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Putting the Human Back in "Human Research Methodology": The Researcher in Mixed Methods Research

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When we were asked to write an editorial for *Journal of Mixed Methods Research*, the request came as an invitation to share some of our ''insights'' about mixed methodology and its trajectory, based on our experiences with the second edition of the *Handbook of Mixed Methods in the Social and Behavioral Sciences* (hereafter referred to as the *Handbook*; Tashakkori & Teddlie, 2010). In this editorial, we share with our current readers some of the personal reflections, intellectual challenges, and professional struggles that we experienced during what we have called ''the journey.'' It is hoped that these reflections will summarize and expand on the comments we made in the Preface and Epilogue of the *Handbook*.

We chose the title for this editorial for at least two reasons. One is that we would like to share our own reflections as human researchers, hoping to demonstrate that we have evolved from technocrats to methodologists. Second, we hope to convey our belief in the fact that human researchers are, more than anything else, human themselves. As such, they enjoy the capabilities of human problem solvers, while trying to identify and reduce the perils and pitfalls that are at times evident in our day-to-day problem solving. We will suggest that mixed methods capitalize on these capabilities, while also increasing the potential for credible and trustworthy conclusions.

Reflections on the *Handbook*

We initiated the *Handbook* in the late 1990s, immediately following our first book on mixed methods (Tashakkori & Teddlie, 1998) with some trepidation and uncertainty about its salience to the social and behavioral sciences. From our point of view, combining qualitative and quantitative approaches for answering complex social research questions seemed a nonissue (or in many cases, a *no-brainer*). We asked ourselves, ''Doesn't everyone do this? Don't most practitioners in applied research or evaluation areas already use mixed methods?'' We had both graduated with degrees in ''experimental'' social psychology in the late 1970s, but we also had deviated almost immediately from the mainstream quantitative research tradition in our own research and evaluation endeavors.

The first edition of the *Handbook* provided an opportunity to gather a community of scholars to engage in discussions regarding the merits of mixed methods research, its feasibility, and its

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limitations. The first community consisted of a talented group of authors who were already practicing mixed methods in their own diverse fields. Probably more than any other source at that point in time, the first edition of the *Handbook* demonstrated the diversity and richness of ideas about mixed methods, both within and across disciplines.

The second edition of the *Handbook* (an entirely new volume that could easily be labeled Volume 2) was conceptualized in the context of much more pervasive and, at the same time, controversial discussions within what by now has been identified as a methodological field[1] (e.g., Creswell, 2010; Greene, 2008; Mertens, 2010) that has been both widely praised and strongly criticized. We were able to substantially expand the community of mixed methods scholars by incorporating many new authors from across the globe and across disciplines. By the time we started our work on the second edition, mixed methods research had expanded considerably to the point that we felt it was approaching a point of entropy. We were concerned that the community of mixed methods scholars was finding it increasingly difficult to keep the diverse ideas connected and together. Compared with our earlier attempt, in the second edition we were mindful of the need to create connections between rich and disparate conceptualizations in mixed methods. As a result, we strongly encouraged our authors to attempt to bridge inconsistent conceptualizations, consolidate disparate ideas, and try to create overarching conceptual frameworks to incorporate interrelated concepts and methods.

With varying degrees of success, the second edition of the *Handbook* presents many innovative new understandings that resulted from syntheses of the diverse current ideas in the field. However, despite success in resolving some of the old controversies and contradictions in mixed methods research, many new issues also emerged in the second edition. Among them is the issue of pedagogy (and in-the-field training) as a difficult and controversial area in mixed methods research (and research methodology, in general), as evident in the struggles of ''first generation'' instructors teaching graduate students how to actually do integrated research. Also, the second edition demonstrates a discernible shift from describing mixed methods and its legitimacy/feasibility, to systematic discussions of a unified field with clear definitions of methodological concepts and innovations that should provide overall guidance for the next generation of scholars.

An undercurrent of this unified field is a realization that mixed methods is paradoxically both new and old. It is old with deep-seated roots in social science research and evaluation. It is new with a defined set of methods and language that did not exist before, subscribed to by an emerging community of practitioners and methodologists across the disciplines. It is solidly based on a rejection of the dichotomy between the qualitative/quantitative approaches and enjoys a distinct nomenclature, methodology, and utilization potential. As such, it represents a third methodological movement, with a core of common ideas that binds the community together and constructs an identity for the scholars in the community.

There are also disagreements within this community. One is centered on the need for or the importance of convergence of ideas through developing bridges between diverse conceptualizations of mixed methods, nomenclature, design issues, and so forth. Although diversity is a major strength of mixed methods, that diversity should be assessed in a reflective context to prevent the duplication of ideas, inconsistent terminology, chaotic classifications, and burdensome pedagogy.

An emerging issue in the community (and beyond) is the utilization quality of mixed methods. A fundamental assumption about mixed methods research in the social, behavioral, and health sciences is that it might potentially provide a better (broader, more credible) understanding of the phenomena under investigation than a dichotomous qualitative/quantitative approach. This is certainly assumed for complex questions that may not readily be answered by either qualitative or quantitative approaches alone. As a consequence, it is also assumed that, because of its potential for broader understanding of social issues, mixed methods provides more robust

Table 1. Contemporary "Core" Characteristics of Mixed Methods Research

Characteristic Number	Description of Characteristic
1	Methodological eclecticism
2	Paradigm pluralism
3	Emphasis on diversity at all levels of the research enterprise
4	Emphasis on continua rather than a set of dichotomies
5	Iterative, cyclical approach to research
6	Focus on the research question (or research problem) in determining the methods used within any given study
7	Set of basic "signature" research designs and analytical processes
8	Tendency toward balance and compromise that is implicit within the "third methodological community"
9	Reliance on visual representations (e.g., figures, diagrams) and a common notational system

Note. Adapted from Teddlie and Tashakkori (2010).

opportunities for devising policies and practices to implement positive change. Although there is informal evidence supporting this, formal explorations remain to be conducted.

Another emerging issue requiring further discussion is reflected in our second reason for choosing the title of this editorial. We believe that mixed methods research blurs the dichotomy between ''researchers'' and ''human problem solvers.'' We believe that the mixed approach closely parallels everyday human problem solving in a way that neither qualitative nor quantitative methods alone can do. Everyday problem solvers use multiple approaches (similar to qualitative and quantitative pathways) concurrently or closely in sequence and examine a variety of sources of evidence in decision making (and in forming impressions). As naïve researchers, individuals question the credibility of the existing evidence on which their impressions are based, and they evaluate the conclusions and decisions that emerge in response to this active process of seeking, evaluating, organizing, and interpreting the evidence. We contend that mixed methods emphasizes this humanistic conceptualization of the research process more so than the other two monolithic methodological approaches/movements. In such a humanistic framework, incompatibility issues are irrelevant.

The Mixed Methods Researcher as Everyday Problem Solver

We summarized nine general characteristics of mixed methods research in the second edition of the *Handbook* (see Table 1). We would like to discuss four of these characteristics that are the most directly related to everyday problem solvers: focus on the research question in determining the methods used in any given study, emphasis on diversity in methods (and at all levels of the research enterprise), methodological eclecticism, and an iterative, cyclical approach to research.[2]

An everyday problem solver must first decide which issues he or she is interested in addressing through his or her behaviors. For example, a principal new to an elementary school with chronic underachievement must first determine which of the myriad possible actions she could take that would result in greater academic success for the students at her school. To do so, she must first scan the contextual environment at her school and determine the most important factors that might be negatively affecting student performance. Prominent candidates would probably include faculty instructional weaknesses, lack of student preparation at the point of entering the school, a general negative school climate based on repeated lack of success, and so forth. The principal must identify which of these issues is of greatest concern and which could yield the

most immediate results. These identified issues then become the focus of her efforts to solve the problem of student underachievement.

Similarly, once a researcher has a purpose for conducting an investigation into a phenomenon of interest, he or she must articulate the questions that will drive the project. These research questions focus and extend the specific research activities that will be undertaken. In developing these questions, the researcher must be aware of the contextual environment within which the study will occur, just as the everyday problem solver (the principal) described above must assess the specific factors that might be negatively affecting student performance.

Research questions are often multifaceted in the human sciences since the phenomena of interest are highly complex and intertwined with one other. Researchers immersed in a topic area are typically not only interested in what has happened (causal effects) but also in how or why it has happened (causal mechanisms). The multidimensional nature of many, if not most, social and behavioral phenomena is the reason why mixed methods are often required in research addressing those phenomena.

Plano Clark and Badiee (2010) concluded that ''research questions set boundaries to a research project, clarify its specific directions, and keep a study from becoming too large'' (p. 277). Dissertation advisors and evaluation consultants are well aware of the importance of the articulation of research questions by their students and clients. Until students or clients can state these questions in a way that leads to a researchable topic, their projects lack focus and boundaries. Unarticulated questions for a researcher are like undetermined issues for an everyday problem solver. To summarize, the processes of issue identification for the everyday problem solver and the generation of questions for the researcher are virtually the same.

Once issues have been identified, our everyday problem solver again scans the environment for possible actions that might be relevant to those issues in her specific context. Suppose our hypothetical principal selected faculty instructional weaknesses and student lack of preparation as the issues she will address in the first 3 years of her evolving school improvement plan. At the onset of the implementation of the plan, the principal would maximize options for addressing these issues. For example, her interventions for addressing faculty weaknesses might include general staff development (once overall areas for remediation have been established), specific intensive staff development for teachers with identified inadequacies, and hiring of new faculty members. At this stage of the intervention, the everyday problem solver would go ''horizontal'' seeking the widest variety of interventions that might address the issue of faculty instructional weakness.

Similarly, once specific questions have been formulated, a researcher should consider the most diverse array of methodological tools available to answer those questions through a process we call *methodological eclecticism*. This process is a natural extension of pragmatism's rejection of the either–or (Howe, 1988; Teddlie & Tashakkori, 2009), which is a hallmark of the mixed researcher's approach toward conducting research. The traditional dichotomous either–or options (quantitative approaches or qualitative approaches) are replaced by continua of options that stretch across both methodological and philosophical dimensions (Tashakkori & Teddlie, 2003).[3] Niglas (2010) has extended this discussion through her multidimensional model of research methodology, which includes the placement of specific research methods within a multidimensional space generated by a variety of methodological and philosophical continua.

A simple analogy applies to both the everyday problem solver and the social/behavioral science researcher. Consider being lost in the woods with a compass, a basic cell phone, and a flashlight. Who would throw away (ignore) any of these tools? The more diverse the tools, the better your chances are of getting out of the woods, or truly answering your research questions.

The next step in the process for the everyday problem solver is to go ''vertical'' by selecting those actions most likely to effectively address the identified issues. Sternberg et al. (2000) stated

that successful everyday problem solving involves ''carefully fitting strategies to the specific demands of a problem and modifying these strategies in response to the problem'' (p. 54).[4] For our hypothetical principal, this would involve selecting the most efficacious interventions for remediating faculty instructional weaknesses and countering students' lack of preparedness for school. For example, which of the interventions noted above (general staff development for all teachers, tailored staff development for selected teachers, hiring new teachers) is more likely for short- or long-term success in improving the faculty's instructional skills? Should these interventions occur simultaneously or be phased in over time? Should the teacher and student issues be addressed concurrently or sequentially? The principal's decisions will be based on both her educational and experiential backgrounds, plus the context of the specific school in which she is working.

Although using a different type of data, more sophisticated methods of analysis, and more stringent standards of evidence and inference, a mixed methods researcher follows the same general path that the everyday problem solver does in making these crucial decisions. When a mixed researcher goes ''vertical'' by selecting the best methods available, we refer to him or her as a *methodological connoisseur* ''who knowledgeably (and often intuitively) selects the best techniques available to answer research questions that frequently evolve as a study unfolds'' (Teddlie & Tashakkori, 2010, p. 8).

How does one become a methodological connoisseur? As noted earlier, issues of pedagogy and training are critical to the further development of mixed methods as a separate methodological field. Although there have been several important additions to the literature on mixed methods pedagogy (e.g., Christ, 2010), the issue of the training required to *actually do* mixed methods research has only been discussed occasionally (e.g., Shulha & Wilson, 2003).

Experiences on mixed methods research teams can do much to create and enhance methodological connoisseurship.[5] Researchers become more competent in various research methodologies as they work collaboratively on projects where they see others applying problem-solving skills to research issues from a methodological perspective different from their own. For instance, a recent study quoted one of the researchers (a graduate student) as follows:

> My participation in a mixed methods project expanded my horizons from research methodology as a debate between paradigms that dealt with ''people versus numbers'' and from an understanding that abstract debates between ''either/or'' actually, and quite compellingly, dialectically resolve into an ''and.'' (Jang, McDougall, Pollon, Herbert, & Russell, 2008, p. 243)

This qualitatively oriented researcher had originally been concerned about how she could contribute to the quantitative component of the study. She commented that her in-depth understanding of the qualitative data led her to seek a better understanding of the statistical analyses and graphic displays, which she discovered to be ''full of life.'' This novice researcher appears to be on the road to becoming a methodological connoisseur.

A final step in the process for the everyday problem solver and the social/behavioral scientist alike involves their having an iterative, cyclical approach to their work. Everyday problem solvers want to get to deeper levels of understanding regarding the issues they face within the context of where they work and beyond. For instance, our hypothetical principal knows that school improvement never ends because schools are ''living organisms'' that are forever getting better or worse in terms of educating their students. It is the mission of school improvers to sustain progress by refining their interventions and seeking other aspects in the organization to develop.

Similarly, social/behavioral researchers are constantly seeking deeper understandings of the complex phenomena they study, knowing that these behaviors are ''historically perishable'' (i.e., they change over time) and that the dissemination of research knowledge regarding these

behaviors may alter their patterns (Gergen, 1973). There is a characteristic ''ebb and flow'' to mixed research that exemplifies its constant search for better, however elusive, understandings of social/behavioral phenomena.

Undoubtedly, the idea of putting the ''human'' in human research methodology is not new. Neither is considering the process of research an extension of authentic problem solving of ''naïve researchers.'' It is hoped that keeping these two ideas in the front and center of our discussions of methodology will lead to a broader understanding of how the diverse ideological and methodological approaches may be bridged in solving policy and practice problems. Mixed methods research provides a vehicle for such a broader understanding.

Notes

1. There has been a longstanding controversy regarding the use of the terms *mixed methods* and *mixed methodology*. We believe that a research methodology is a general approach to scientific inquiry involving preferences for broad components of the research process, whereas research methods are specific strategies for conducting research. Although we believe the field is maturing to the point that it could be referred to as *mixed methodology*, the term commonly used throughout the literature is *mixed methods research*. Therefore, we use ''mixed methods research'' in this editorial with a few exceptions where ''mixed methodology'' is used to emphasize the point that the field is evolving into a methodology. This issue is an example of the language problems that face any emerging area of inquiry.
2. For a concise discussion of assumed differences between the naïve (our term) and ''scientific'' researchers, please see Kerlinger and Lee (2000, p. 5). Alternatively, Fabes, Martin, Hanish, and Updegraff (2000, p. 213) blur this distinction by suggesting that researchers' temperament, interests, personality, beliefs, drives, and curiosity are at the core of any research they conduct.
3. Johnson and Gray (2010) refer to this antidualistic stance as *synechism*, which involves replacing binaries with continua.
4. This concept of everyday problem solving is similar to Biesta's (2010) description of *everyday pragmatism*, which calls for the utility of specific research means (often mixed methods) for specific research ends.
5. There are descriptions of several such teams in the second edition of the *Handbook* (e.g., Bamberger, Rao, & Woolcock, 2010; Lieber & Weisner, 2010; Sammons, 2010; Song, Sandelowski, & Happ, 2010).

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