Differences between the qualitative and quantitative research traditions can be used either to diminish or to enrich the practice of program evaluation.

The Relationship Between the Qualitative and Quantitative Research Traditions

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A Quantitative Study

In 1986, Rand McNally published Sports Places Rated: Ranking America's Best Places to Enjoy Sports (Whittingham, 1986), which included a list of the best cities in the United States for downhill skiing (Kliewer, 1986). The number-one city on Richard Whittingham's (1986) downhill skiing list was Detroit. Also in the top ten were Akron-Canton, Buffalo, Chicago, Syracuse, Boston, and Cleveland. Of course, none of these cities is particularly well known for its skiing. In contrast, not a single city in Colorado made it onto Whittingham's top-ten list, even though Colorado enjoys a worldwide reputation for its skiing.

The reason for these surprising results is that Whittingham only ranked metropolitan areas with populations of fifty thousand or more (Kliewer, 1986). This criterion excluded all of the well-known ski resorts in Colorado. In addition, Whittingham based his rankings of metropolitan areas solely on the capacities of the ski lifts that were located within the counties that comprise the metropolitan areas. Although Denver, for example, is less than a two-hour drive from numerous ski areas, including Breckenridge, Copper Mountain, Keystone, Loveland, Winter Park, and Vail, there are no ski lifts within Denver's county boundaries, and therefore Denver was not highly ranked on the list.
In response to Whittingham's (1986) book, Kliwer (1986) interviewed Lee Morris, who is the lodge operations manager at the Riverview ski area, located a half hour from downtown Detroit. Morris reported that the ski slope at Riverview was basically an "enhanced" landfill with a 160-foot vertical rise, and that Riverview would have 2 to 12 inches of man-made snow by the following weekend. In contrast, the Keystone ski area, which is an hour and a half from downtown Denver, has a vertical rise of 2,340 feet, a ski run 3 miles long, and would have a base of 41 inches of snow that weekend. While there are four other ski areas in Detroit, all of which are larger than Riverview, John Colling of the Travel and Tourism Association of Southeast Michigan noted that "none of them are on mountains by any stretch of the imagination" (Kliwer, 1986). Colling further explained that "we have to basically dig basins designed to prepare our skiers for the big slopes—the ones in the Rockies." Nonetheless, according to Whittingham's criteria, the five ski areas that lie within the Detroit metropolitan area place "it at the top of the heap," so to speak (Kliwer, 1986).

Kliwer (1986) also interviewed Whittingham, who explained that the study "couldn't take into account the quality of skiing, just the quantity." Whittingham also admitted that "they say there are lies, damn lies, and statistics. This falls into that last category. I'm afraid."

A Qualitative Study

Margaret Mead's (1928) Coming of Age in Samoa: A Psychological Study of Primitive Youth for Western Civilization is probably her most famous work and a classic in the field of anthropology (Gardner, 1993). Mead undertook the fieldwork as part of her graduate study at Columbia University. She began her research with the hypothesis that Samoan society was sexually promiscuous and, as a result, that Samoan youth were not confronted with as many stresses and strains as found in Western society. This hypothesis was chosen because it was supported by anecdotal evidence and because, if confirmed, it would have provided support for a major theoretical stance of Mead's academic mentor. While Mead's research did confirm the hypothesis, many scholars now believe that her conclusions were wrong and that she was "the gullible victim of a playful hoax" (Gardner, 1993, p. 131).

Because she did not speak the local Samoan language well, Mead conducted her interviews with the assistance of interpreters. Her most frequent interpreters were two young women, whom Mead described as her "merry companions." As Gardner (1993, p. 132) has explained, these two assistants were "embarrassed and offended by Mead's constant questions about sex," which is a "taboo topic in Samoa." Thinking that Mead was simply a curious tourist rather than a social scientist who would write about their conversations, the two assistants decided to extract revenge for their embarrassment by lying.
In their defense, qualitative researchers might note that while qualitative research does have limitations, Margaret Mead’s study was unusually problematic and that much has been done to improve the use of qualitative methods since the 1920s. For example, qualitative researchers are well aware of the potential influence of preconceived ideas and have spent considerable energy developing safeguards to ensure the integrity of their research (Kirk and Miller, 1986; Lincoln and Guba, 1986). But quantitative researchers might be inclined to respond that the fundamental flaws of qualitative research are no less real simply because they were exaggerated in Margaret Mead’s study.

**Where Does This Leave Us?** Given these characterizations that researchers within each tradition offer about the other, it is not surprising that suspicions and antagonisms rage between the two camps. Each tradition views the other negatively, perhaps even as fatally flawed. In turn, each tradition feels unfairly criticized by the other. In other words, each tradition believes that its criticisms of the other are accurate and that the criticisms by the other are overblown. The resulting animosity has developed into a long-running feud.

But though the animosity may be understandable, the way in which this conflict between the two traditions continues to be played out is not particularly healthy or beneficial for anyone, except perhaps the opponents of program evaluation. We need to find ways to improve the relationship between the two traditions so that we are enriched by our diversity more and diminished by it less.

**Recognizing One’s Own Weaknesses**

A critique of one’s work by another can be of great value. This is because it is often not easy to recognize one’s own flaws and limitations. For example, one is often less aware of the limitations of one’s own actions than is another person such as a spouse, a psychotherapist, a member of the loyal opposition in politics, an opponent in sports, or a manuscript reviewer in publishing. The qualitative and quantitative research traditions can provide, for each other, the alternative perspective needed to recognize and appreciate one’s own weaknesses.

Of course, in helping each other recognize weaknesses, our insights and critiques will be most useful if offered in a constructive fashion. To have the flaws in one’s work pointed out in an arrogant, belittling, and vicious manner, as is often done in the debates between qualitative and quantitative researchers, is infuriating, especially when the person criticizing is far from flawless.

In addition, the antagonistic critiques of each camp by the other suffer from stereotypes of two different kinds. First, each tradition tends to exaggerate the flaws in the other tradition, just as Whittingham’s and Mead’s studies are exaggerations. In fact, quantitative studies typically are not focused on irrelevant topics, and qualitative studies typically are not unreliable. Being a quantitative researcher does not mean that one is heartless, and being a qualitative researcher does not mean that one is softheaded (Sechrest, 1992).
Second, each tradition tends to underestimate its own flaws. Indeed, each tradition often suffers from much the same flaws that it finds in the other tradition. For example, while they may smirk at the lies told to Margaret Mead by her informants, quantitative researchers need to be concerned that their own respondents do not lie on questionnaires and tests. Moreover, although Mead’s preconceptions led her to find what she was looking for, fishing through data also allows plenty of room for preconceived notions to operate in quantitative research. Conversely, qualitative researchers criticize quantitative researchers for their lack of relevance, yet they often fail to focus their own studies on indicators of program effects other than those based on the perceptions of the participants. For example, a qualitative study is irrelevant to the extent that it ignores the effects that laetrile actually has on cancer and focuses only on the effects that consumers believe it has. Neither tradition has found the holy grail of research methods, which makes a “holier-than-thou” attitude unjustified.

Overcoming One’s Own Weaknesses

To the extent their limitations differ, two methods can be better than one. This advantage was demonstrated in a collaborative study by Goldring and Rallis (1993). Based on Rallis’s qualitative case studies from an evaluation of school change, an image of a new type of school emerged, one that successfully embraced change programs. While the descriptions of the schools were rich in detail, Rallis’s qualitative studies had no way of demonstrating that this kind of school existed in appreciable numbers. Was the phenomenon widespread or was this the full extent? This question could be answered because Goldring had conducted several analyses of the massive data set in High School and Beyond: Administration and Teacher Survey (U.S. Department of Education, 1984) and had discovered that the pattern was indeed widespread. By combining the results from their separate studies, they were able to present a richer and more useful conceptualization of a “dynamic school” (Goldring and Rallis, 1993).

The qualitative and quantitative research traditions can also inform each other in ways that go beyond the combination of research methods. For example, a voluminous and fascinating literature on social cognition has been produced within the quantitative tradition (Gilovich, 1991). The insights that this research offers on how people cope with uncertainty and the conditions under which they consistently misinterpret reality might well be relevant to qualitative researchers interested in understanding a participant’s construction of a social program. Conversely, the narrative style of the qualitative tradition, which is usually more readable and comprehensible than the technical reports of the quantitative tradition, can reveal ways to make the work of quantitative researchers more interesting and influential.

Conclusion

The qualitative and quantitative research traditions differ. Qualitative researchers usually seek to explicate the meaning of social reality from the participants’ perspectives, while quantitative researchers usually seek to understand relationships, often of a causal nature, without particular emphasis on the participants’ perspectives. Nonetheless, at the most global level, the two traditions have a common goal: to understand and improve the human condition.

A defensible understanding of reality can withstand scrutiny from different perspectives and methodologies. Indeed, given its complexities and multiple facets, a complete understanding of human nature is likely to require more than one perspective and methodology. The qualitative and quantitative traditions can provide a binocular vision with which to deepen our understandings. That the qualitative and quantitative perspectives remain partly adversarial in their relationship does not preclude cooperation in working together toward their shared goal. In fact, just the opposite is true. By working together, the two traditions can enhance the practice and utilization of research and evaluation.

References

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The argument that the qualitative and quantitative paradigms are incompatible is not convincing. An enduring and beneficial partnership between qualitative and quantitative researchers is possible.

Qualitative and Quantitative Inquiries Are Not Incompatible: A Call for a New Partnership

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Partners must have similar values if their partnerships are to endure. Of course, partners can be different. After all, opposites do attract. But for a relationship to work over an extended period of time, the partners usually must share basic ideologies. Incompatibility in fundamental values and beliefs usually legitimate grounds, both legally and emotionally, for divorce.

Certainly, there are substantial differences between the qualitative and quantitative research traditions. The question is whether the qualitative and quantitative paradigms have enough similarities in fundamental values, in spite of their other differences, to form an enduring partnership. There are many who would answer negatively. In evaluation, perhaps the most widely cited proponents of incompatibility are Guba and Lincoln (1989; Guba, 1990; Lincoln, 1990), but there are others as well, including Heap (1992) and Smith and Heshusius (1986). Lincoln (1990, p. 81) stated her beliefs about incompatibility forthrightly: "The immediate realization is that accommodation between paradigms is impossible. The rules for action, for process, for discourse, for what is considered knowledge and truth, are so vastly different that, although procedurally we may appear to be undertaking the same search, in fact, we are led to vastly diverse, disparate, distinctive, and typically antithetical ends." In contrast, we believe that a meaningful and enduring partnership between qualitative and quantitative researchers based on shared fundamental values is both possible and desirable, a stance that we believe is held by the other authors in the present volume (also see Howe, 1988; Reichardt and Cook, 1979).
in this chapter, we present our case for compatibility in two parts. In the first part, we examine presumed differences that incompatibilists believe force the paradigms apart. We argue that the incompatibilists’ descriptions of these differences are inaccurate, and, as a result, we find their evidence for incompatibility unconvincing. In the second part, we describe shared fundamental values that are often overlooked by incompatibilists.

Logical Positivism Versus Postpositivism

Different writers use different names to refer to the qualitative and quantitative paradigms. Positivist is one of the names sometimes used to describe the quantitative paradigm. Part of the belief in the incompatibility of the qualitative and quantitative paradigms may arise because of a confusion over the meaning of this label. Specifically, the positivist label for the quantitative paradigm may blur the distinction between logical positivism and postpositivism. This blurring helps perpetuate the myth that logical positivism rather than postpositivism characterizes contemporary quantitative inquiry.

Logical positivism was discredited shortly after World War II and has since been abandoned (Phillips, 1990). The replacement for logical positivism was labeled postpositivism because it followed in time, not because it was similar philosophically. Some of the landmark works in postpositivism appeared in the late 1950s, including Popper ([1935] 1959) and Hanson (1958) (Phillips, 1987, 1990). By the 1960s and 1970s, the tenets of postpositivism were widely and unmistakably being integrated into the thinking of quantitative researchers in the social sciences. For example, Campbell and Stanley (1963, 1966) were unabashedly postpositivist and produced probably the single most influential work in quantitative evaluation during the late 1960s and throughout the 1970s, when the modern era of program evaluation was born in conjunction with Lyndon Johnson’s Great Society programs. Cook and Campbell (1979) also reverently embraced postpositivism (also see Cook, 1983, 1985; and Campbell, 1974). And Cook and Campbell (1979) has probably been the most widely cited and influential reference in quantitative evaluation for the last fifteen years, becoming the new testament to Campbell and Stanley’s (1966) old testament. Phillips (1987, 1990) and Garrison (1986) have thoroughly described some of the central postpositivist beliefs that characterize current thinking in the social sciences. Several of these beliefs are addressed below.

Fallibility of Knowledge

Postpositivism is predicated on the notion that knowledge is fallible. Phillips (1990, p. 32) noted that this postpositivist view of knowledge “fits comfortably with what every experienced action researcher and evaluator of social programs has come to understand about his or her own work: these are, par excellence, fields of the believable, of building the ‘good case,’ but where even the best of cases can be challenged or reanalyzed or reinterpreted. Nothing is more suspicious in the field of evaluation than a report that is presented with the implication that it has the status of ‘holy writ.’ ” One of the founding fathers of postpositivism made the same point even more concisely: “We do not know; we can only guess” (Popper, [1935] 1959, p. 278). Campbell and Stanley (1966, p. 35) also supported the same view: “The results of an experiment ‘probe’ but do not ‘prove’ a theory. An adequate hypothesis is one that has repeatedly survived such probing—but it may always be displaced by a new probe.” Cook and Campbell (1979, p. 22) subscribed to this position as follows: “It is our inescapable predicament that we cannot prove a theory or other causal proposition.”

Guba and Lincoln’s (1989) thesis of incompatibility between the paradigms is also based, in part, on presumed differences in beliefs about the fallibility of knowledge. They argued that the qualitative paradigm understands that knowledge is “subject to continuous refinement, revision, and, if necessary, replacement” (1979, p. 104). But they also argued that the quantitative paradigm holds to the belief that knowledge is “definitive and enduring” and that “truth is absolute” (pp. 103–104). In contrast, we believe that the paradigms share the belief in the fallibility of knowledge so that this is not a source of incompatibility.
Underdetermination of Theory by Fact

The principle of the underdetermination of theory by fact states that any given set of data can always be explained by many different theories. In support of their incompatibility thesis, Guba and Lincoln (1989, pp. 63–64; Guba, 1990, p. 25) argued that this principle is accepted by the qualitative paradigm but not by the quantitative paradigm.

In contrast, we believe that the quantitative paradigm accepts the principle of the underdetermination of theory by fact just as devoutly as the qualitative paradigm. For example, Campbell and Stanley (1966, p. 36) forthrightly noted that "at any stage of accumulation of evidence, even for the most advanced science, there are numerous possible theories compatible with the data." Similarly, Cook and Campbell (1979, p. 22) noted that no matter how much data are collected ("by expanding as much as we can the number, range, and precision of confirmed predictions"), and no matter how many rival hypotheses are ruled out, the number of rival hypotheses "still remains in some sense infinite." Both Philips (1990, p. 35) and Garrison (1986, p. 14) also described the principle of the underdetermination of theory by fact as a central tenet of postpositivist philosophy.

Value-Ladenness of Inquiry

A researcher's values enter into research in many ways. The choice of a question to investigate, a theoretical stance to guide the investigation, and a set of results to report are all shaped by the investigator's values. The principle that research is influenced by values is called the "value-ladenness of inquiry."

In support of their belief in incompatibility, Guba and Lincoln (1989, p. 105; Guba, 1990, p. 25) argued that the value-ladenness of inquiry is antithetical to quantitative inquiry but is central to the qualitative paradigm. In contrast, we do not believe that the value-ladenness of inquiry is antithetical to the quantitative paradigm but rather is accepted by many quantitative researchers. For example, Guba and Lincoln (1989, p. 101) provided six references to the work of "individuals who do not see themselves outside the pale of the conventional [that is, quantitative] paradigm" and who accept the principle of the value-ladenness of inquiry.

Nature of Reality

According to Guba and Lincoln (1989, p. 12), the qualitative paradigm believes that "reality . . . is constructed by people" while the quantitative paradigm does not. This principle of the construction of reality can be given a variety of different meanings. One interpretation is that one's understanding of reality is constructed. In this form, the belief in the construction of reality is shared by most qualitative and quantitative researchers. A second interpretation is that people's actions can influence the world so as to shape it in the ways they want (or sometimes do not want). This belief is also shared by most qualitative and quantitative researchers. Another interpretation is that people are in complete control of physical reality, able, for example, to change lead to gold by whim. This belief is not accepted by most quantitative researchers, but neither is it accepted by most qualitative researchers.

Guba and Lincoln (1989, pp. 12–13; emphasis in original) also asserted that qualitative researchers believe that "realities are not objectively 'out there'" and that "there is no reality except that created by people." If this assumption means that reality influences people only via their perceptions or sensations, this view is shared by quantitative researchers. On the other hand, if this statement is meant to imply that there are no external referents for people's understanding of reality, this is likely to be a source of severe incompatibility between the paradigms, because quantitative researchers tend to hold to a "realist" assumption about nature. However, a belief that there are no external referents for one's understandings would also be incompatible with the practice of program evaluation, for there would be no programs to evaluate. In any case, we believe that qualitative researchers generally share a realistic perspective along with quantitative researchers.

Other Shared Ideologies

Evaluators share a commitment to understanding and improving the human condition. Evaluators believe that they can provide usable knowledge about social problems and about strategies to address them. These commitments and values transcend differences between qualitative and quantitative inquiries and in some sense serve to unite us. That is, while our different epistemologies may part us, our shared ideologies partner us.

We may never agree on the causes of homelessness, or even on the best way to study homelessness, but we all agree that homelessness is an undesirable condition and that society should strive to alleviate it. We also agree that a deeper understanding of homelessness and its context is likely to be required if society is to solve this problem. We may never agree how best to capture what and how a student learns, but we share the goal of improving student learning and improving our understanding of learning in and out of the classroom.

As evaluators, we seek to inform. We recognize the importance of producing knowledge, whether policymakers and practitioners use it directly to inform their decisions or whether it is added to an accumulating pool of knowledge that ultimately shapes the decisions made by policymakers and practitioners. While we may disagree on the most usable forms in which to obtain and present knowledge, we agree that our goal is to package it so that it can be shared and used.

We agree that the world is complex and stratified, and often difficult to understand. And we agree on the need for rigor, conscientiousness, and critiques as we undertake the difficult task of creating knowledge.
Conclusion

According to the American Psychological Association Task Force on Psychology and Education (McCombs, 1991), one of the twelve principles of learning is that working with others of different styles and perspectives enhances learning. Can the differences in style and perspective between qualitative and quantitative inquiry enhance learning? Or are the differences so great that they preclude the possibility of working together?

Some qualitative and quantitative researchers may hold views that are so disparate that they are incompatible. But we do not believe that the views of the majority of qualitative and quantitative researchers are of this nature. Quite the contrary, many fundamental values are shared by the qualitative and quantitative research traditions, and the differences that exist can be used both to enlighten each other and to better serve our clients. It is thus to our and our clients' benefit to begin the hard work that is required to develop and maintain an enduring and rewarding partnership.

References


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