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Is Mixed Methods Social Inquiry a Distinctive Methodology?

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This article addresses the merits of and warrants for considering mixed methods social inquiry as a distinctive methodology. In each of four methodological domains—philosophy, methodology, practical guidelines, and sociopolitical commitments—the status of the mixed methods field is reviewed. Signal accomplishments are noted in each domain, as are important priorities for further development.

Keywords: *philosophy; methodology; practical guidelines; sociopolitical commitments*

It has been about 20 years since the beginnings of the current groundswell of conceptual interest in mixed methods approaches to social inquiry. Well before this conceptual groundswell, social scientists in highly practical fields—for example, education, nursing, and especially evaluation—had been routinely using a diversity of methods in their work (Datta, 1994). These practitioners sought to use various methods because the practical demands of the contexts in which they worked called for both generality and particularity. And they called for defensible patterns of recurring regularity as well as insight into variation and difference. And they called for results that conveyed magnitude and dimensionality as well as results that portrayed contextual stories about lived experiences. And they called for dispassionate neutrality as well as engaged advocacy for such democratic ideals as equity and justice. In many important ways in these quintessential fields of practice, the development of conceptual and theoretical ideas about mixing methods in social inquiry has followed the lead of innovative and thoughtful inquiry practitioners. My own immersion in the field, in fact, was anchored in a review of a sample of mixed methods evaluation studies (Greene, Caracelli, & Graham, 1989).

In other social science fields—including several attuned to macro perspectives of social life, such as demography and development economics—interest in mixing methods has arisen more from theoretical and epistemological concerns than from practice. The field of anthropological demography, for example, itself represents a blend of a pragmatic, realist, large-scale perspective with a sociocultural, interpretive, localized perspective, a blend that evolved through conceptual pathways over the latter half of the 20th century (Kertzer & Fricke, 1997). From the perspective of anthropology, for both traditional anthropological topics (marriage, kinship, property inheritance) and especially topics related to population changes, there was a conceptual need to link social behavior to wider social systems to meaningfully make interpretive sense of localized phenomena. ''Unless

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demographic variables were taken into account, even basic ethnography would be misleading and inadequate" (Kertzer & Fricke, 1997, p. 10). And from the perspective of demography, traditional demographic theory and epistemology were found to have insufficient explanatory power, notably in an infamous study of the 20th-century decline of fertility in Europe referred to as the Princeton study (Kertzer & Fricke, 1997). This study found that "cultural setting influenced the onset and spread of fertility decline independently of socioeconomic conditions" (Knodel & van de Walle, 1986, quoted in Kertzer & Fricke, 1997, p. 11). This kind of theoretical failure steered demographers to attend to cultural factors and to reanchor their traditional quantitative thinking in ethnographic insight and theory (Rao, 1997).

So, to date, the development of mixed methods theory has involved a dynamic interplay with creative practice in highly practical fields and with the felt limits of traditional theory in fields with strong disciplinary theoretical traditions. This has been generative and productive for the field, will likely continue to be so as the field develops, and so should be actively encouraged and nurtured. This view—about the importance of the dynamic interplay between theory and practice or between thinking/knowing and acting/doing—is actually a hallmark of Deweyian pragmatism. Because pragmatism is a leading contender for the philosophical champion of the mixed methods arena, I will return to this idea shortly.

So, is mixed methods social inquiry a distinctive methodology? This article engages this question by (a) reviewing what we know about mixed methods approaches to social inquiry, as represented by the accomplishments of many distinguished thinkers and contributors to the field; and (b) considering what important questions remain to be engaged, or what are some priorities for a mixed methods research agenda (for those of us weird enough to persist in being fascinated by questions of method). I will then offer a tentative position on the key question regarding the distinctiveness of a mixed methods approach to social inquiry. Is the field moving in that direction? What is needed for mixed methods to become a distinctive methodology? And why is this important, or is it?

A Framework for Social Science Methodology

I have organized these considerations and reflections using a generic framework for the constituent components of any social science methodology (Greene, 2006). This framework has four domains.

Philosophical Assumptions and Stances

This domain is anchored in the philosophy of science and includes assumptions about the nature of the social world (ontology) and about the nature of warranted social knowledge (epistemology). This domain also includes stances on related philosophical issues, such as objectivity and subjectivity and the role of values, context, and contingency in social knowing. In addition to these traditionally paradigmatic issues, Domain 1 includes conceptual perspectives related to the core constructs and theoretical predispositions of particular disciplines, for example, the monitoring and regulatory functions of metacognition in psychology. Further associated with Domain 1 are the beliefs and value commitments that

underlie philosophical and theoretical stances. Broadly, this domain refers to what philosopher Denis Phillips (1996) called the "mental model" of the inquirer—a construct that is messier and less rarified than philosophical paradigms, but also fuller and enriched by both substance and experience.

Inquiry Logics

Domain 2 constitutes what is commonly called "methodology" in the social sciences—notably, inquiry purposes and questions, broad inquiry designs, sampling logics, analysis options, criteria of quality for both methodology and inference, and defensible forms of writing and reporting. Distinctive to Domain 2 are the justifications for a given methodological logic and its constituent parts. "A strong inquiry logic is substantiated by coherence and connection among the constituent parts. The separate parts need to fit together and work together to enable—from the perspective of a given inquiry approach—defensible data gathering, analysis and interpretation" (Greene, 2006, p. 93).

One example of a time-honored inquiry logic is that associated with survey research. Survey research answers questions about incidence, frequency, and co-occurrence of social phenomena for a given population. Critical to the quality of survey research are parameters related to the representativeness and size of the samples obtained, needed for purposes of generalizing to the overall population, and parameters related to the accuracy of responses, needed for reliability of inference, among others. In addition, comprehensive presentation of descriptive survey research results aids in supporting the results from more inferential analyses. These characteristics of survey methodology are integrated and justified by their common purpose of generating accurate incidence information on selected phenomena for a given population of interest.

Guidelines for Practice

Domain 3 offers specific guidelines for practice. Domain 3 is the "how-to" of social inquiry and follows on directly from Domains 1 and 2. It focuses on practical advice rather than philosophical and theoretical stances (Domain 1) or justificatory logics for a particular way of studying a social phenomenon (Domain 2). For a given mental model and inquiry logic, Domain 3 offers guidance on specific alternatives for inquiry design; sampling; and data gathering, analysis, interpretation, and reporting.

To illustrate, again for the tradition of survey research, Domain 3 specifies how to conduct different kinds of survey sampling, for example, stratified random sampling or cluster sampling; how to write clear survey questions that minimize random error in responses; how to secure a strong response rate (Dillman, 1978); how to fill in or compensate for missing data in analyses; and how to construct tables and displays that present and support defensible survey results.

Sociopolitical Commitments

Finally in Domain 4, the location of the inquiry in society is articulated—whose interests are being served, what broad purpose is being fulfilled by the study, in what ways is

the study engaged with the inevitable politics of the context in which it is situated? Domain 4 thus concentrates on the location of social science in society, for example, as an advisor to government decision makers or, in contrast, as a social critic. Although not independent from the other domains, especially Domain 1, the role of science in society is a distinctive issue.

Now, in the heart of this article, I will visit each domain and ask the following questions:

1. What do we know about mixed methods inquiry in this domain, or what has the field accomplished to date regarding these issues?
2. What important questions remain to be engaged, or what are some priorities for an ongoing mixed methods research agenda?

Clearly, I will only provide partial answers to these questions because complete answers would exceed space limitations and because my perspective is but one among many.

Domain 1—Philosophical Assumptions and Stances

What Do We Know? What Have We Accomplished?

We know a lot about the assumptive frameworks within which social inquirers today conduct their work. We know this as part of the aftermath of the "great qualitative–quantitative debate" of the past century. Many of us who participated in this debate were catalyzed by it to learn about the philosophy of science, and the grand debates therein, like between realism and constructivism as ways of knowing, or between objectivity and subjectivity as stances of the inquirer. Now, programs in social science methodology routinely include readings and coursework on these philosophical issues. And so now, many of us are that much more self-aware and self-conscious about our own assumptive frameworks, whatever they may be.

At the same time, questions regarding the possibility and sensibility of mixing these philosophical frameworks when we mix methods remain one of the most contested areas in the theory of mixed methods. Can one simultaneously hold contrasting, even competing, assumptions about what matters in human action? Is it possible for one inquirer to dialectically tack (Geertz, 1983) or make mind shifts (Patton, 2002) between up-close and distant perspectives or between thinking about generalities and honoring contextual particularities? Or, as stated for the field of population studies, "Are the anthropologists' critical stance and their willingness to consider . . . the 'radical possibility of non-intervention' fundamentally incompatible with the interventionism of public health and family planning programs?" (Obermeyer, 1997, p. 816). One way to represent what we have come to understand regarding these questions is that there are two principal issues involved.

1. What is the character and value of traditional philosophical paradigms, or mental models rooted in traditional paradigms, for social inquiry?
2. What role do paradigm assumptions and stances or mental models play in social research and evaluation practice?

Table 1 offers one way of portraying the conceptually different stances on these issues in the literature. In this table, traditional paradigm assumptions refer to stances on the nature of the social world, the nature of the warranted knowledge we can have about that world, how we can come to know what we know, and what is important and valuable to study. The left column of the table addresses the question, "What is the character and value of traditional paradigms or mental models?" The entries in this column are differentiated primarily by (a) whether the different assumptions of different paradigms are viewed as commensurable/compatible and (b) the essential integrity and requisite coherence of the various sets of philosophical assumptions. The middle column of the table addresses the question, "What most importantly guides practical inquiry decisions?" Possible responses include paradigmatic assumptions and stances, requirements and features of the inquiry context, the conceptual nature of what is being studied and the relevant theoretical frameworks being employed, or some combination thereof. And finally the right column, "Mixed Methods 'Paradigm Stance,'" presents various positions in the mixed methods literature on the sensibility of mixing paradigms or mental models when mixing methods.

This table offers what various contributors *think* about the character, value, and role of traditional paradigmatic assumptions and stances in mixed methods inquiry.

What Important Questions Remain to Be Engaged?

There are many issues in the philosophical domain that warrant our continued attention as we strive to develop and legitimize a mixed methods way of thinking about and doing social inquiry. Two issues seem especially important.

First, what actually *does* influence inquirers' methodological decisions in practice? Table 1 is the theory, but what do social inquirers actually do when they make decisions in the field? And what influences those decisions? There has been a small amount of empirical work on this issue. Katrin Niglas (1999, 2004) reviewed samples of published articles in educational research journals and characterized the kinds of mixes evident in these articles at various points in the inquiry process, from inquiry intent to data analysis to representation and reporting. Then she made some inferences about what inquirers might have been thinking to guide their empirical work. A few years ago, the students in my graduate seminar in evaluation interviewed a small sample of evaluators about a recent study they had conducted and asked questions regarding key influences on these evaluators' methodological decisions. Interestingly, paradigm assumptions were rarely cited as important practical influences in this study or in the work by Niglas.

More studies of this kind are needed in this domain. A better understanding of what matters in practice will help mixed methods theorists think more smartly about this contested domain and revise and refine Table 1 or develop a more elegant successor. Our thinking about the nature and role of philosophical assumptions in our practice needs to make more practical sense, as well as offer possibilities to practitioners not yet envisioned, which is one key role of mixed methods theory.

A second important question warranting further engagement in this philosophical domain concerns the alternative paradigm stance, heavily favored by many members of the mixed methods community. This stance is favored because the various alternative

Table 1
Mixing Methods *and* Mixing Paradigms/Mental Models?

What Is the Character and Value of Traditional Paradigms or Mental Models?	What Most Importantly Guides Practical Inquiry Decisions?	Mixed Methods "Paradigm Stance"
The assumptions of different traditional paradigms are fundamentally *incommensurable*. Each paradigm represents a coherent whole, which must be respected and preserved.	Paradigmatic assumptions	Because the assumptions of different paradigms are incompatible, it is not possible to mix paradigms in the same study. PURIST STANCE (Lincoln & Guba, 1985)
The assumptions of traditional paradigms are not fundamentally incompatible, rather different in important ways. These differences are valuable and should be preserved to maintain methodological integrity while expanding the scope of the study.	Paradigmatic assumptions, as well as context and theory	Because the assumptions of different paradigms are importantly different, methods implemented within different paradigms should be kept separate from one another. COMPLEMENTARY STRENGTHS STANCE (Brewer & Hunter, 1989; Morse, 2003)
The assumptions of different traditional paradigms are different in important ways and remain valuable, but paradigms themselves are historical and social constructions and so are not inviolate or sacrosanct.	Paradigmatic assumptions, as well as context and theory	Engaging dialogically with paradigm differences can generatively yield new insights and understandings. DIALECTIC STANCE (Greene & Caracelli, 1997; Maxwell & Loomis, 2003)
Historical philosophical incommensurabilities among paradigms are reconcilable through new, emergent paradigms, such as pragmatism, scientific realism, or transformation–emancipation.	The assumptions and stances of new paradigms that actively promote the mixing of methods, along with context and theory	ALTERNATIVE PARADIGM STANCE (Howe, 2003; Johnson & Onwuegbuzie, 2004; Mertens, 2003; Teddlie & Tashakkori, 2003; others)
The assumptions of various traditional paradigms are logically independent and therefore can be mixed and matched in varied combinations.	The practical characteristics and demands of the inquiry *context and problem* at hand Paradigms help us think better but do not themselves guide practice	A-PARADIGMATIC STANCE (Patton, 2002; Reichardt & Cook, 1979)
The assumptions of various traditional or emergent paradigms may well be embedded in or intertwined with substantive theories.	The *substantive issues and conceptual theories* relevant to the study being conducted Paradigms help us think better but do not themselves guide practice	SUBSTANTIVE THEORY STANCE

Source: Greene (2007), Greene and Caracelli (1997), and Teddlie and Tashakkori (2003).

paradigms resolve, each in its own way, the historical incompatibilities that characterize paradigmatic assumptions in different traditions. For example, American pragmatism honors both realism and constructionism in its transactional (human–environment interaction) view of human behavior. Yet for practitioners to be meaningfully guided by an alternative paradigm, they must not only understand it but also understand just *how* it is intended to influence their methodological decisions. Donna Mertens (2003) has offered a fine beginning on this challenge for her commitments to a transformative or emancipatory paradigm. Those favoring scientific realism or some version of American pragmatism need to do the same. Burke Johnson and Tony Onweugbuzie (2004), among others, have started to help educate interested mixed methods readers on just what pragmatism is. But just how do the assumptions and stances of pragmatism influence inquiry decisions? For example, where do the consequentialist, actionable assumptions about social knowledge that are advanced in most pragmatic philosophies show up in practice? What does knowledge that integrates knowing and acting look like and how is it validated?

The mixed methods community will look forward to thoughtful progress on these philosophical issues, as well as others that compel our attention.

Domain 2—Inquiry Logics

What Do We Know? What Have We Accomplished?

Domain 2, the domain of what we commonly think of as methodology, has been the busiest site of development in the mixed methods literature so far. Progress has been made on most components of what constitutes a social science methodology—purpose, design, sampling, methods choice, analysis, quality criteria, writing up, and reporting. Highlights illustrating this progress on developing a mixed methods methodology include the following.

Methods serve inquiry purposes. Consistent with all social science methodologies, there is wide agreement in the mixed methods community that methodology *follows* from inquiry purpose and questions. Different kinds of mixed methods designs make sense for different kinds of inquiry purposes and questions, for example, purposes of hypothesis testing or explanation, or purposes of understanding or democratization.

Design. There has been considerable development in the area of mixed methods design. This perhaps has been the single most active arena and includes the evolution of the work of Abbas Tashakkori and Charles Teddlie (Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2006), as well as contributions from Joe Maxwell (Maxwell & Loomis, 2003), John Creswell (Creswell, 2003; Creswell & Plano Clark, 2006), Robert Yin (2006), and others. Table 2 offers a representation of the key dimensions along which mixed methods designs can and do differ. The primary dimensions are featured in nearly all mixed method design frameworks, typologies, or discussions. The secondary dimensions are featured in some of them.

With respect to the first dimension in this table, Teddlie and Tashakkori (2007) have recently asserted that a study that does not integrate methods in at least one inquiry phase

Table 2
Key Dimensions of Mixed Methods Designs

Design Dimension	Description
Primary dimensions	
Independence/interaction	The degree to which the different methods are conceptualized, designed, and implemented independently or interactively *When* the mixing happens—primarily at the end (drawing of inferences) or throughout the inquiry
Status (parity, dominance)	The priority or dominance given to one methodology or another versus the equality of methodologies
Timing	Whether the different methods are implemented concurrently or sequentially
Secondary dimensions	
Transformative intent	Presence or not of an explicit action or political agenda in the inquiry
Study	Whether the mixing happens within one study or across coordinated studies in a program of research
Strands/phases	Number of different strands that are mixed in a study
Methods characteristics	The character and extent of the offsetting differences (in bias, perspective, stance) in the methods being mixed

is really a "quasi–mixed methods study," suggesting the central importance of this first dimension in mixed methods work.

In my own work, I have also offered a set of purposes for mixing, derived originally from a synthesis of conceptual ideas and a review of empirical evaluation practice. In my thinking, these purposes—triangulation, complementarity, development, initiation, and expansion—are directly related to mixed methods designs. Different designs serve different purposes, for example, an intent of convergence (as in triangulation) compared to an intent of development (using one method to inform the development of another).

Some of these purpose-driven ideas about mixed methods design are echoed in the "Q-squared" mixed methods conversation within the international development literature on poverty appraisal. Kanbur (2005b), for example, noted that qualitative and quantitative methods can jointly contribute to inquiry findings through "examining, explaining, confirming, refuting, and/or enriching information from one approach with that from the other" (p. 18). And Booth (2005) endeavored to distinguish between varied mixed methods design possibilities that include iteration, linkage, triangulation, and convergence.

Data analysis. There has also been some work in the area of *integrated* mixed methods data analysis, although this work has not yet cohered into a widely accepted framework or set of ideas. Integrated analyses involve the joint and interactive analysis of data represented in different forms (for example, numbers and words) during the course of the study's data analysis. In some mixed methods studies (for example, a triangulation study), the mixing happens only at the point of making inferences. Although this is a nontrivial challenge, the more significant challenges lie in analyses that involve a mix of data types. Much of the excellent work to date in integrated analysis constitutes exemplars from the

Table 3
Integrated Mixed Methods Analysis Strategies

Analysis Phase	Mixed Methods Analysis Strategy
Data transformation	Data transformation, one form to another (Teddlie & Tashakkori, 2003)
	Data consolidation or merging, multiple data sets into one (Louis, 1982)
Data comparison, looking for patterns	Data importation—using interim results of analyses of one data set to inform the analysis of another data set (e.g., extreme case analysis) (Li, Marquart, & Zercher, 2000)
	Integrated data display—presenting data from multiple sources in one display, thereby enabling cross-method comparisons and analyses (Lee & Greene, 2007)
Major analyses for inferences and conclusions	Warranted assertion analysis—iteratively reviewing all data for purposes of directly generating inferences (Smith, 1997)
	Pattern matching (Marquart, 1990)
	Results synthesis (McConney, Rudd, & Ayres, 2002)

Note: Mixed methods analysis strategies take place *after* data have been cleaned and descriptively analyzed. References cited characteristically refer to an example of the strategy noted.

field. I wonder if integrated analysis is a mixed methods methodological area in which practice may always take the lead?

Table 3 identifies some of the integrated analysis strategies that have emerged to date and the analysis phase for which they are relevant. Indeed, several of these strategies—including data transformation, data importation, and warranted assertion analysis—were originally identified from a review of mixed methods practice in the field of program evaluation (Caracelli & Greene, 1993).

Inquiry criteria. There is a bit more coherence in the mixed methods literature on the challenges of warranting our inquiry results, although good answers to the challenges of crafting mixed methods inquiry criteria are still in the development stage. One agreement that seems to have been reached is that methodological criteria of quality should come from whatever tradition that method is representing but that criteria for warranting inferences need to be blended or created anew somehow. For example, the quality of data can be judged by validity criteria from postpositivism or by narrative authenticity criteria from a narrative inquiry tradition. But the quality of inferences to be drawn from a study that includes methods from both of these traditions must be judged on something that somehow incorporates as well as respects and honors both validity and authenticity.

Ideas developed so far in response to these challenges include the following:

- Teddlie and Tashakkori (2003) have proposed the concept of *inference quality* and its constituent elements of design quality and interpretive rigor as standards for judging integrative mixed methods studies.
- Tony Onwuegbuzie and Burke Johnson (2006) have proposed the overall concept of *legitimation*, along with about 10 different forms of legitimation, as a way of judging the quality of mixed methods work. These forms include legitimation of sample integration, of inside and outside perspectives, and of results attributable to method sequencing. These authors further argued that the multiple forms or faces of legitimation are better thought of as "a continuous,

iterative, interactive, and dynamic process" than as a procedural, rule-guided construct relevant only to the warranting of inferences. I wonder if this way of thinking makes sense for all of mixed methods methodology?

- It has also been suggested that a good mixed methods study should generate some important insights or understandings that would not have been accomplished with one method or one methodology alone.

Writing up inquiry results. One final example of progress in the domain of inquiry logics concerns the appropriate approaches to representing and writing up the results of mixed methods work. I find Margarete Sandelowski's (2003) perspectives on this very compelling:

> Mixed methods studies engender a "crisis of representation" . . . all their own as they mandate that researchers/writers communicate across entrenched divides often separating writers from readers, in general, and qualitative from quantitative writers and readers, in particular. (p. 321)

Sandelowski observed that the challenges of representation and writing in mixed methods inquiry include combining or using quite different communication traditions that incorporate different technical criteria and norms, as well as different rhetorical and aesthetic criteria and norms. Sandelowski argued that qualitative and quantitative inquirers, specifically, belong to different "interpretive communities," with different understandings and expectations of a research text or an evaluation report, in particular what makes such a text or report appealing and persuasive. Mixed methods studies thus "call into question which appeals will produce the most convincing texts" (p. 322), especially when the anticipated readership of such texts is itself comprised of members from diverse communities.

At this point, these challenges of representation and writing remain challenges—with great potential, but as yet to be engaged with any depth. Mixed methodologists interested in this area are encouraged to consider the possible benefits of a mixed representational approach. Such an approach would intentionally incorporate different forms of writing and displaying inquiry results—including such quantitative forms as graphs, tables, and figures; and such qualitative forms as stories, poems, and performances; and even such spatial forms as maps and networks. I wonder if this mixed representational approach might be exceptionally well suited to fully honoring the mixing that goes on in mixed methods social inquiry?

What Important Questions Remain to Be Engaged?

Especially because there has been so much work in the methodological arena of Domain 2, many important questions have surfaced related to our collective striving to put meaningful form to the various components of a coherent and legitimate methodology. These include questions about ideas put forward to date and about the particulars of various methodological components. All of these are important. But let me raise a few that have perhaps not yet been voiced with sufficient amplitude and audience.

First, the design dimension of *methods characteristics* (see Table 2) has heretofore been somewhat neglected. Recall that this dimension refers to the character and extent of the offsetting differences (in bias, perspective, stance) in the methods being mixed. It is somewhat surprising that this dimension has not been at the forefront of mixed methods development, because it was just this feature that was heralded in the early days as a major rationale for mixing. The argument was that we can get better results, that is, results that are closer to the "truth," if we use a mix of methods with offsetting biases of error and perspective. Getting closer to the truth is recognized today as but one rationale for mixing methods. Even so, let me encourage all so inclined to take up this knotty challenge of unraveling with greater specificity the particular strengths and limitations of various methods of data collection, but to do so with caution that convergence may well be overrated in mixed methodological thinking.

Second, related to the first point, we have little conceptual or empirical work on how to choose particular methods for a given inquiry purpose and mixed methods purpose and design. Methods with what specific characteristics would best fulfill such purposes and design parameters? Some useful starting points here are provided by Kanbur (2005a) from the development field of poverty appraisal. Summarizing ideas that surfaced in a workshop on the use of both qualitative and quantitative methods for poverty appraisal, Kanbur observed that there was wide agreement that qualitative methods could valuably contribute questions to surveys that are grounded in the subjective lives of those being studied, while maintaining the rigorous sampling methods and predetermined scales that make surveys so useful. To give another example, surveys could contribute broad population-based sampling frames to qualitative studies, so that the particular individuals studied could be located within an overall population. The methodology of mixed methods inquiry can be advanced by systematic analysis of these and other specific ideas regarding the justification for particular mixes of methods' characteristics.

A third question to be addressed is, Around *what* does the mixing happen? In my own thinking and practice, the mixing happens at the level of construct or variable. I mix methods to get a better understanding of one or more of the constructs I am studying, for example, student learning, or teaching quality, or the social networks that characterize a given setting. But what do other people do? And what are our options here? Maybe we should mix around inquiry questions, or inquiry purposes? For example, could an inquiry purpose of hypothesis testing be well addressed by a quasi-experimental design in tandem with ethnographic observations of treatment implementation (see Maxwell, Bashook, & Sandlow, 1986)? More and better thinking is needed here.

And finally, what should a methodology of mixed methods look like? What are we aspiring to develop? We know that mixed methods practice is ever so much more complicated than mixed methods theory. For example, a given mix of two methods, say structured surveys and in-depth interviews, can accomplish several different mixed methods purposes and thus be characterized by several different mixed methods design dimensions. So, given that practice is more complicated and contextual than theory, are we aspiring to generate just one set of methodological principles and guidelines? Can one set really serve the field well? Or perhaps, to be true to the spirit of mixed methodological thinking, our theory should be itself multiplistic, iterative, interactive, and dynamic.

Domain 3—Guidelines for Practice

What Do We Know? What Have We Accomplished Regarding Specific Guidance for How to Practice Mixed Methods Inquiry?

Not very much conceptually, though there is an explosion of interesting, provocative, and probably very good mixed methods empirical practice. (I say "probably" very good, because we are still in the infant stages of understanding how to judge the quality of mixed methods practice.)

But perhaps there is a prior question here. What *are* the important issues of practice for mixed methods social inquiry? In other social science methodologies, practical guidelines concern how to ask good inquiry questions, construct a defensible design from among the options available, conduct appropriate sampling—be it random or purposeful, conduct appropriate analyses, and so forth. These are also the issues of practice for mixed methods inquiry because mixed methods inquiry is composed of practices from other methodologies. How to conduct a particular kind of sampling, for example, is not a question unique to mixed methods, although how to select and justify a mixed sample, one that integrates representativeness and purposefully selected "best cases," may well be. In fact, Onwuegbuzie and Johnson (2006) suggested that appropriate "sample integration" is one of the legitimation criteria upon which the quality of mixed methods inquiry should be judged.

Yet perhaps more central to the practice of mixed methods inquiry are practical guidelines about *how to mix*. It is the mixing that is distinctive to a mixed methods methodology, so perhaps our guidelines for practice ought to focus on this?

Pat Bazely from Australia has offered some exemplary thinking and practical guidance here in terms of how to mix data sets during the process of analysis (Bazeley, 2003). Her work focuses on importing and exporting data files back and forth from NVivo and SPSS. Her work focuses specifically on the practicalities (and conceptual challenges) of such data file exchanges. She works at the practical level of how to do this.

I am sure there are other instances of thoughtful developments in this domain of practical guidance. For sure, there are instances of creative and provocative practice. Here is one illustration of what creative practitioners are doing these days, from the field of geography (Knigge & Cope, 2005). The work actually represents a contribution in both Domains 2 and 3, as Knigge and Cope (2005) presented both their conceptual thinking and their step-by-step implementation of an integrative approach they called "grounded visualization." Grounded visualization integrates grounded theory analysis and geographic information systems (GIS) analysis, and for these authors, it is also anchored in feminist concerns about power and privilege. The example presented comes from a study of community planning in one economically depressed neighborhood of Buffalo, New York. One part of their analysis presents a map of this neighborhood, linked to all kinds of both qualitative and quantitative information, including census data, photographs, field notes, vignettes, and various hyperlinks. The authors observed that this descriptive representation, interesting and informative as it is, does not guarantee the integration of data from different sources in service of raising new questions or developing new insights. Later on in the analysis, the authors demonstrated how they used both ethnographic data and GIS data to construct an emergent understanding of the critical role of community

gardens in this neighborhood in terms of community identity and community survival. And they suggested in conclusion that

> grounded visualization is . . . a particularly geographical set of analyses that . . . is sensitive to *scale* issues, from local to global and back again; can integrate mobility and *flows* over both time and space; greatly depends on both qualitative and quantitative measures of *context* (historical and geographical); and . . . enables rich explorations of *place*." (p. 2035)

What Important Questions Remain to Be Engaged for the Domain of Mixed Methods Practice?

Substantial work on many fronts is needed in the domain of guidelines for mixed methods practice. Perhaps this work could productively concentrate first on identifying the unique aspects of mixed methods practice that deal specifically with mixing? Other candidates for priority issues, cited earlier in the Domain 2 discussion, are (a) how to choose particular methods in a given inquiry context and (b) around what does the mixing happen.

Furthermore, it is highly likely that much can be learned about generative and thoughtful mixed methods practice from the extraordinary explosion of provocative mixed methods empirical work *and* from more concerted and deliberative conversations across disciplines and fields of applied inquiry practice. Can we pursue reflective studies, as well as "talk-aloud" studies in which social inquirers share their thinking as they are engaging in an activity of interest, as one important and meaningful way to enhance our collective understanding of how to mix methods well? And can we encourage and enable conversations among educators and nurses, alongside anthropological demographers, development researchers, and micro-economists regarding their individual and shared mixed methods conundrums and opportunities? There is certainly much to be learned from fellow inquirers toiling in other contexts.

Domain 4—Sociopolitical Commitments

What Do We Know? What Have We Accomplished? What Important Questions Remain to Be Engaged?

For this final domain, the two sets of questions will be considered together, as this is a domain less readily separated into known and unknown. In addition, consideration of this domain affords the opportunity for me to answer the overall question posed in these remarks: Is mixed methods social inquiry a distinctive methodology? This is because what I think most importantly distinguishes one methodology from another is precisely this domain of whose interests are served by the inquiry and what political stances and value commitments are advanced.

This set of issues has been on the mixed methods radar screen for some time, thanks to the contributions of Donna Mertens and others, who have argued persuasively for using mixed methods in service of transformative and emancipatory intents (e.g., Mertens, 2003). In addition, the contributions of Mertens and other evaluation theorists and practitioners have foregrounded issues of audience, perspective, voice, and advocacy, as these

are issues integrally invoked in the social practice of evaluation. In parallel fashion, in development economics, Kanbur (2005a) has argued that the extant plurality of legitimate audiences in poverty appraisal studies—most important, policy makers and the voices of the poor themselves—underscores the value of mixed methods approaches to social inquiry.

Yet this domain remains unsettled. And in my view, that is a good thing. For unsettling the settled, challenging the taken-for-granted, offering a discordant voice in an otherwise harmonious choir—these represent the grand potential of mixed methods social inquiry. These represent what I have come to call a "mixed methods way of thinking" (Greene, 2007).

A mixed methods way of thinking is an orientation toward social inquiry 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. A mixed methods way of thinking rests on assumptions that there are multiple legitimate approaches to social inquiry and that any given approach to social inquiry is inevitably partial. Better understanding of the multifaceted and complex character of social phenomena can be obtained from the use of multiple approaches and ways of knowing. A mixed methods way of thinking also generates questions, alongside possible answers; it generates results that are both smooth and jagged, full of relative certainties alongside possibilities and even surprises, offering some stories not yet told (Greene, 2005). In these ways, a mixed methods way of thinking actively engages us with difference and diversity in service of both better understanding and greater equity of voice (Greene, 2007).

Reprise

So yes, I believe that the mixed methods approach to social inquiry has the potential to be a distinctive methodology within the honored traditions of social science. I believe this because a mixed methods approach embraces multiple paradigmatic traditions and has or will have distinctive methodological components and distinctive markers of practice. But mostly I believe this because a mixed methods approach to social inquiry *distinctively* offers deep and potentially inspirational and catalytic opportunities to meaningfully engage with the differences that matter in today's troubled world, seeking not so much convergence and consensus as opportunities for respectful listening and understanding.

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