

“Mind the gap”: Qualitative Researchers and Mixed Methods Research

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Abstract: This paper presents a heuristic investigation of mixed methods organized around three pairs of opposing standpoints: methods (qualitative vs. quantitative), paradigms (constructivist vs. post positive), and inquiry approaches (dialectical vs. pragmatic).

There is a movement today to embrace mixed methods of research and evaluation, mixing qualitative and quantitative methods of gathering and interpreting data. Mixed methods proponents hail this development as one way to end the historic paradigm wars (Tashakkori & Teddlie, 1998). They envision mixed methods research as building a bridge of cooperation between qualitative and quantitative research. This metaphor seems fitting because of its popularity among mixed method supporters, (i.e., Tashakkori & Teddlie, 1998, p. 167). Bridges are neither inherently good nor bad, but they are inherently change agents. They are built to change the status quo, to make passage across something easier. It is a powerful and apparently ubiquitous metaphor in mixed method research; sometimes implicit, as in the following example: While federal legislation today “exalts scientific evidence as the key driver of education policy and practice” (Feuer, Towne, & Shavelson, 2002, p.4) there is a “legitimate” role for qualitative methods. Qualitative methods can help articulate “the complexities” of education, “generate theoretical models, and reframe questions” (Feuer, Towne, & Shavelson, 2002, p. 8). The underlying bridge argument continues, “When properly applied, quantitative and qualitative research tools can both be employed rigorously and together often can support stronger scientific inferences than when either is employed in isolation” (Feuer, Towne, & Shavelson, 2002, p. 9).

Method

The purpose of this paper is to both share our insights with other researchers, and engage them in the ongoing conversation about the nature of good research. We found ourselves asking questions about the theoretical grounding of this nascent research/inquiry field leading us to use the heuristic method (Moustakas, 1990) because it begins with a “commitment to pursue a question that is strongly connected to one’s own identity” (p. 40). For two qualitative researchers this struggle with understanding mixed methods and its place has been tied to our philosophical identities. The disciplined pursuit of an issue to deepen one’s knowledge of the phenomenon through “searching for qualities, conditions, and relationships that underlie” the issue is at the heart of heuristics (Moustakas, 1990, p. 11).

The heuristic approach has six phases: the initial engagement, immersion, incubation (the period this has been stewing), illumination (currently struggling to identify the issues), explication, and creative synthesis. The initial engagement was working on the chapter for the handbook on mixed methods (Rocco, et al., 2003). During this time we developed an interest in understanding how qualitative researchers might and ought to approach mixed methods. Immersion began with gathering the materials for the chapter and continues as we read more on mixing methods. As we read we have reflected on the readings sometimes producing short written pieces that we shared; sometimes discussing in person or over the internet the readings and issues raised. These discussions occurred between the four lead authors to varying degrees

with most of it between the two lead authors. The e-mail messages, notes from the discussions, and the short pieces were saved and we have returned to them as we move on into the incubation phase. During the incubation phase we are actively considering these questions: How can we characterize the knowledge claims of mixed methods proponents/researchers? How can we characterize their views of reality and what constitutes good research? Where should researchers begin the research process? Does it matter? Should researchers mix methods and paradigms? When should methods and paradigms be mixed? How should methods and paradigms be mixed? How do the dialectical (e.g. Greene & Caracelli, 1997; Greene, Caracelli & Graham, 1989) and pragmatic (e.g. Patton, 1988; Tashakkhori & Teddlie, 1998) mixed method theoretical frameworks address researchers' concerns about the nature of reality and knowledge? How do the political, philosophical, and technical levels (Greene & Caracelli, 1997) address other qualitative research concerns? What potential do we see for using mixed methods to strengthen qualitative research? As we consider these questions we continue the process of reading, reflecting, writing short pieces, sharing them and discussing the issues. This is in keeping with the informal conversational interview discussed by Patton (1990) which we have adapted. We are both interviewing or seeking clarity from the other through spontaneous discussion often spurred by the struggle to write individually or together or after reading an excerpt from a book or article out loud to the other.

The illumination phase involved identifying the issues we felt relevant to a discussion of mixed methods. The work done in these first three phases resulted in a presentation (Bliss & Rocco, 2003) where feedback from colleagues prompted us to clarify our position. Finally creative synthesis is occurring as we write, discuss, and refine our position on mixed methods research as we develop a manuscript and further explore our questions.

Discussion

Our discussion is presently organized around three pairs of opposing standpoints: methods (qualitative vs. quantitative), paradigms (constructivist vs. post positive), and inquiry approaches (dialectical vs. pragmatic). Methods are concerned with the components of research design: the research question and purpose, data collection/gathering, data analysis/interpretation, the write up, integrity measures, and inferences drawn. Paradigms are world views, grounded in understandings of the nature of reality and truth. Research decisions about methods and paradigms are made from different inquiry approaches. The paper examines each opposing standpoint and the issues we see with mixing methods.

Methods: Qualitative vs. Quantitative

Many methods sections and abstracts described a study simply as “a qualitative study,” or a “quantitative study” citing only textbooks to support this position. Neither, *Qualitative* or *Quantitative*, are not a types of studies, nor does qualitative inquiry have a unified theoretical orientation and both perspectives utilize an array of designs (Research design examples include case study, experimental design, and ethnography). Within each of these perspectives, there exist variations in data collection and analysis procedures. Different philosophical traditions can influence the researcher's use of a method and can shape the way a researcher understands the method. The research design should be selected as the most appropriate to use to address the technical, philosophical and political level research questions or hypotheses. Often the theoretical orientation of the particular method, as found in the inquiry literature, provides criteria for determining the appropriateness of the research design to the research questions and to the study's conceptual framework.

“At first blush, a well developed problem statement appears simple...but writing a good problem statement is far from effortless” (O’Connor, 2000, p. i). Writing a good method section is far from effortless too and involves many of the same issues raised by O’Connor. For instance, once a researchable problem is established, the appropriate method, for collecting and analyzing the data, to respond effectively to the research problem, is vital to conducting high quality, rigorous research. Just as it is necessary to establish the importance and “existence of a researchable problem” (O’Connor, 2000, p. i) through a discussion of the related literature, it is important to establish the appropriateness of the method used by grounding it in the inquiry literature. This conceptual framework for the method should involve a demonstration by the researcher that research design decisions were made intentionally through an informed reading of the mixed methods literature and provide the rationalizations or justifications for the use of mixed methods grounded in the mixed methods literature.

The purpose of the method section is to report the specifics of the procedures used to gather, organize, and interpret the data. This includes information on how, who, and under what conditions data are gathered and interpreted with the rationale for these decisions grounded in the inquiry literature. Enough detail should be provided so that readers understand what was done and why it was done. Readers of mixed methods studies need information on how data were analyzed and a rationale for why the analyst chose specific data analysis tools or methods and whether the tools or methods are from the qualitative or quantitative perspective. The decisions need to be grounded in the inquiry literature while connections should be made between the data, the conclusions, and the study’s conceptual framework.

As Bartlett, Kotrlik, and Higgins (2001, p. 49) point out “the procedures used ... should always be reported, allowing the reader to make his or her own judgments as to whether they accept the researcher’s assumptions and procedures.” This not only strengthens the discussion and findings of a study but also contributes to the growth of a field. Readers can gain insights into their own research methods by learning about the design choices researchers make and the rationale behind the choice as supported by the literature.

Paradigm: Constructivist vs. Post positivist

At this stage in our discussion, we find the often heard argument that such design choices ought to be ruled by the research question to be incomplete. Doesn’t a researcher’s view of the world help shape which question she deems researchable? Perhaps a description of mixed methods should begin with a discussion of paradigms. A paradigm may be best defined as a “worldview.” As such it is a “basic set of beliefs or assumptions that guide” a researcher’s inquiry (Creswell, 1998, p. 74). Every researcher brings to his or her research a “set of interlocking philosophical assumptions and stances” (Greene & Caracelli, 1997, p. 6). These include the researcher’s *ontological* beliefs, those about the nature of reality. The nature of reality is explored through researchers’ answers to questions such as: What is the nature of the world, including social phenomena? Is reality orderly and lawful in itself? Is there a natural social order? Is reality fixed and stable or constantly changing, and is it unitary or multiple? Can reality be “constructed by the individuals involved in the research situation?” (Creswell, 1998, p. 76).

Connected to a researcher’s beliefs about what is real, are those *epistemological* beliefs concerning what it is possible for one to know about what is real. To adapt the Watergate question once directed to a President, “What can we know, and how can we know it?” What is the relationship of the researcher to that being researched? What does it mean for a researcher to claim objectivity? Should researchers deliberately try to minimize the distance between

themselves and those they research? A paradigm also includes *axiological* beliefs – including those concerning ethics. What does it mean for the researcher to “Do the (ethically) right thing”? What is the relationship between the researcher’s values and social research? What should be the role of values in research?

Researchers’ beliefs about reality, knowledge and values “guide and frame” (Greene & Caracelli, 1997, p. 6) their beliefs about *research methods*. Do they turn to quantitative methods or qualitative methods of data collection or data analysis, exclusively? Do they only ask questions that can be answered in one way or do they ask questions best investigated using multiple methods? When and why does it make sense to mix methods?

There are purists whose answers to the questions above always lead them to keep qualitative and quantitative research separate. One purist perspective is articulated by the positivists (and post-positivists). For them, reality may be (at least to some degree) objectively known and (some degree of) causal linkages may be legitimately claimed. This is possible only when they strive to keep their values out of their research and when they employ primarily deductive logic and quantitative methods of research. The second purist perspective is associated with the constructivists or interpretivists. They believe reality to be socially constructed and only knowable from multiple and subjective points of view. The knower and the known are seen as inseparable. Not surprisingly, inquiry from this perspective is considered to be inevitably value laden. Inductive logic and qualitative methods are generally employed toward the goal of understanding a particular phenomenon within its social context.

Researchers make knowledge or truth claims when they report what they have discovered as a result of their research; when they report what their findings mean. While they disagree on which paradigm is more accurate, the one belief purists from both paradigms hold in common is that the two paradigms embody such fundamentally different understandings of the world and what constitutes legitimate truth or knowledge claims that they should not be mixed within a single study.

Inquiry Approaches: Dialectical vs. Pragmatic

Researchers whose worldviews reject these purist claims as extremist often find it advantageous to mix methods. Two positions have developed among mixed methods advocates, the pragmatist and the dialectical (Rocco, et al., 2003). We follow Greene and Caracelli (1997) in considering these to be *positions* rather than more philosophically complex *paradigms*. Each position or perspective has something to offer researchers seeking ways to strengthen their own research. It should be noted that the two positions have different rationales for conducting mixed methods research.

Paradigmatic understandings most often associated within the Constructivist paradigm include the idea that knowledge of reality should be understood as subjective socially constructed and in many ways, multiple rather than unitary. The close, value laden relationship between knower and the known means that there are many limitations on what can be known about the social world. There is a hesitancy about wide generalization of knowledge inherent in this paradigm. There is an emphasis on conducting inquiry to better understand both the particularity and social context of a phenomenon or a group of people.

In contrast, understandings within the Postpositivist paradigm include the idea that inquiry should strive to be a value neutral and objective as possible in order to better understand the world, including the social world. There are natural laws at work in the social as well as the physical world in this paradigm. A more distant relationship between the knower and the known is based on this understanding that the real world exists external and a priori to human

experience. There is a greater emphasis on conducting a particular inquiry in order to better understand these laws and how they inform human behaviors in this and other similar situations. Generalizability is sought to a greater degree within this paradigm.

Greene and Caracelli's 1997 description of the paradigm issue in mixed method social inquiry is also grounded in a concern for the purpose of conducting social inquiry. Their concern for developing more socially responsive research leads them to call for mixing methods and paradigms. They posit three increasingly specific crucial levels of decision making inherent in social science inquiry. Value based questions about the purpose and role of a particular line of inquiry are addressed at the *political level*. Epistemological and other philosophical assumptions are addressed at the *philosophical level*. Research method and procedure decisions are addressed at the *technical level*. Mixed methods is predicated on reaping the benefits of what can legitimately be learned about the social world using appropriate methods from multiple paradigms. The *pragmatic position* for such mixing, as put forth by leading proponent Patton (1988), calls for answering all methodological questions according to which method(s) best meet the practical demands of a particular inquiry. Greene and Caracelli (1997) joined those mixed method advocates (cf. Phelan, 1987, and Fielding & Fielding, 1986) calling for conducting inquiry that is shaped by employing post positivist and constructivist paradigms in a *dialectical position*. If, in a research project, issues such as particularity and generality are addressed from within each of these paradigms, then in the end, more can be known about both specific participants and the larger social context they share with others. Such research will better reflect social realities by including more perspectives. Addressing a political level concern, mixed method research can thus be more useful to people making policy decisions about [schools and] society.

At the philosophic level of decision making, Greene and Caracelli (1997) point out that the “qualitative–quantitative debate” on social inquiry is most often framed by positioning the two major research paradigms as oppositional; “the interpretivist, constructivist paradigm (exemplified by Lincoln & Guba, 1985), and the postpositivist, or postempiricist, paradigm (exemplified by Campbell, 1969; Cook, 1985)” (p. 6). Technical decisions concerning when and how to mix qualitative methods of data collection and interpretation with quantitative methods of data collection and analysis for “purists” are always framed *within* these paradigms. Educators turning to mixed-method inquiry, however, build on the strengths of *both* paradigms to “[U]nderstand more fully, to generate deeper and broader insights, to develop important knowledge claims that respect a wider range of interests and perspectives (Greene & Caracelli, 1997, p. 7).

Further Thoughts

It began to seem to us that mixed methods advocates on both shores were seeking ways to make both qualitative and quantitative research acceptable within mainstream research. Both seemed to be seeking more formal acknowledgment of the qualitative aspects of research design. What stuck with us was also a feeling that quantitatively-oriented mixed method researchers would like qualitative researchers to be more like them in how they view reality, research and what counts as legitimate knowledge claims – and, like good consumers in the Nike commercials, to stop talking about it and to, “Just do it”. Get on with the research and leave the epistemological and ontological discussions to philosophers. And, we’ll show you how to do it right. You’ll thank us for it someday. You’ll be glad you left those extremists and those who confuse research with literature. And what *do* qualitative researchers want? They (we?) would

like quantitative researchers to be more like them (us?), but to also pay more attention to what it means to research when that conversation is shut down. Qualitative researchers ask, “How can you not understand that philosophical decisions about reality, truth, knowledge, and values are the context for any research?” Research questions come out of the researcher’s philosophical understandings and that consideration of research questions and other decisions are best understood as a part of not apart from this context.

As qualitative researchers, at this point in our heuristic investigation, returning to the questions we posed at the beginning of this inquiry, there are several positions we are ready to take. Since political level decisions are currently favoring “scientific” quantitative research, in order for our concerns to be addressed, (we?) qualitative researchers must not shy away from working with quantitative researchers. The current climate means that any reconceptualization of knowledge and legitimacy claims will most likely come from working within the system. The best hope for being a change agent, and not being assimilated or at least co-opted by the system, is through qualitative researchers working to infuse the dialectical approach into mainstream educational research.

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