Chapter 2

TWO DOGMAS OF EDUCATIONAL RESEARCH

It has been nearly 50 years since W.V.O. Quine published "Two Dogmas of Empiricism," in which he demolished the two central tenets[1] of logical positivism.[2] The educational research community was slow to respond to the implications. Instead, it continued to labor under two invidious positivistic dogmas of its own: the quantitative/qualitative dogma and the fact/value dogma.

The distinctions between quantitative and qualitative methods and between facts and values do mark important differences, but these differences do not constitute deep, unbridgeable divides. In this chapter, I argue that the rigidity with which these distinctions have been conceived in late twentieth century thinking about educational research methodology is based on dogmas held over from logical positivism that have been long since repudiated.

The chapter is divided into three sections. In the first, I identify the quantitative/qualitative dogma with a forced choice between quantitative and qualitative methods. Such a forced choice is unnecessary for two reasons. First, the positivist notion that qualitative data is inherently subjective and therefore untrustworthy is untenable. The argument in this section supports Campbell's (1974, 1979) view that social research is based on "qualitative knowing" and that quantification extends, refines, and crosschecks qualitative knowledge. Second, two additional positivist tenets are untenable: (a) scientific inference is mechanical (i.e., involves no extra-theoretical, extra-observational, qualitative judgment) and (b) inference in social research is the same as inference in natural science. I advance the alternative view that qualitative judgments are required in making scientific inferences of any kind but are especially prominent in social research.

In the second section, I entertain two reasons for embracing the fact/value dogma: positivistic epistemology and the desire to avoid value bias. I contend

that a rigid epistemological distinction between facts and values is no more defensible than the positivistic tenets upon which it is based, and that employing the fact/value distinction to avoid value bias instead exacerbates the danger of bias by submerging rather than eliminating value commitments.

In the third and concluding section, I discuss the broad practical implications of abandoning the two dogmas. Briefly, counterproductive debates about what research method is best per se are obviated; the dangerous notion that educational research is, ought to, or can be value-free is repudiated; and researchers are freed from choosing exclusively between a descriptive, quantitative approach and a value-laden, qualitative one.

Dogma 1: The Quantitative/Qualitative Distinction

The ascendance of positivism prompted a debate in philosophy of social science about whether social research should employ the epistemological paradigm portrayed and advocated by positivism, or whether it should employ an alternative "interpretive" paradigm of its own. This debate set the terms of the subsequent debate about quantitative versus qualitative research methods. The positivist paradigm was identified with quantitative methods and the interpretive paradigm was identified with qualitative methods, and two positions were advanced regarding the relationship between research methods and epistemological paradigms: (1) research methods should be separated from more abstract epistemological paradigms and whatever method or combination of methods seems to make sense should be employed (e.g., Reichardt & Cook, 1979), and (2) epistemological paradigms dictate research methods and, thus, combining research methods requires reconciling the competing positivistic and interpretive paradigms (e.g., Smith 1983a, 1983b).

This creates a dilemma. Reichardt and Cook (1979) offered good arguments in support of combining quantitative and qualitative methods, but their general suggestion that the two paradigms of research are logically independent of the methods of obtaining knowledge was a heavy price to pay. On the other hand, Smith (1983b) was correct to require a logical connection between paradigms and research methods. By tracing the implications of the positivist versus interpretive paradigms, however, he drew the unwelcome conclusion that qualitative and quantitative methods "do not seem compatible" (p. 12).

This dilemma should have been a non-starter, for it was based on the moribund positivist paradigm. It was taken seriously because the traditional educational research community was steeped in quantitative methods, and therefore resisted the perceived *unscientific* features of qualitative methods.

Quantitative and Qualitative Data

The most frequent positivist-inspired charge against qualitative data was that it is "subjective." Scriven (1972) responded that "subjective" is ambiguous and that trading on this ambiguity leads to erroneous conclusions about the merit of qualitative methods. He distinguished between "quantitative" and "qualitative" subjectivity. To say that a claim is "quantitatively" subjective means that it is based on the judgments of relatively few individuals; to say a claim is "qualitatively" subjective means that it is based on judgments that are not intersubjectively testable. Scriven's crucial point was that a claim that is subjective in one of these senses is not necessarily subjective in the other sense. For example, at one time the claim "The earth is spherical" was quantitatively subjective, but it is (and never was) qualitatively subjective because it can (could) be tested in terms of evidence and reasoning. On the other hand, "Chocolate ice cream tastes better than rocky road" is qualitatively but (probably) not quantitatively subjective. Although many would assent to this claim, it is inappropriate (and unimportant) to try to establish whether it is correct.

Scriven's (1972) distinction was useful because it helped remove one common source of confusion. But the real issue for educational research is fallibility. To disparage the subjectivity of qualitative data subjective is to label it as highly fallible; to laud the objectivity of quantitative data is to label it as minimally fallible.

For the positivists, the least fallible empirical claims—and the building blocks of scientific knowledge—were embodied in theory-neutral observation sentences. Protracted efforts, however, to produce a satisfactory explication of the relationship between such observation sentences and scientific theories (which, if successful, would have met the positivists' goal of reducing theory to a logical concatenation of observation sentences) met with failure. The line of demarcation between theory and observations grew ever more blurred and gave way to the notion that all observation is theory-laden.

Quine (1969) provides the best post-positivist account of observation sentences (exemplars of the least fallible empirical claims) . Although his characterization does not meet the demands of the positivists, he claims it "accords with the traditional role of the observation sentence as the court of appeal of scientific theories" (p. 87). He explains,

> An observation sentence is one to which all speakers of the language give the same verdict when given the concurrent stimulation. To put the point negatively, an observation sentence is one that is not sensitive to differences in past experiences within the speech community. (pp. 86-87)

Note three things about this definition. First, in the positive formulation, observations are based on the criterion of intersubjective agreement among observers and, accordingly, they always retain some degree of fallibility because the need for conceptual revision—or "paradigm shifts," to use Kuhnian

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