered the following six criteria as 'guiding principles' for a 'healthy community of scientific researchers. Scientific research should:

> (i) Pose significant questions that can be investigated empirically; (ii) Link research to relevant theory; (iii) Use methods that permit direct investigation of questions; (iv) Provide a coherent and explicit chain of reasoning; (v) Yield findings that replicate, and generalize across studies; and (vi) Disclose research data and methods to enable and encourage professional scrutiny and critique. (Feuer, Towne, and Shavelson 2002)

Yet, as a number of critics point out (Erickson and Gutierrez 2002, St. Pierre 2002, Eisenhart 2005), the NRC report does not veer as far as its advocates claimed from the narrow empiricist path set by the revival of what another commentator called "experimentism" in educational research (Howe 2005). For example, it continues to hold up replication and generalization as standards against which most if not all educational research ought to be judged. Some critics (e.g. Moss 2005) point out that the NRC report does not take sufficient account of the epistemological differences between research that seeks to discover causal explanation for purposes of prediction and control on the one hand and that which pursues purposive (or intentional) explanation and hermeneutic understanding on the other (von Wright 1981). Other commentators offer various forms of pragmatism or post-positivism as an alternative to the scientific positivism inherent in the preference for randomized experiments (Schwandt 2005, Howe 2005, Phillips 2005).

One can only wonder why this debate has reemerged in the educational research community with such vehemence. There are surely many social and political

influences that can account for the acrimony and intensity of the discussion. But there are philosophical issues involved here as well, including weaknesses in the doctrine upon which the truce in the methodology wars was, at least in part, founded. For the dual epistemology thesis never adequately addressed the question of how it is possible to embrace the findings of research grounded in a qualitative orientation given the empiricist demand for randomization and generalizability, or conversely, how quantitative results can be meaningful given the hermeneutic critique of positivism and post-positivism.

2. DUAL EPISTEMOLOGY AND ITS DISCONTENTS

One difficulty with the dual epistemology thesis is that it tends toward a self-refuting form of relativism which hinders the systematic assessment of merit in social and educational research. Each paradigm has its own assumptions, according to this view, and it is unreasonable to criticize one on the basis of the other. It follows that the only criteria that can be used to evaluate any specific application of a research paradigm are internal; and if an orientation does not prize logical consistency, for example, there is no way to call it to account. As Johnson and Onwuegbuzie wrote recently (2005), "When it comes to research quality, it is not the case that anyone's opinion about quality is just as good as the next person's, because some people have no training or expertise or even interest in research" (p. 16). [4]

A second problem with dual epistemology is that it tends to discourage mixing qualitative and quantitative methods in single studies by encouraging epistemological and methodological purism among both qualitative and quantitative researchers. However, an increasing number of researchers are looking to integrate quantitative and qualitative methods in mixed research designs (Craswell 2003; Sieber 1973;

Tashakkori and Teddlie 1998). These designs "attempt to legitimate the use of multiple approaches in answering research questions, rather than restricting or constraining researchers' choices." This form of research is expansive, inclusive, and pluralistic, suggesting that researchers may select their methods eclectically, in accordance with research question being asked (Johnson and Onwuegbuzie 2005, p. 17).[5]

The third problem with this orientation concerns its interpretation of Kuhn's concept of scientific research paradigms. Setting aside the fact that Kuhn did not hold that scientific paradigms exist in the social or behavioral sciences – a belief probably linked to his positivist past -- if the advent of qualitative inquiry is a scientific revolution ala Kuhn, it cannot leave our attitude toward the previous paradigm – positivist social science -- unaffected. On Kuhn's view, the new paradigm ought to replace the old one, as Copernican supplanted Ptolemaic astronomy, by accounting for data that were previously unexplained. Alternatively the new paradigm should enable us to view the old one in a new light, as Einstein's relativity thesis contextualized the meaning of Newtonian mechanics (Kuhn 1996).[6]

Fourth, the qualitative revolution in social and educational research raised hard questions concerning the coherence of such positivist notions as social laws that are generalizable across historical, cultural, or linguistic contexts (Campbell and Stanley 1963; Hempel 1966; Nagel 1961), behavioral facts independent of ethical values or political ideology, or valid and reliable measures that meaningfully capture the dynamic flow of human discourse. Yet, many dual epistemology devotees continue to check for possible errors in qualitative descriptions using softer versions of these very criteria, such as consensual validity, structural corroboration, and referential adequacy (Eisner 1994, pp. 212-211991), or trustworthiness, authenticity,

and accountability (Guba and Lincoln 1985; Shkedi 2004). This presents qualitative inquiry as a weak form of empiricism, when according to the constructivists it is grounded in an entirely different and, to their minds, more compelling account of the very nature of knowledge itself. Although some have also recognized that standards of this kind are unduly influenced by positivism and misrepresent qualitative inquiry as a weak form of empiricism (Guba and Lincoln 1989; Richardson 1994), few have acknowledged the impact of these criticisms on how we ought to view measurement-based research in its own right, as well as how it ought to connect to emergent trends in qualitative inquiry (Onwuegbuzie 2002).

In contrast to the methodological purism mentioned above, one consequence of this weak empirical attitude is a tendency to embrace forms of eclecticism that do not take adequate account of conceptual and epistemological differences between alternative accounts of the research process. For instance, Madhabi Chatterji refers to longitudinal studies of class-size that involve randomized field trials in a large number of elementary schools to show that evaluation conditions violate the assumptions of textbook field experiments, and so require a mixture of qualitative and quantitative methods. It is difficult for researchers to properly manipulate independent variables (IV) in such cases, since they are "rarely, if ever, single, discrete, narrowly scripted and easily identifiable" conditions in field settings.

> In most studies of "class-size reduction," the definition of the IV becomes complicated by the presence or absence of volunteers, para-professionals, teacher interns, or other teachers who along with regular teachers in the classroom, provide different degrees of instructional support to a given number of students. This alters the ratio of instructional staff to pupils and the operational definition of the field "treatment" condition. Often field treatment conditions may vary across classrooms and schools studied, and sometimes, even in the same classroom at different times of the day. Without adequate documentation of these *qualitative variables* (emphasis in the original), the effects are hard to interpret, let alone replicate (Chatterji 2005, p. 14).

No doubt some form of observation would be useful in such cases to assist evaluators in developing empirically valid operational definitions of class-size and teacher-student ratios. However, as we shall see below, the very idea of a "qualitative variable," the identification of which can assist in the proper manipulation of "quantitative variables," misconstrues the 'heart of qualitative inquiry, which aims to understand the meanings and purposes of human activity not the causes of human behavior. More importantly, this example underestimates the conceptual difficulties inherent in randomized field testing, even when its weaknesses are overcome by the addition of supplemental methodologies.

For the qualitative revolution in educational research joins a philosophical debate unresolved since Hume challenged the very idea of causal explanation and undermined the modern departure from conceptions of knowledge descendent from Plato and Aristotle (Hume 2000). Of the responses to Hume, two have been especially influential, and both are problematic. One followed Kant in understanding knowledge as a rational approximation of reality grounded in universal cognitive structures (Kant 1998, 2004). This approach leaves the methods of empirical science intact, but vests their epistemological authority in the structure of mind. On this view, knowledge is objective, universal, and generalizable. Positivists and post-positivists have generally taken this route. The other response followed Hegel in challenging Kant and reviving Platonic and Aristotelian transcendentalism (Hegel 1978; 1953; Taylor 1975). In this view, knowledge is contextual, subjective, and particular -- a product of embodied agents living in concrete historical and linguistic communities. Phenomenologists and hermeneutic theorists have generally followed this path.[7]

Positivism is probably the most influential movement to apply the principles of empiricism, developed originally by the likes of Bacon (2002) and Locke (2000) to

transform the study of nature, to the investigations of people and societies (Comte 2001). It did so, however, with a certain naiveté about the possibility of resolving the Humean predicament by means of the emerging statistical sciences. Recall that Hume argued that we can never know, in an apodictic or indubitable sense, that empirical consequences 'Ci . . .Cn ' will necessarily follow from initial conditions, 'Ii . . . In,' but only that at best they may probably follow. Our acceptance of so-called scientific laws based on such notions as cause and effect, Hume concluded, is more a matter of psychological need and cultural custom than epistemological warrant (Hume 2000). Yet even the exact extent of this probability cannot be measured, since we have no way of accurately judging the number of possible cases in which these conditions or consequences might apply (Lesnoff 1974).

Popper responded to Hume's critique by claiming that we may not be able to verify that consequences 'Ci . . . Cn' follow from initial conditions 'Ii . . . In,' but we can say with certainty when this is not the case. Falsification should replace verification, therefore, as the primary aim of science (Popper 1992, 1972). This view, which became known as post-positivism, has become especially influential in educational research (Phillips and Burbules 2000), but it turns out to be overstated. Popper's disciple Imrre Lakatos (1978) pointed out that scientific researchers do not falsify single statements or even more complex theories one at a time. Rather they extend the core assumptions of larger research programs, until such time as there is sufficient evidence to contravene those assumptions, which are then rejected for a new core and concomitant program of research. In other words scientific research programs may vary according to the judgments of distinct knowing subjects. The threat that this sort of subjective judgment poses to the objectivity of scientific knowledge may be offset by appeal to an inter-subjective community of researchers

that decides when to abandon one research program for another. However, at the end of the day, post-positivism does not succeed in salvaging the objectivity of scientific knowledge from Hume's critique.

Edmund Husserl may have offered the clearest account of the epistemological underpinnings of what later became known as constructivism. If there ever was a paradigm shift in the history of epistemology that sought to replace its predecessor it was this. Husserl argued that empiricism got off to a false start at the outset, when Descartes challenged the veracity of his very existence; perhaps life is a mere dream or grand deception (Descartes 1996, 1999). Husserl objected to the comprehensiveness of Descartes' famous response, "I think therefore I exist." That someone doubts his own reality, Husserl reasoned, shows only the existence of a questioning subject, not of a person with a physical presence. We can only know indubitably that which presents itself within consciousness, concluded Husserl; we can say nothing at all with certainty about life beyond our own thoughts and experiences. To achieve knowledge that cannot be doubted, a new science called 'phenomenology' would need to bracket all references to reality outside of consciousness, and focus our attention on life as it is experienced internally (Husserl 1960, 1967). Unfortunately, Husserl's brackets leave the questioning subject alone in his own solipsistic universe, since Husserl allows no reference whatsoever to anything other than that which presents itself in consciousness.

Not only does phenomenology bracket objective reality, it embraces Nietzsche's critique of every other form of external transcendence as well, leaving for analysis only that constructed within consciousness (Nietzsche 2001). But if ideals independent of consciousness are ruled out of court as well as objects, then there is nothing independent of the self to which one could possibly appeal as a criterion for

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judging the merit of a phenomenological depiction. Narcissism and nihilism must necessarily result. Of course, like the post-positivists, Husserl and disciples do refer to inter-subjective tests for phenomenological studies (Schutz, 1982; Schutz and Luckman 1983). Yet given the ontological isolation that follows from Husserl's critique of Descartes, it is hard to know what such an inter-subjectivity could possibly mean, since the only subjects that can be accounted for within this orientation are those that present themselves in consciousness, and there is no way of knowing, according to Husserl's account, whether these other subjects exist beyond the self.

3. AN ALTERNATIVE: TRANSCENDENTAL PRAGMATISM

How, then, might we conceive deeper principles that can explain how it is possible to believe qualitative descriptions in the face of the demands of positivism, or to embrace experimental results given the phenomenological critique? To answer we require an account of inquiry that is pluralistic in that it allows for different methods to coexist, but that also defines the conditions under which it makes sense to speak of them as agents of some notion of truth. This was essentially Kant's project in which he followed an interpretation of Aristotle that emphasized theory over practice, although not without acknowledging a deep connection between the two.

Aristotle distinguished between the practical wisdom suitable for understanding how personal and political affairs ought to be conducted, *Phronesis*, and theories about how the world works, *Sophia*. Phronesis consists of ethical and civic virtues required for living a good life and creating a just society. Though alluding to higher ideals, the virtues are always expressed in terms of local cultures and customs. Sophia, on the other hand, attempts to grasp physical and metaphysical reality by means of two sorts of reasoning, *techne*, designed to reveal what he called

the efficient or mechanical causes of events and *episteme,* which focuses on teleological or final causes. Efficient causes precede events, 'pushing' them into being as it were, by disrupting or intervening in a state of affairs in a random or chance manner. Teleological causes, on the other hand, 'pull' an event toward a natural or intrinsic state, one that is part of the very design of things. Since events cannot be explained without reference to a larger order in which they are set; the whole possesses a greater degree of reality than the parts. Teleological explanations are more fundamental than mechanical explanations, in Aristotle's view, because they tie physical to metaphysical reality (Aristotle 1994, Smith 2002, pp 35-41).

Perhaps the problems with both post-positivism and phenomenology originate in just such a naïve distinction between theory and practice -- description and prescription -- that can not withstand criticism. It was American pragmatism, John Dewey in particular, that emphasized the incoherence of the theory-practice distinction. An opponent of what he called "false dualisms," Dewey avoided a harsh dichotomy between the inner lives of human beings and a so-called 'objective' reality that exists outside of them. However, rather than expressing his views in the terms of German idealism, he chose what has sometimes been called a naïve naturalism. What exists, on Dewey's view, are not objects but events which like Heidegger's notion of 'Being' entail the interaction between organisms and their environments (Heidegger 1996). Dewey called the amalgamation of these events experience. All inquiry, whether in the natural or human sciences, is about resolving problems that present themselves in experience (Dewey 1938). We confront a problem, formulate a hypothesis about how to address it, and test out our hypothesis in experience to see if it works. A hypothesis is said to be true, on this view, not if it corresponds to an uncritical conception of external reality, but rather only if it resolves the dilemma or

difficulty for which it was formulated. Inquiry, then, is a practice designed to solve

problems encountered in experience (Dewey 1910). Practice, not theory, is the

driving force of all scientific endeavors, or to reverse the motto attributed to social

psychologist Kurt Lewin that there is nothing so practical as a good theory; in

Dewey's view there is nothing so theoretical as intelligent practice (see Biesta and

Burbules 2003; Maxey 2003).

Whatever the merits of this position, however, one cannot avoid its tendency

toward radical relativism or subjectivism (Popper 1996). How, one might ask, is it

possible to decipher the degree to which one account of events is better than another,

since each person brings her own conception of what it might mean to solve the

problem at hand? An answer may be found by applying Aristotle's analysis of

efficient and final causes to this Deweyan synthesis of theory with practice as least as

its appears in the human sciences.

Charles Taylor argues that even if some behaviors can be explained by

statistical laws over which actors can exercise no influence, many if not most human

activity is governed by norms or purposes over which people can exercise control. If

one wants to understand why someone took an umbrella from the umbrella stand

today, when he failed to do so yesterday, or covers or uncovers his head when

entering a house of worship, one must inquire into the norms that govern the culture

in which that person lives and the reasons why he chooses to behave in this way and

not that. Humans are purposeful beings; and to understand their actions we are

compelled to reference teleological explanations which articulate the purposes that

move people to act. Although many such purposes are imminent in existence or

experience, such as the desire to fit in with a particular group, or to please (or

displease) one's family, or to meet basic needs for survival, they will always be

subordinate to higher ideals, such as friendship, loyalty, solidarity, respect, or the sanctity of life. Taylor calls these ideal strong values (Taylor 1964; 1984; Smith 2002, pp. 33-57).[8] In short, the ends of inquiry into human activity are first ethical and political, concerning the worthwhile life and the just society, and only secondarily epistemological, relating to such issues as objectivity and subjectivity (Kant 1997, 2002, Murdoch 1970, Scheffler 1991).[9]

But how can ethical and political ideals serve as a basis for criticism in educational research when they are often contested? One answer lies in the fact that the very idea of critique implies standards of assessment grounded in competing traditions or conceptions of the good. Of course, some traditions embrace ideals dogmatically. They are resistant to changing circumstances, counter-arguments, or contrary experience. They also tend to discourage independent ideas and choices, and understand human behavior as under the control or authority of an external agent or force. Traditions of this kind often appear to provide clear ethical standards against which to judge social policies and programs. But in fact, these dogmatic standards tend to undermine a key condition for ethical discussions or debates to be meaningful altogether – that within reasonable limits people are the agents of their own beliefs, behaviors, and desires. Only if we can effect a change in these matters, does it make any sense at all to call upon us to do so. But if I am the agent of my own actions, then it follows that it must be possible for me to be wrong about even my most fundamental commitments. Were this not the case, if I was right for example because it is in my very nature to be correct, then it would be my nature, not me, choosing my commitments. For ideals to be ethical, in other words, they *must* be fallible. Ethical traditions that provide genuine standards of assessment must therefore be dynamic not dogmatic, embracing ideas that represent the best available formulation of the good, at

least as we are given to understand it for now, but assuming that there could always be a better way or a more compelling perspective (Alexander 2001, Phenix 1972).[10]

Viewed in this light, knowledge – at least in education -- is always the possession of an embodied agent, constrained by language, culture, and history, who grasps, albeit imperfectly, the contours of an entity or the meaning of an idea that transcends – exists independently or outside of – his or her limited experience. And this requires – as a regulative principle -- the existence of ideals beyond our own contextualized experience whose ultimate content remains shrouded in culture, history, language, and tradition. To recognize the futility of a view from nowhere we must acknowledge the possibility of a view from somewhere.

Contrary to the No Child Left Behind legislation, it would appear that before we can decipher what might count as a significant causal link in education we must first unwrap the meanings, identify the purposes, or grasp the concepts embedded in traditions created by historical communities, devise new ways to extend or understand those traditions, and even occasionally create new traditions of understanding altogether (Gadamer 1989, Moss 2005).[11] Knowledge of the human condition, in short, is first qualitative in nature – and to the extent that measurement comes into play, it is for the sake of making more precise the qualities that we seek to clarify, understand, and distinguish.

Such a view, as Plato (2002) long ago observed, is mediated through the logic of illustration rather than generalization (Bourdieu 1990) that communicates enduring truths by means of discursive descriptions and non-discursive symbols. We understand and create meaning out of experience, in other words through examples communicated in narratives, allegories, and parables. However, in contrast to Plato (1987) for whom illustrations facilitate communication of absolute truth, the position

emerging here suggests that concrete cases are a good but imperfect means to articulate very limited understandings of what we can only assume lies beyond our complete grasp (Alexander 2004). Truth is conceived in this view not as correspondence to objective reality, or as serving some theoretical function or purpose, but in the way descriptions embody and enable us to grasp the nuanced and dynamic form of transcendent ideals (Langer 1954), the capacity of texts, symbols and stories to capture the contours of feelings in forms. Viewed from this perspective, even a large, random statistical sample is but an extended and elaborate case that outlines the conceptual shape of experiences common to a significant population of people (Feyerabend 1996).[12]

Consider intelligence testing, among the paradigm cases of measurement-based research in the behavioral and social sciences. Walter Feinberg (1983) has demonstrated the degree to which tests of this kind reflect strong socio-economic, cultural, and linguistic biases, rather than the capacities of a given cognitive structure. In other words, these sorts of tests actually measure the degree to which a person has the ability to realize certain cultural, social, or ethical ideals. Though ideals about an aspect of human flourishing, the constructs measured by tests of this kind are by no means absolute or unchanging. On the contrary, the very contextualization of these measures brought about by critiques such as Feinberg's has itself led to reevaluation of views about the personal qualities that enable scholastic, educational, or social achievement, which in turn entails a reassessment of the sorts of societies in which one should want to live and what it could mean to prosper in those societies.

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4. SOME CONSEQUENCES FOR EDUCATIONAL RESEARCH

At least three consequences for educational research emerging from this essay deserve emphasis:

First, educational research worthy of the name must be conducted within the context of explicit and adequately defended visions of the good in which non-dogmatic ideals are adumbrated to govern policies, practices, and pedagogies. The task of both quantitative and qualitative research in such contexts is to interpret and elaborate the traditions of thought and practice that inform the relevant visions, and to explore ways in which these ideals can be transmitted and transformed across the generations. To this end philosophy, especially substantive ethics and the analysis of educational aims and aspirations, has a much more significant role to play in educational research than it has heretofore been afforded by the educational research community. One of the most salient problems with the emphasis on randomized experimentation as gold standard in educational research is that the No Child Left Behind legislation makes a host of assumptions about the meaning of education and the social and political ends it set out to serve without adequately clarifying or defending them.

Second, it follows that randomized experiments cannot be the gold standard of educational research. Nor does the post-positivism of the NRC report offer a sufficiently robust alternative to the naïve empiricism of the No Child Left Behind legislation. Both fail to take adequate account of the sustained difficulties within philosophy of science to respond convincingly to both Hume's and Husserl's critique of empiricism; and neither demonstrates sufficient understanding of the key role purposive action plays in educational practice. This is not to say of course that quantitative designs have no contribution to make to our understanding of education;

but rather that their role can be properly determined only within the context of a social and educational vision of the sort mentioned above.

Finally, the logic of illustration in educational research precedes the logic of generalization. We come to understand ideals first through detailed examples of concrete cases, and only secondarily by means of abstract and universal covering laws. We have yet to articulate adequate cannons of rigor to govern this logic. But it is undoubtedly a category mistake of the first order to model these canons on weak forms of empirical standards such as reliability, validity, and generalizability. D.C. Phillips' (2005) reference to the legal analogy is especially apt in this connection. The task of a legal advocate, he reminds us, is to present the 'facts' of a case to those who sit in judgment with sufficient corroborative evidence as to warrant their assertability, a term he borrows from Dewey (1938). This evidence might come from a variety of witnesses, descriptions, documents, and measures. Yet a case based on 'warranted facts' will be meaningless without a strong argument concerning application and interpretation of the law in relation to those 'facts.' If there is an ideal form of inquiry to inform and enhance educational policy and practice, in other words, it is more likely to resemble the practice of law than the discovery of statistical laws. Law involves the prescription of norms that actors must learn to follow based on proper reasoning, whereas statistical laws state regularities that control behavior regardless of human choices.

This account may be a disappointment to those whose preferred epistemology seeks control on the basis of explanation and prediction. But the fact that we can sometimes predict does not authorize us to control, and in all events we control much less than the positivists may have once supposed. It follows that we should be wary about what we think inquiry enables us to predict, since what we take to be true or

right today may turn out to false or troubled tomorrow. Inquiry at its best endows us

with insights to better control ourselves, not generalizations to more efficiently

dominate others; and the surest path to self-governance lies in reaffirming Socrates

realization that genuine wisdom begins with the recognition of how little we really

know.

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Notes

[1] I am grateful to the students in my seminar on Methodological Issues in Education Research at the University of Haifa, where some of these ideas were first presented, to my mentor Denis Phillips for pointing out the importance of Dewey's thought to the historical sketch presented here, and to my colleagues Rivka Eisikovits and David Bridges for comments on the manuscript.

[2] The term 'positivism' is usually used in a sweeping sense among educational researchers to refer the epistemological orientation most commonly associated with empirical research in the natural or exact sciences. This view affirms with scientific positivists that empirical truth is to be discovered by means of controlled experiments alone, and with the logical positivists that the aim of the experimentation is to verify causal laws for purposes of explanation, prediction, and control. Qualitative researchers differ as to whether they follow the Anglo-American distinction between the sciences and humanities and so cede the term 'scientific' to the exact sciences, or the German distinction between *Naturwissenschaften* and *Geisteswissenschaften*, and so refer to qualitative research as scientific only in a different sense.

[3] This essay can be viewed as an attempt to articulate a version of pragmatism that embraces a less radical form of relativism than Rorty's (see Bernstein 1983, pp. 197-206).

[4] Ken Howe makes a similar argument against what he calls the "incompatibility thesis." However, not all dual epistemology advocates hold quantitative and qualitative inquiry to be incompatible. Indeed, some hold that qualitative inquiry in some sense compliments the quantitative. Both versions of the thesis, however, are flawed for the reasons mentioned (see Howe 1988, 1992).

[5] This is part of a wider tendency in the natural and human sciences toward what Clifford Geertz has called 'blurred genres" (see Geertz 1983, pp. 19-35).

[6] Jerome Bruner appears to make a similar point when he distinguishes between paradigmatic and narrative forms of inquiry, a distinction that parallels the German differentiation between *Naturwissenschaften* and *Geisteswissenschaften* as opposed to the Anglo-American natural science, social science, and the humanities. Ironically, most commentators on Kuhn, both pro and con, interpret *The Structure of Scientific Revolutions* as a relativistic tract, which undermines the very foundational account of empirical science that constructivists who propose to compliment rather than challenge positivism appear to protect (Lakatos and Musgrave 1970). Yet, the human sciences turn out to be paradigmatic in a much deeper sense than Kuhn allowed for the natural sciences, in that they entail the documentation and creation of examples and illustrations of transcendental ideals to which all academic inquiry alludes in one form or another, even though they may lie beyond our direct grasp (see Bruner 1986).

[7] Isaiah Berlin (1998, pp. 243-435) traces the origin of this tradition to Vico and Herder.

[8] Taylor directed this critique at the human sciences alone; but if natural science is itself a cultural phenomenon, then it too must be understood as bound up with human purpose and meaning (Geertz 1994).

[9] In this connection, Mill (1987) was not far off the mark in referring to social and human studies as moral sciences, even if his account of the nature of those studies may have been overly enamored with positivist conceptions of the physical sciences.

[10] I have argued that dogmatic ideals are essentially amoral or non-ethical in the sense that they flatten possibilities for the exercise of human agency; see Alexander 2005.

[11] David Bridges (2003) has called this "fiction written under oath," which entails as I understand it, a commitment to express to the best of one's ability ideals that transcend human existence or experience.

[12] Thus, among today's most compelling reconstructions of scientific explanation after Hume is Peter Lipton's (1991) notion of "inference to the best possible explanation."