

CONTROVERSIES IN MIXED METHODS RESEARCH

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Mixed methods has emerged in the last few years as a research approach popular in many disciplines and countries, and supported through diverse funding agencies. With such growth, it is not surprising that critical commentaries have surfaced through papers presented at conferences and in published journal articles. These critics have come from both within (e.g., Greene, 2008; Morse, 2005; Creswell, Plano Clark, & Garrett, 2008) and outside (Denzin & Lincoln, 2005; Howe, 2004) the mixed methods community. Although concerns have mounted, they have been largely ignored by social scientists and the mixed methods community.

This chapter gives voice and focus to these controversies. I discuss 11 far-ranging controversies from basic concerns about defining and describing mixed methods, to philosophical debates, and on into the procedures for conducting a study.

For each controversy, I present critical questions, diverse stances, and lingering questions. At the end of this chapter, I reflect on the implications of these controversies. I hope this discussion will help mixed methods researchers, students, and policy makers appreciate the still-unanswered questions, view the multiple perspectives that have emerged, and reflect on new commitments that the mixed methods field needs to make. For qualitative researchers, I hope that this reflection will encourage the continued discussion of the strong vital role that qualitative research has and continues to play in mixed methods research.

The thoughts to follow will reflect my own writings of the last 20 years and will include, at times, a self-reflective critique. My methodological development consisted of formal training as a postpositivist in the 1970s, self-education as a constructivist through teaching qualitative courses in the 1980s, and advocacy for mixed methods through my writings and teachings from the 1990s to the present. As one spokesperson for mixed methods, many controversies have come to my attention through scholarly

papers presented at conferences, articles published in the *Journal of Mixed Methods Research* (JMMR) while I served as founding coeditor for the last five years, and papers sent to me by authors who wanted me to keep abreast of emerging issues. As I look across these diverse materials, I hope to foster the ongoing conversation about the controversies and the many possible answers that scholars have offered to them.

▣ SOME RECENT QUESTIONS

Some of the controversies that I will present figured prominently in a discussion in March 2009. I was attending and presenting at the University of Aberdeen in Scotland (Creswell, 2009d) at the Economic & Social Research Council (ESRC) Seminar Series sponsored by the Health Services Research Unit at the University of Aberdeen. I had finished my overview of mixed methods research to a gathering of 50 scholars primarily from the health sciences. They had assembled in historic Elphinstone Hall, an ancient venue with a high, vaulted, hammer-beam roof, banners hanging from the rafters, and oak-paneled walls lined with pictures of distinguished scholars dating back centuries. Much to my surprise, the conference organizer suddenly asked small groups to form and record their questions about both the advantages and the challenges of using mixed methods research. Not wanting to miss a key opportunity to capture their challenges and critical thoughts, I hastily began taking notes. They spoke about claims being made about the value of mixed methods research (“Is mixed methods seen as the answer to everything?” “Are there undue expectations raised by mixed methods that cannot be fulfilled?”), about philosophical and theoretical issues (“Is there opposition to mixed methods from those who hold strong worldview positions?” “Does a dominant paradigm prevail in

mixed methods?” “Is qualitative research working on an even playing field with quantitative in mixed methods?”), and about the procedures and processes of research (“Is there a good fit between the research question and mixed methods?” “Do researchers have expertise and competence in both areas?”).

The irony of “new” voices of concern about mixed methods arising in the “old,” historic setting of Elphinstone Hall did not escape my attention. But, in retrospect, hearing the issues was not surprising. Concerns have been voiced in recent respected journal articles (Giddings, 2006; Howe, 2004), in the third edition of this handbook (Denzin & Lincoln, 2005), in conference presentations (Holmes, 2006), and in articles published in the *Journal of Mixed Methods Research*. In 2006, I had presented my views about unresolved issues in a journal article on the role of

qualitative research in mixed methods (Creswell, Shope, Plano Clark, & Green, 2006), and at a panel presentation made at the 2007 International Qualitative Inquiry Congress (Creswell, 2007). In light of these discussions, it is timely to address these controversies. In this chapter, I address 11 controversies and raise several questions, as outlined in Table 15.1. The controversies, as a group, reflect what Kuhn (1970) said years ago about the transition period in research:

The proliferation of competing articulations, the willingness to try anything, the expression of explicit discontent, the recourse to philosophy, and to debate over fundamentals, all these are symptoms of a transition from normal to extraordinary research. (p. 91)

Table 15.1 Eleven Key Controversies and Questions Being Raised in Mixed Methods Research

<i>Controversies</i>	<i>Questions Being Raised</i>
1. The changing and expanding definitions of mixed methods research	What is mixed methods research? How should it be defined? What shifts are being seen in its definition?
2. The questionable use of qualitative and quantitative descriptors	Are the terms “qualitative” and “quantitative” useful descriptors? What inferences are made when these terms are used? Is there a binary distinction being made that does not hold in practice?
3. Is mixed methods a “new” approach to research?	When did the conceptualization of mixed methods begin? Does mixed methods predate the period often associated with its beginning? What initiatives began prior to the late 1980s?
4. What drives the interest in mixed methods?	How has interest grown in mixed methods? What is the role of funding agencies in its development?
5. Is the paradigm debate still being discussed?	Can paradigms be mixed? What stances on paradigm use in mixed methods have developed? Should the paradigm for mixed methods be based on scholarly communities?
6. Does mixed methods privilege postpositivism?	In the privileging of postpositivism in mixed methods, does it marginalize qualitative, interpretive approaches and relegate them to secondary status?
7. Is there a fixed discourse in mixed methods?	Who controls the discourse about mixed methods? Is mixed methods nearing a “metanarrative?”
8. Should mixed methods adopt a bilingual language for its terms?	What is the language of mixed methods research? Should the language be bilingual or reflect quantitative and qualitative terms?
9. Are there too many confusing design possibilities for mixed methods procedures?	What designs should mixed methods researchers use? Are the present designs complex enough to reflect practice? Should entirely new ways of thinking about designs be adopted?
10. Is mixed methods research misappropriating designs and procedures from other approaches to research?	Are the claims of mixed methods overstated (because of misappropriation of other approaches to research)? Can mixed methods be seen as an approach lodged within a larger framework (e.g., ethnography)?
11. What value is added by mixed methods beyond the value gained through quantitative or qualitative research?	Does mixed methods provide a better understanding of a research problem than either quantitative or qualitative research alone? How can the value of mixed methods research be substantiated through scholarly inquiry?

▣ CHANGING AND EXPANDING DEFINITIONS

Heading the list of controversies would certainly be the fundamental question: What is mixed methods research? How should it be defined? To answer these questions requires a brief historical review of shifts in the definition of mixed methods over the years. For example, an early definition of mixed methods came from writers in the field of evaluation, Greene, Caracelli, and Graham (1989). They emphasized the mixing of *methods* and the disentanglement of methods and paradigms when they said,

In this study, we defined mixed-method designs as those that include at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words), where neither type of method is inherently linked to any particular inquiry paradigm. (p. 256)

Ten years later, the definition had shifted from mixing two methods to mixing in all phases of the research process, and mixed methods was being seen as a *methodology* (Tashakkori & Teddlie, 1998). Included within this process would be mixing from philosophical (i.e., worldview) positions, to final inferences, and to the interpretations of results. Thus, Tashakkori and Teddlie (1998) defined mixed methods as the combination of “qualitative and quantitative approaches in the methodology of a study” (p. ix). These authors reinforced this methodological orientation in their preface to the *Handbook of Mixed Methods in Social & Behavioral Research* by writing, “mixed methods research has evolved to the point where it is a separate methodological orientation with its own worldview, vocabulary, and techniques” (Tashakkori & Teddlie, 2003, p. x).

A few years later, when Plano Clark and I (Creswell & Plano Clark, 2007) wrote a definition for mixed methods into our introductory book, we blended *both* a methods and a methodological orientation along with a central assumption being made with this type of research. We said,

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone. (p. 5)

This definition was patterned on describing an approach using multiple meanings, such as found in Stake’s (1995) definition of a

case study. Our definition of mixed methods had both a philosophy and a method orientation, and it conveyed components of the *core characteristics* of mixed methods that I advance today in workshops and presentations (e.g., see Creswell, 2009a). In mixed methods, the researcher

- collects and analyzes persuasively and rigorously both qualitative and quantitative data (based on research questions);
- mixes (or integrates or links) the two forms of data concurrently by combining them (or merging them), or sequentially by having one build on the other, and in a way that gives priority to one or to both;
- uses these procedures in a single study or in multiple phases of a program of study;
- frames these procedures within philosophical worldviews and a theoretical lens; and
- combines the procedures into specific research designs that direct the plan for conducting the study.

These core characteristics have provided some common features for describing mixed methods research. They evolved from many years of reviewing mixed methods articles and determining how researchers use both qualitative and quantitative methods in their studies.

I am not alone in proposing some common features. In a highly cited JMMR article, Johnson, Onwuegbuzie, and Turner (2007) suggested a composite definition for mixed methods based on 19 definitions provided by 21 highly published mixed methods researchers. After sharing these definitions, they noted the variations in definitions, from what was being mixed (e.g., methods, methodologies, or types of research), the place in the research process in which mixing occurred (e.g., data collection, data analysis), the scope of the mixing (e.g., from data to worldviews), the purpose or rationale for mixing (e.g., breadth, corroboration), and the elements driving the research (e.g., bottom-up, top-down, the core component). Incorporating these diverse perspectives, the authors end with a composite definition:

Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purposes of breadth and depth of understanding and corroboration. (p. 123)

In this definition, the authors do not view mixed methods simply as methods, but more as a methodology that spans from viewpoints to inferences. They do not view mixed methods as only data collection, but rather as the more general combination of qualitative and quantitative research. They incorporate diverse viewpoints, but do not specifically mention paradigms (as in the Greene et al., 1989, definition) or philosophy (as in the

Creswell & Plano Clark, 2007, definition). Their purposes for mixed methods—breadth and depth of understanding and corroboration—do not speak to how the research question may suggest mixed methods rather than force-fitting a line of inquiry into either a quantitative or qualitative approach. Perhaps most important, they suggest that there is a common definition that should be used.

Another definition has been advanced by Greene (2007), who stated that mixed methods was an orientation toward looking at the social world

that actively invites us to participate in dialogue about multiple ways of seeing and hearing, multiple ways of making sense of the social world, and multiple standpoints on what is important and to be valued and cherished. (p. 20)

This definition has moved mixed methods into an entirely new realm of conceptualization, and perhaps a useful one. Defining mixed methods as “multiple ways of seeing” opens up broad applications beyond using it as only a research method. It can be used, for example, as an approach to think about designing documentaries (Creswell & McCoy, in press), or a means for “seeing” participatory approaches to HIV-infected populations in the Eastern Cape of South Africa (Olivier, de Lange, Creswell, & Wood, 2009). Lately, I have begun my workshops on mixed methods by indicating that we have many instances of mixed methods in our social world. I start with Al Gore’s film-documentary, *An Inconvenient Truth*, about global warming and Gore’s combined use of mixed method-like statistical trends and personal stories (David, Bender, Burns, & Guggenheim, 2006). Defining mixed methods as a way of seeing opens up applications for it in many aspects of social life.

However, I still have unresolved concerns after reviewing these diverse definitions. Do we need a common definition or common set of core characteristics? Will such common features limit what we see as mixed methods? Do we need multiple definitions? For those individuals new to mixed methods, do they need a commonly accepted definition to convey the purpose of their research and to convince others of the legitimacy of their approach?

■ THE QUESTIONABLE USE OF QUALITATIVE AND QUANTITATIVE DESCRIPTORS

Researchers talk about mixed methods using descriptors such as “qualitative” and “quantitative.” The use of statistics and stories in Gore’s film reinforces a binary distinction between qualitative and quantitative research. Are the terms “qualitative” and “quantitative” useful descriptors to use? What are the inferences being made when these terms are used? This controversy has brought forward one group of writers who have found the

terms “qualitative” and “quantitative” intermingled with designs and paradigms, rather than referring to methods of data collection and analysis. It also has brought forward another group of writers who feel that the use of these terms fosters an unacceptable binary or dichotomy that minimizes the diversity in methods.

Giddings (2006) felt that the terms “qualitative” and “quantitative” became normative descriptors for research paradigms in the 1970s and 1980s, and that the term “qualitative” gave non-positivist researchers “a place to stand” (p. 199). When writers have used the term “qualitative paradigm,” it has often been in the context of the qualitative-quantitative debates in evaluation and the social sciences (Greene, 2007). Greene pointed out that it was helpful to separate the research methods of “qualitative” and “quantitative” from broader philosophical issues, and to refrain from intermingling methods and philosophy. Another intermingling occurs at the design level. Vogt (2008) took the strong position: “To think in terms of quantitative and qualitative *designs* is a category mistake” (p. 1, emphasis added). He felt that all research designs—such as surveys, document analysis, experiments, and quasi-experiments—could accommodate data coded as numbers and words.

The use of “qualitative” and “quantitative” has been further discouraged because it creates a binary distinction that does not hold in practice. Often writers equate “qualitative” to text data and “quantitative” to numbers data. In a recent *JMMR* article, Sandelowski, Voils, and Knafl (2009) countered this binary thinking by pointing out that counting often involved qualitative judgments, and that numbers often related to context. Further, qualitative data are sometimes transformed in data analysis into categorical data, and a binary configuration overlooked both within-group (e.g., qualitative) and between-group similarities (e.g., qualitative and quantitative). Resonating with this thought, Giddings (2006) stated that binary positioning made methodological diversity invisible.

Adding confusion to the meaning of “qualitative” and “quantitative” have been those who felt that mixed methods should mean collecting mono-methods—*multiple* qualitative sources of data or quantitative sources of data (Shank, 2007; Vogt, 2008) instead of collecting *both* qualitative and quantitative data (mixed methods). Some writers have been clear that multiple sources of one kind of data (i.e., qualitative or quantitative data) should be called “multiple methods” (Morse & Niehaus, 2009, Appendix 1), not mixed methods. Again, regardless as to how mixed methods is viewed, both perspectives rely on a normative, binary distinction between “qualitative” and “quantitative” to reinforce their positions.

A strong case can be made that “qualitative” and “quantitative” should refer to methods. A useful diagram is advanced by Crotty (1998), who provided a conceptual framework for sorting out these layers of research into epistemology, theoretical perspectives (e.g., feminist theory), methodology, and methods. But to throw out the terms “quantitative” and “qualitative” seems to disrupt a long-established pattern of communication that has

been used in the social, behavior, and health sciences. Until we have replacement terms, a means of discourse across fields is helpful, but we need to be careful how we use the terms. On the issue of the binary distinction, writers in the mixed methods field have tended to dismiss the dichotomy in favor of a continuum for presenting qualitative and quantitative differences (Creswell, 2008; Tashakkori & Teddlie, 2003). Writers in mixed methods are also careful to distinguish “multi-method studies” in which multiple types of *qualitative* or *quantitative* data are collected (see Creswell & Plano Clark, 2007) from “mixed methods studies” that incorporate collecting *both* qualitative and quantitative data. In the health sciences, the term “multi-method” is typically used to convey studies in which both forms of data are gathered (e.g., see Stange, Crabtree, & Miller, 2006), although in a study of National Institutes of Health–funded projects, Plano Clark (2009) found that “multimethod” meant multiple methods of quantitative *or* qualitative data 64% of the time, and “mixed methods” 36% of the time.

In light of these discussions about intermingling and the binary distinction, should we refrain from using the terms “qualitative” and “quantitative?” Why do mixed methods writers not clearly distinguish among methods, designs, and paradigms? Should mixed methods involve multiple qualitative or quantitative methods or some combine of both?

■ THE NEW VERSUS THE OLD

Historically, researchers have used both forms of methods in these studies. This leads to another controversy: Is mixed methods a “new” approach or is it simply pouring new ideas into old packaging? Emphasizing the “new,” recent writers have called mixed methods the third methodological “movement” (following quantitative and qualitative) (Tashakkori & Teddlie, 2003, p. 5), the “third research paradigm” (Johnson & Onwuegbuzie, 2004, p. 15), and “a new star in the social science sky” (Mayring, 2007, p. 1). Claims such as these have left some critics to wonder “exactly what the new mixed methods movement is claiming. The major proponents insist that what they developed is a new way of doing research” (Holmes, 2006, p. 2).

I often date the beginnings of mixed methods back to the late 1980s and early 1990s with the coming together of several publications all focused on describing and defining what is now known as mixed methods. These writers worked independently and they came from sociology in the United States (Brewer & Hunter, 1989) and in the United Kingdom (Fielding & Fielding, 1986), from evaluation in the United States (Greene et al., 1989), from management in the United Kingdom (Bryman, 1988), from nursing in Canada (Morse, 1991), and from education in the United States (Creswell, 1994). A critical mass of writings came together within a short space of time, and all of these individuals were writing books, chapters, and articles on an

approach to research that moved from simply using quantitative and qualitative approaches as distinct, separate strands in a study to research that actually linked or combined them. At this time, qualitative inquiry had become largely accepted as a legitimate methodology in the social sciences and was moving into the “blurred genres” stage (Denzin & Lincoln, 2005). Philosophical debates between quantitative and qualitative researchers were still underway (Reichardt & Rallis, 1994) but beginning to soften, and new methodologies to address the complex problems of society were being encouraged.

In retrospect, I now wonder if these writers were truly the first individuals to talk about combining quantitative and qualitative data. Individuals in my workshops have for some time been saying that mixed methods is not “new.” Holmes (2006) raised this question when he commented,

The major proponents insist that what they have developed is a new way of doing research—an alternative to qualitative and quantitative research, but what’s new about that? . . . ethnographers and other social researchers have been gathering data using mixed methods at least since the 1920s, and case study researchers and anyone using triangulation have also been using mixed methods. (p. 2)

To probe whether or not it is a “new” idea requires returning to historical documents in fields such as sociology, evaluation, and action research. How does the pre-late-1980s discussion fit with what is known about mixed methods today? Three threads of thinking prior to the late 1980s can give us insight: the use of multiple methods, the discussions about using qualitative research within a research world largely dominated by quantitative research, and the informal initiatives to combine methods.

In terms of multiple methods, in 1959 Campbell and Fiske advanced the use of multiple methods in convergent and discriminant validation of psychological traits using a multitrait-multimethod matrix. They felt that more than one trait as well as more than one method must be employed in the validation process. Their discussion, however, was limited to multiple *quantitative* sources of data. During the 1970s, Denzin (1978) identified several types of combinations of methodologies in the study of the same phenomena or programs through his idea of *data triangulation*—the use of various data sources in a study. He said, “I now offer as a final methodological rule the principle that multiple methods should be used in every investigation” (Denzin, 1978, p. 28).

Throughout the 1970s and on into the 1980s, several noted authors were calling for the use of qualitative research on equal footing with more quantitative-experimental methods (Patton, 1980). Campbell (1974) gave a noted presentation at the American Psychological Association meeting on “Qualitative Knowing in Action Research” for the Kurt Lewin Award address. He suggested that a true scientific approach was to eliminate the question of the position of ultimate authority between quantitative and qualitative research and to reestablish the importance

of qualitative research. Cronbach (1975), in his well-known article “Beyond the Two Disciplines of Scientific Psychology,” cast doubt on the idea that the social sciences could be modeled only on the natural sciences. Both Campbell and Cronbach started out as quantitative researchers and then embraced qualitative or naturalistic research through their writing.

Other authors began combining methods informally, and these writers were clearly the pioneers of mixed methods thinking today. In sociology, Sieber (1973) discussed the “interplay” of fieldwork and survey methods, and identified procedures for combining the two methods. Lamenting the fact that there were “too few examples to adduce general principles” (p. 1358), Sieber suggested the need for a “new style of research” (p. 1337). He further discussed the sequence of both methods with “concurrent scheduling” and “interweaving” the two methods (p. 1357). Equally important, he cited a number of studies that incorporated both interviews and surveys, and he discussed his own projects that included these forms of data collection (Sieber & Lazarsfeld, 1966).

Another example of early mixed methods thinking comes from the field of evaluation in which Patton advanced “methodological mixes” (Patton, 1980, p. 108). He advocated for the use of anthropological naturalistic research in evaluation based on the “holistic-inductive paradigm” to complement the more traditional “hypothetical-deductive” approach. He recommended several models for program evaluation built on this combination. A design could be the pure hypothetical-deductive approach with an experimental design, quantitative data, and a statistical analysis, or a pure qualitative approach with naturalistic inquiry, qualitative measurement, and a content analysis. Then he suggested four “mixed form” models (p. 112) that varied from using experimental or naturalistic designs, qualitative or quantitative measurements, and often the transformation of qualitative data into counts. The diagram he sketched for the four models was remarkably similar to diagrams of mixed methods designs presented by recent authors (e.g., Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998).

Taking these readings as a whole, a good case can be made that mixed methods was underway much earlier than the late 1980s. These early writers focused on gathering multiple methods, including both quantitative (e.g., surveys) and qualitative (e.g., interviews) data. They initiated a language for mixed methods through such terms as the more general word “interplay” and more specific terms, such as “concurrent scheduling” (Sieber, 1973, pp. 1353, 1358). They provided examples of studies that employed multiple methods, and they took a process approach of thinking about the “interplay” through design, data collection, and data analysis. They conceptualized different types of mixed methods designs, such as those involving data transformation (Patton, 1980), and those including one form of method building on the other (Sieber, 1973).

On the other hand, although these early writers were interested in the “interplay” of quantitative and qualitative data, they did not specifically discuss how they would integrate the two data sources, or the reasons for integration as mixed methods is described today (e.g., see Bryman, 2006). They did not explicate the vast array of design possibilities in response to different purposes that is seen today (Creswell & Plano Clark, 2007, 2011). Although they started the discussion about names for the designs, they had a limited repertoire for designs (e.g., concurrent scheduling) as compared to the extensive list of design possibilities discussed recently (see Creswell & Plano Clark, 2011). They did not have a notation system (e.g., pluses and arrows) for providing a shorthand description of designs that would begin to emerge in 1991 (see Morse, 1991). Some of the detailed discussions about procedures (e.g., developing an instrument based on qualitative data), the use of mixed methods questions (Creswell & Plano Clark, 2011), or the larger philosophical issues (see Greene, 2007) were not present in their discussions.

The pre-late-1980s writers did, however, lay a foundation for mixed methods. As Tashakkori and Teddlie (2003) commented, these early writers “were mostly unaware that they were doing anything out of the ordinary” (p. 5). They used informal, commonsense ways of conducting research. A colleague recently remarked, “What is most amazing about mixed methods is that all of these (current) writers have taken ideas that have been around for a long time and spun them into a way of research, a methodology!” (Duane Shell, personal communication, August 17, 2009). Today, we have systematic, detailed, and defined ways of thinking about mixed methods research. But is a systematic approach better than the more intuitive early approach? Why do current mixed methods researchers (including myself) not give more credit to the early researchers who had the initial ideas that have now been embraced today as mixed methods?

■ WHAT REALLY DRIVES MIXED METHODS?

The ideas of a “new movement” or a “new star” suggest that some trends in methodology are building. What has promoted the escalation of interest in mixed methods? As suggested at the Aberdeen, Scotland, seminar, is it simply a response to funding initiatives?

Interest in mixed methods has grown since the *Handbook of Mixed Methods in Social & Behavioral Research* (Tashakkori & Teddlie, 2003) was published eight years ago (Creswell, 2009b). This handbook, consisting of four sections covering 759 pages, addressed current and future issues, methodological issues, and analytical issues. Using the base year of 2003 as a rough benchmark, it has been documented how interest has developed in the use of the term “mixed methods,” as reported in funded projects at the National Institutes of Health (Plano Clark, 2010). Journals exclusively devoted to reporting mixed

methods empirical studies and methodological discussions have also been initiated, such as in 2007, the *Journal of Mixed Methods Research* (Sage); in 2008, the *International Journal of Multiple Research Approaches* (eContent Management Pty); and in 2009, the *International Journal of Mixed Methods in Applied Business & Policy Research* (Academic Global). To these journals, I can also add journals started much earlier, such as *Quality and Quantity* (1967, Springer), *Field Methods* (1989, Sage), and the *International Journal of Social Research Methodology* (1998, Routledge). In addition, a number of recent journals have published special issues focusing exclusively or largely on mixed methods, such as *Research in Schools* (2006), *Annals of Family Medicine* (2004), and the *Journal of Counseling Psychology* (2005). At least 16 major books have been written about mixed methods, including recent books by Creswell and Plano Clark (2011), Greene (2007), Plano Clark and Creswell (2008), Teddlie and Tashakkori (2009), and Morse and Niehaus (2009). Mixed methods books are being published that have a distinct discipline focus, such as for nursing and health researchers (Andrew & Halcomb, 2009) and psychologists (Mayring, Huber, Gurtler, & Kiegelmann, 2007; Todd, Nerlich, McKeown, & Clarke, 2004). Chapters can be found in methods books in discipline fields such as social work (Engel & Schutt, 2005) and family research (Greenstein, 2006). An international conference on mixed methods has been offered in the United Kingdom for the last five years, along with international publications on mixed methods around the globe: in psychology from Europe (Mayring et al., 2007), in nursing from Australia (Andrew & Halcomb, 2009), in linguistics from Japan (Heigham & Croker, 2009), in the social sciences from Switzerland (Bergman, 2008), and in education from South Africa (Creswell & Garrett, 2008).

In light of these developments, I must ask what has given impetus to this interest? It may well be that funding sources have encouraged mixed methods research with the global economic imperative—starting in the 1990s—to do more with less (Giddings, 2006). In a mixed methods study of family adoption practices, Miall and March (2005) wrote about how their funders forced them to change their questions and design from their initial plan of starting with quantitative questions that would be intentionally followed by qualitative questions. Holmes (2006) alleged that mixed methods reduced researchers to “depersonalized technicians,” which tacitly supported funding agencies to seek projects with convergence on a single answer rather than differences in opinions and beliefs.

On the other side, certainly the legitimacy of qualitative research has encouraged researchers to think in a pluralistic way. Interdisciplinary research problems now call for addressing complex issues using skilled methodologists from both quantitative and qualitative research who bring diverse approaches to studies (Mayring et al., 2007). Still, questions linger about whether mixed methods is simply a response to funding interests and whether the research questions addressed by mixed

methods researchers truly merit a “mixed” methodology. Those coming from a philosophical, postmodern perspective have suggested that researchers are “accepting uncritically and undigested” mixed methods (Freshwater, 2007, p. 145).

THE PARADIGM DEBATE CONTINUES

Philosophically oriented writers for years have debated whether mixed methods research is possible because it mixes worldviews or paradigms. They ask: Can paradigms (ontologies or realities) be mixed? Some writers adhere to the idea that paradigms or worldviews have rigid boundaries and cannot be mixed. Holmes (2006) asked: “Can we really have one part of the research which takes a certain view about reality nested alongside another which takes a contradictory view? How would we reconcile, or even work with, competing discourses within a single project?” (p. 5). The logic being used here was that mixed methods was untenable because methods were linked to paradigms, and therefore the researcher, in using mixed methods research, was mixing paradigms. This stance has been described as the purist stance (see Rossman & Wilson, 1985), and it has been called the “incompatibility thesis” (Howe, 2004) and discussed in the mixed methods literature as mixing viewpoints (Johnson et al., 2007, p. 123). Individuals that hold this position view paradigms as having discrete and impermeable boundaries, an idea reinforced by the clear-cut boxes and lines around the alternative inquiry paradigms in the literature (e.g., see Guba & Lincoln’s tables, 2005; or Creswell’s table of worldviews, 2009c). Granted, by 2005, Guba and Lincoln had taken down these artificial boundaries by declaring cautiously that elements of paradigms might be blended together in a study. Contributing to this perspective was certainly a “delinking” of paradigms and methods, such as conveying that many different research methods would be linked to certain paradigms, and that a paradigm justification did not dictate specific data collection and analysis methods (Johnson & Onwuegbuzie, 2004).

With the gate now opened to thinking about use of multiple paradigms, mixed methods writers have now taken varied stances on incorporating paradigms into mixed methods. For example, a dialectic stance by Greene and Caracelli (1997) suggested that multiple paradigms might be used in mixed methods studies, but that each paradigm needed to be honored and that their combined use contributed to healthy tensions and new insights. In my writings, I took a similar stance, but suggested that multiple paradigms related to different phases of a research design (Creswell & Plano Clark, 2007, 2011), thus linking paradigms to research designs. For example, a mixed methods study that begins with a quantitative survey phase reflects an initial postpositivist leaning, but, in the next qualitative phase of focus groups, the researcher shifts to a constructivist paradigm. Relinking paradigms and designs makes sense.

Still others advocated for one underlying paradigm that fits mixed methods, and some found their paradigm in pragmatism with historical roots back to Charles Peirce, William James, John Dewey, Richard Rorty, and others (Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 2003). Pragmatism emphasizes the importance of the research questions, the value of experiences, and practical consequences, action, and understanding of real-world phenomena. Advocates said that it is a “philosophical partner for mixed methods research” (Johnson & Onwuegbuzie, 2004, p. 16). A different paradigmatic stance, suggested by Mertens (2003, 2009), is found in the transformative-emancipatory framework that made explicit the goal for research to “serve the ends of creating a more just and democratic society that permeates the entire research process” (Mertens, 2003, p. 159). Mertens thus creatively relates this goal to different phases in designing a mixed methods study.

Whether the paradigm for mixed methods involves a single paradigm, multiple paradigms, or phased-in paradigms, Morgan (2007) recently reminded the mixed methods community of the importance of Kuhn’s (1970) original description of a paradigm. Using the definition of a paradigm as “shared belief systems that influence the kinds of knowledge researchers seek and how they interpret the evidence they collect” (Morgan, 2007, p. 50), Morgan found paradigms to be (1) worldviews, an all-encompassing perspective on the world; (2) epistemologies, incorporating ideas from the philosophy of science such as ontology, methodology, and epistemology; (3) “best” or “typical” solutions to problems; and (4) shared beliefs of a “community of scholars” in a research field. It is this last perspective (embraced by Kuhn, 1970) that Morgan strongly endorses, and he discussed how researchers share a consensus in specialty areas about what questions are most meaningful and which procedures are most appropriate for answering their questions.

Another mixed methods writer, Denscombe (2008), agreed with this perspective and took it one step further. Denscombe outlined how “communities” may work using such ideas as sharing identity, researching common problems, forming networks, collaborating in pursuing knowledge, and developing informal groupings. This line of thinking has focused attention on the emerging fragmentation of the mixed methods field in which various disciplines adopt mixed methods in different ways, create unique practices, and cultivate their own specialized literatures. For example, at the Veterans Administration Research Center in Ann Arbor, Michigan, in the health sciences, colleagues have conceptualized mixed methods as formative and summative evaluation procedures (Forman & Damschroder, 2007). This conceptualization adapts mixed methods to the Veterans Administration health services context of intervention research. The rise of discipline-oriented mixed methods books is another instance of adapting mixed methods to scholarly communities. Still, I wonder if discipline fragmentation of mixed methods will lead to further philosophical differences

among scholars in mixed methods. Will the scholarly community line of thinking continue or will the conversation return to the difficulty of mixing realities? Is the idea of mixing realities actually all about whether one paradigm takes precedence over another in mixed methods research?

■ MIXED METHODS PRIVILEGES POSTPOSITIVISM

Critics make the allegation that mixed methods favors post-positivist thinking over more interpretive approaches. Does mixed methods privilege postpositivist thinking and marginalize interpretive approaches? Several authors have taken this position. The context for many of these concerns resides in what is seen as a conservative challenge to qualitative inquiry (Denzin & Giardina, 2006). Denzin and Giardina believe that conservative regimes enforce scientifically based models of research (SBR). For example, the 2001 No Child Left Behind Act (NCLB) in education emphasized accountability, high-stakes testing, and performance scores for students. The model for research being advanced was to “apply rigorous, systematic, and objective methodology to obtain reliable and valid knowledge” (Ryan & Hood, 2006, p. 58). Within this context, qualitative research is marginalized, and it minimizes complex and dynamic contexts, subtle social differences produced by gender, race, ethnicity, linguistics status, and class, and multiple kinds of knowledge (Lincoln & Canella, 2004). In 2002, one year after the No Child Left Behind Act was implemented, the National Research Council established guidelines in their report, *Scientific Research in Education*, that called for a quantitative approach to research through guiding principles asking for significant questions that could be empirically studied, relevant theory, methods closely tied to the research questions, explanations of findings using a logical chain of reasoning, replicated studies and generalizations, and disseminated research for critique by the professional scientific community (Ryan & Hood, 2006; Shavelson & Towne, 2002). Howe (2004) called the National Research Council’s perspective “mixed-methods experimentalism” (p. 48) and felt that it assigned a prominent role to quantitative experimental research and a lesser role to qualitative, interpretive research. Further, this approach “elevates quantitative-experimental methods to the top of the methodological hierarchy and constrains qualitative methods to a largely auxiliary role in pursuit of the *technocratic* aim of accumulating knowledge of ‘what works’” (Howe, 2004, pp. 53–54). He also stated, “It is not that qualitative methods can never be fruitfully and appropriately used in this way, but their natural home is within an interpretivist framework with the democratic aim of seeking to understand and give voice to the insider’s perspective” (p. 54). This interpretivist aim values outcomes assessed by various stakeholders, includes all relevant voices in the dialogue, and engages in qualitative data

collection procedures to promote dialogue, such as participant observation, interviews, and focus groups. This dialogue also needs to be *critical* with the views of participants subjected to rational scrutiny.

Howe's theme was echoed again in the following years' publication of the third edition of this handbook (Denzin & Lincoln, 2005). Denzin and Lincoln talked directly about the "mixed-methods movement" as taking qualitative methods out of their natural home, which is in the "critical, interpretive framework" (p. 9). Finally, in a provocative article by Giddings (2006), titled, "Mixed-methods Research: Positivism Dressed in Drag?" the issue of the hegemony of positivism and the marginalization of nonpositivist research methodologies in mixed methods was addressed. She conveyed the idea that certain "thinking" went on in research that was reflected in methodologies and "the 'thinking' of positivism continues in the 'thinking' of mixed methods" (p. 200). Giddings felt that this mixed methods "thinking" was expressed through analysis and prescriptive styles, structured approaches to research design and data collection, and the use qualitative aspects "fitted in" (p. 200).

There is little doubt that a good case can be made that, in certain approaches, mixed methods researchers have relegated qualitative inquiry to a secondary role. A good example would be the embedded research design (Creswell & Plano Clark, 2007), in which qualitative methods often provide a supportive role in experimental, intervention studies. Our feeling has long been that the use of qualitative approaches *whatever their role* in traditional quantitative experiments elevates qualitative research to a new status and opens the door for seeing qualitative research as a legitimate form of inquiry. Whether this will materialize can certainly be debated. The structured ways of designing mixed methods projects that we embrace in our text (Creswell & Plano Clark, 2007) also reinforces Giddings' idea of the structured "thinking" in our approach to mixed methods. In mixed methods data analysis, the use of "manifest effect sizes" by Onwuegbuzie and Teddlie (2003, p. 356) reinforces a post-positivist leaning of mixed methods.

On the other hand, many studies in mixed methods can be found that give priority to qualitative methods. Some designs subordinate quantitative methods to qualitative methods (see the exploratory sequential design mentioned by Creswell & Plano Clark, 2007). Also, the writings on applying the transformative-empowerment framework to mixed methods emphasize qualitative research (Mertens, 2009). A close reading of the National Research Council's report on scientific research in education shows that the types of questions recommended for scholarly educational research were both quantitative (descriptive, experimental) as well as qualitative (exploratory), a point that Howe (2004) concedes. Although more critical, interpretivist articles are needed in the mixed methods field, some evidence exists that the number of articles is growing. A recent paper (Sweetman, Badiee, & Creswell, 2010) has identified mixed methods studies

that honor the inclusion and dialogue of communities of action within Mertens's transformative-empowerment framework. This paper examined several mixed methods studies that addressed disability, ethnic, feminism, and social class as theoretical standpoints and advanced ways that researchers might incorporate these standpoints into their mixed methods projects. Further evidence of standpoint epistemology—typically found in qualitative research—is found in recently published articles in *JMMR* addressing women's social capital (Hodgkin, 2008) and African American women's interest in science (Buck, Cook, Quigley, Eastwood, & Lucas, 2009). Despite these studies, what is the evidence that mixed methods research marginalizes interpretive approaches? Do we need more mixed methods research that incorporates an interpretive perspective? Is the use of qualitative research in a supportive role in intervention studies marginalizing qualitative inquiry, or is it advancing it within fields that traditionally honored experimental methods? Do we need more articles that embrace "mixed methods interpretivism," in which quantitative research is relegated to a secondary role within qualitative research, as Howe (2004) would recommend?

■ A FIXED DISCOURSE IN MIXED METHODS

Unquestionably, more interpretive, theoretical studies in mixed methods would broaden the audience and discourse of it. This raises another controversy about the discourse of mixed methods. Some critics are asking: Is there a dominant discourse in mixed methods? Is messiness allowed in? These questions speak to the issue of mixed methods privileging postpositivist thinking—a postmodern concern about the discourse in mixed methods. Who controls this discourse and the language that is being used in mixed methods research? Several authors have weighed in on this issue.

A recent important article takes up these concerns (Freshwater, 2007). Freshwater is an editor and leading researcher in nursing as well as a postmodernist. She was concerned about how mixed methods was being "read" and the discourse that followed. Discourse was defined as a set of rules or assumptions for organizing and interpreting the subject matter of an academic discipline or field of study in mixed methods. The uncritical acceptance of mixed methods as an emerging dominant discourse ("is nearing becoming a metanarrative" [Freshwater, 2007, p. 139]) impacts how it is located, positioned, presented, and perpetuated. She called on mixed methods writers to make explicit the internal power struggle between the mixed methods text as created by the researcher and the text as seen by the reader/audience. Mixed methods, she felt, was too "focused on fixing meaning" (p. 137). Expanding on this, she stated that mixed methods was mainly about doing away with "indeterminacy and moving toward incontestability" (p. 137), citing as key examples the objective third-person style of writing, the

flatness, and the disallowance for competing interpretations to coexist. She requested that mixed methods researchers adopt a “sense of incompleteness” (p. 138) and recommended that reforms required the

need to explore the possibility of hybridization in which a radical intertextuality of mixing forms, genres, conventions, and media is encouraged, where there are no clear rules of representation and where the researcher, who is in reality working with radical undecidability and circumscribed indeterminacy, is able to make this experience freely available to readers and writers. (p. 144)

These ideas were a positive criticism, and a call for mixed methods writers to insert questions into their discourses, to acknowledge the messiness of mixed methods, and to recognize that it is a field still in “adolescence” (Tashakkori & Teddlie, 2003, p. x).

Still, by providing a visual of the mixed methods research process that follows linear development, Johnson and Onwuegbuzie (2004) erase the “messiness.” A certain tidiness is given when specific names are assigned to research designs (e.g., explanatory sequential designs—Creswell & Plano Clark, 2007), when researchers do not attend to the “messiness” in conducting the designs (e.g., see Creswell et al., 2008), and when writers look for a consensus in definitions (Johnson et al., 2007). These examples all point toward “fixing” or the field “being fixed.” But these points open up further questions, such as how should mixed methods writers discuss its messiness, its blurred borders, and its problems? Will unstructured mixed methods serve well the beginning researcher as well as the more experienced researcher?

■ TO BE BILINGUAL OR NOT

A related issue is whether any one ideological camp dominates the language of mixed methods research. Is there a dominant language or set of terms for mixed methods? Vygotsky and Cole (1978) propose that the sociocultural perspective of language shapes how individuals make sense of the world, and that the learning process consists of a gradual internalization of this language. What is the language of mixed methods? One issue being discussed is whether we need a “bilingual” language for mixed methods research so that it does not favor quantitative or qualitative research. Raising this question is reminiscent of concerns in qualitative research in the early 1980s around the topic of qualitative validity, and how terms such as trustworthiness and authenticity created a “new,” distinct language to discuss validity (Lincoln & Guba, 1985).

As the language of mixed methods develops, a confusing picture has emerged about the nomenclature to use. For example, in writing about validity, Onwuegbuzie and Johnson (2006) intentionally called validity “legitimation” and thereby created a new

word in the mixed methods lexicon. In our specification of types of research designs, we created new names, such as the “exploratory sequential design,” to provide a descriptive label signifying that the design would first fulfill the intent of exploring using qualitative data followed by explanation using quantitative data (Creswell & Plano Clark, 2007). Illustrating an example of a made-up bilingual term, writers in a recent psychology text used the term “qualiquantology” to express their discomfiting hybridity of mixing qualitative and quantitative methods (Stenner & Rogers, 2004).

Other writers in the mixed methods field use a less bilingual vocabulary. Leaning toward a more quantitative language, Teddlie and Tashakkori (2009) use the term “inferences,” or “meta-inferences,” to denote when the results are incorporated into a coherent conceptual framework to provide an answer to the research question. Although “inferences” may relate to either qualitative or quantitative research, it seems to be employed frequently in drawing conclusions from a sample to a population in a quantitative study. Another example is the use of the term “construct validity” by Leech, Dellinger, Brannagan, and Tanaka (2010) as an overarching validity concept for mixed methods research. This term is drawn from quantitative measurement ideas. On the qualitative side, the idea of personal transformation advanced by Mertens (2009) clearly has qualitative roots. Unquestionably, the language that has emerged is both bilingual and oriented toward one form of inquiry (quantitative or qualitative). The use of glossaries in recent mixed methods books suggests the need for a common vocabulary (see Morse & Niehaus, 2009; Teddlie & Tashakkori, 2009). These examples, however, raise difficult questions about who controls the language of mixed methods, how it is conveyed, and what the language should be. It also introduces questions about how the writing up of mixed methods proposals and projects influences what gets approved, funded, and published.

■ A BAFFLING (AND COMPLEX) ARRAY OF DESIGNS

It is not only the language that introduces confusion and controversy into the mixed methods discourse. In research designs—a topic that has filled the pages of mixed methods writings—researchers are confronted by a baffling array of names and types of ways to conduct mixed methods research. How might a mixed methods researcher conduct a mixed methods study? When my colleague, Vicki Plano Clark, and I wrote an introduction to the field for beginning mixed methods researchers (Creswell & Plano Clark, 2007), we presented 12 different classification systems of designs drawn from diverse fields of evaluation, nursing, public health, and education.

Not wanting to add to the confusion, we suggested a parsimonious set of designs. Triangulation (or now called convergent) designs involved one phase of qualitative and quantitative data collection gathered concurrently. Explanatory or exploratory

designs required two phases of data collection, quantitative data collection followed sequentially by qualitative data collection (or vice versa). Embedded designs, in which one form of data was embedded within another, may be either a single- or a double-phase design with concurrent or sequential approaches. In all of these designs, we focused on the weight given to qualitative and quantitative data, the timing of both forms of data, and the mixing of the data in the research process. To present these designs, we used a modified notation system first developed by Morse (1991), and we sketched diagrams of procedures and advanced guidelines for constructing these diagrams found in the literature (Ivankova, Creswell, & Stick, 2006).

We now know that these designs are not complex enough to mirror actual practice, although our thinking at the time was to advance designs for the first-time mixed methods researcher. Also, we are more aware of the complex designs being used and reported in the literature. For example, Nastasi and colleagues wrote about a complex evaluation design with multiple stages and the combination of both sequential and concurrent phases (Nastasi et al., 2007). The designs reported in journals have incorporated “unusual blends” of methods, such as combinations of quantitative and qualitative longitudinal data, discourse analysis with survey data, secondary data sets with qualitative follow-ups, and the combination of qualitative themes with survey data to produce new variables (Creswell, 2011). The representation of designs has also advanced joint matrices for arraying both quantitative and qualitative data in the same table, an approach encouraged by the matrix feature of qualitative software products (see Kuckartz, 2009).

Our designs and the many classifications bring a typology approach to mixed methods design. Arguing that we need an alternative to typologies, Maxwell and Loomis (2003) conceptualized a systems approach of five interactive dimensions of the research process consisting of the purpose, the conceptual framework, the questions, the methods, and the issue of validity. With this approach, they provided a fuller, more expansive view of the way to conceptualize mixed methods designs. Another approach comes from the creative thinking of Hall and Howard (2008). They suggested a synergistic approach in which two or more options interacted so that their combined effect was greater than the sum of the individual parts. Instead of looking at mixed methods as a priority of one approach over the other, or a weighting of one approach, the researcher considered their value and representations equal. The researcher also viewed the two as equal from an ideology of multiple points of view, balancing objectivity with subjectivity. Collaboration consisted of the equal skill expertise about qualitative and quantitative methodologies on a research team.

The synergistic approach, along with other challenges to typological perspectives has contributed to a softening of the differences between qualitative and quantitative research, provided answers to questions about dominance of one method

over the other (e.g., Denzin & Lincoln, 2005), and honored the formation of research teams with diverse expertise. In light of these discussions, are typologies of research designs outdated? Are newer, more free-flowing designs an improved way to think about designing a mixed methods study?

☐ MISAPPROPRIATING DESIGNS

Another procedural question about designs is whether mixed methods is misappropriating designs from other fields. As mixed methods continues to grow in popularity and use, is the field misappropriating traditional designs and calling them “mixed methods” (thereby overstating the value and claims of mixed methods)? Several examples stand out. Scale development (DeVellis, 1991) has been available to the researcher for many years in quantitative research. Early phases of scale development often call for an initial exploration, even though this may consist of reviewing the literature rather than conducting an extensive qualitative data collection procedure, such as the use of focus groups (Vogt, King, & King, 2004). One might argue that scale development should be a distinct procedure from mixed methods research, and yet, mixed methods designs with the purpose of developing an instrument are available in the journal literature (e.g., Myers & Oetzel, 2003).

Another example would be content analysis, a quantitative procedure involving the collection of qualitative data and its transformation and analysis by quantitative counts. In this approach, *both* qualitative and quantitative are not collected, but both qualitative research (in data collection) and quantitative research (in data analysis) are employed. If one views mixed methods as collecting both quantitative and qualitative data, then content analysis does not qualify as mixed methods research. Is content analysis a separate approach or is data transformation also a part of mixed methods designs as suggested by Sandelowski et al. (2009)? What are appropriate boundaries for mixed methods research?

Perhaps mixed methods is actually a subordinated set of procedures used within a large number of designs. I call this approach using a “framework” for conducting mixed methods procedures. It is basically the idea that some larger framework becomes a placeholder within which the researcher gathers quantitative and qualitative data (or conducts mixed methods procedures). This idea first surfaced when a participant at a workshop asked, “Is ethnography mixed methods research?” The sense of this question was that ethnographers have traditionally collected both quantitative and qualitative data and used both in their description and analysis of culture-sharing groups. Morse and Niehaus (2009) discussed this question, and concluded that many ethnographers do see their methodology as a distinct approach, and that ethnography needs to be viewed as independent of mixed methods.

But I wonder if seeing mixed methods as a subordinate procedure within ethnography is the most appropriate stance. Researchers seem to use mixed methods within larger frameworks of many types. Evidence for these frameworks comes from using mixed methods procedures within narrative studies (Elliot, 2005), experiments (Sandelowski, 1996), and case studies (Luck, Jackson, & Usher, 2006). Other frameworks can be seen as well, such as using mixed methods within a social network analysis (Quinlin, 2010), an overarching research question (Yin, 2006), a feminist lens (Hesse-Biber & Leavy, 2007), or in action research (Christ, 2009). If the mixed methods designs can be stretched to include these different frameworks, then the potential for extending use of mixed methods in many ways is possible. But where is the boundary between mixed methods and other designs? Is a boundary needed? If mixed methods researchers are claiming other designs for their own, can their claims be justified?

■ VALUE ADDED?

Regardless of the design and whether it is appropriate, the utility of mixed methods research—from a pragmatic approach—is tied to whether it is a valuable approach. In our earlier definition (Creswell & Plano Clark, 2007), we end with the assumption that the combination of methods provides a better understanding than either quantitative method or qualitative method alone. Can this assumption be substantiated? In tracing the recent history of mixed methods, I referred to a question asked by the president of Sage Publications during a luncheon meeting. He asked me, “Does mixed methods provide a better understanding of a research question than either quantitative or qualitative research alone?” (Creswell, 2009b, p. 22). This difficult question is central to justifying mixed methods and giving it legitimacy. Unfortunately, it remains unanswered in the mixed methods community.

I can provide a hypothetical series of studies on how it *might* be addressed. One approach is to turn to research procedures used in early studies that compared participant observation with survey results (Vidich & Shapiro, 1955) or interviews with surveys (Sieber, 1973) and examine if the two databases converge or diverge in understanding a research problem. A second approach is to proceed with an experiment in which groups of readers examine a study divided into a qualitative, a quantitative, and a mixed methods part. In this experiment, outcomes are specified such as the quality of interpretation, the inclusion of more evidence, the rigor of the study, or the persuasiveness of the study, and the three groups could be compared experimentally. A third approach is to examine some outcomes suggested by authors of published mixed methods studies. One such outcome might be “yield,” such as that advanced by O’Cathain, Murphy, and Nicholl (2007), in which they assess it by the number of publications and whether the authors of a mixed methods study actually integrate the data. Other outcomes could be

analyzed using qualitative document analysis approaches, and themes developed from statements of value posed by authors of mixed methods empirical articles and methodological studies. For example, authors from the field of communication studies suggested that the value of mixed methods lies in addressing limitations in the results learned from one method:

To address more thoroughly this question, and account for some of the possible limitations of study-one, a broader based assessment of students’ involvement in intercultural communication courses was pursued. (Corrigan, Pennington, & McCroskey, 2006, pp. 15–16)

Other options may also exist. The mixed methods community does not have an adequate answer to this controversy, and so I ask: When and how can we begin to answer this question? Does a mixed method better address the core research question being asked in a study than either quantitative or qualitative alone? What criteria should be used in assessing it? Why have mixed methods researchers not pursued this issue more vigorously?

■ CONCLUSION

Striking at the heart of its existence, critical comments about mixed methods are being made about its meaning and definition (raising concerns about expectations, as I learned at Aberdeen). The form of this conversation has been to debate whether mixed methods is a “method,” a “methodology,” some combination, or a way of seeing. Related to this larger issue is whether it is a “new” way of researching, reinforces a slanted use of terms, and creates a false binary distinction between quantitative and qualitative data (and research).

Assuming that mixed methods researchers take paradigms (i.e., worldviews, beliefs, values) seriously (an assumption that several writers have questioned; see Holmes, 2006, and Sale, Lohfeld, & Brazil, 2002), I see the paradigm discussion as an important discussion in the mixed methods literature. Diverse stances have emerged from a single paradigm perspective, such as pragmatism or the transformational-emancipatory perspective, to multiple paradigm use in a dialectic approach, and to relating the paradigm to the design. Some discussion has moved away from which one paradigm, or how many to use, to a focus on paradigm use within communities of scholars. Still, critics are concerned about whether the current approaches to mixed methods privilege postpositivist thinking and create discourses that “fix” the otherwise messy content of mixed methods.

No subject has been so widely discussed in the mixed methods literature as its designs and its methods. This emphasis places importance on the methods, sometimes at the expense of minimizing the importance of the research question in directing scholarly inquiry (Gurtler, Huber, & Kiegelmann, 2007). At other times, critics of the mixed methods literature see a baffling list of different types of designs with unusual names, the

potential of mixed methods claiming many more designs than it deserves, and having questionable outcomes.

The implications of these controversies are that many of them are interrelated and my sorting them out here is contrived—a heuristic. When authors talk about the controversies, I have found their discussion to cover many topics rather than an in-depth analysis of any one controversy. Also, the range of controversies is quite extensive, stretching from basic issues of the legitimacy and meaning of mixed methods to its philosophical underpinnings, and on to the pragmatics of conducting a mixed methods study. Fundamentally, my position is that the mixed methods community needs to squarely place these controversies on the table for discussion and honor their presence.

Some readers will say that I have overlooked critical controversies such as the relationship of research problems to methods, validity, and evaluation of mixed methods, the writing of a mixed methods study, and the common question of “who cares about methods?” Other readers will undoubtedly see my views as deliberately “transgressive” (Richardson, 1997): a turn to challenging mixed methods rather than advocating for it. Others will see my remarks as an attempt to open up the discourse about mixed methods, much like I have advocated in authored and coauthored editorials for the *Journal of Mixed Methods Research*. Still others might consider my justifications both for and against the issues as evidence of postpositivist leanings (or even worse the creation of new metanarratives). All of these renderings may be both right and wrong. As a pragmatist, I can confidently say that I am interested in the consequences of this discussion of controversies, the seeds of which were sprouted at Aberdeen. Perhaps rather than finding irony in the space of Elphinstone Hall in Scotland, I should have seen instead the long shadows that the walls were casting. In the end, I advise those interested in mixed methods to reassess their commitment to controversies now being raised. As Kuhn (1970) said, “A revolution is for me a special sort of change involving a certain sort of reconstruction of group commitments” (p. 181).

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