

An Emerging and Exciting Future for Mixed Methods Research Design: *Handbook* Conclusions

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Throughout the development of this *Handbook*, I wondered how I might conclude this journey.

My aim as *Handbook* Editor was to offer a global perspective of how researchers are leveraging the dilemmas and opportunities for mixed methods research designs with the aim to inspire mixed methods research design innovations (see also Chapter 1). This work has been influenced by thought-provoking conversations with, and my reading of insightful literature by, many members of the global mixed methods research community. As noted throughout this *Handbook*, mixed methods design holds unique potential for planning, conducting and communicating innovative processes, as well as for generating novel outcomes that have been previously inaccessible by either qualitative or quantitative approaches alone. The established and emerging innovators included in this *Handbook* break new ground in their chapter descriptions of the oft hidden influences on their mixed methods research designs. I thank all the *Handbook* contributors for inspiring new design conversations and practices.

As a collection, the chapters speak to several questions introduced in Chapter 1 as having inspired the development of the *Handbook*:

- What ought to be the scope of mixed methods research design?

- What mixed methods research design perspectives would benefit others to learn from and advance the field?
- What processes and outcomes ought to be involved in future-forward mixed methods research design practices?
- What recent practice advances ought to be incorporated into the design of future-forward mixed methods research?

Together, the chapters guide our mixed methods research design conversations and practices in ways that are both expected and surprising. Many contributors to this *Handbook* promote a future-forward approach to the design of mixed methods research centred on creativity and openness. It is interesting that similar calls were made previously by the MMIRA Task Force report authors (Mertens et al., 2016). In concluding this *Handbook*, I speculate that creative and open mixed methods research design thinking, conversations and practices are vital preparation for a yet unknown future.

My intention here is to build on what contributors have done in this *Handbook* by speculating on the emerging and exciting design future for the global mixed methods research community. In discussing four design topics, I weave my

own perspectives with ideas alluded to in the *Handbook* illustrating some evolving landscapes of design terminology, illuminating many contextual influences on design practices, representing diverse design perspectives and assimilating practice evolutions in design education. I speculate about the challenges likely to be encountered for each topic and suggest actions aimed at moving the field forward. I close with a call for creative thinking and open conversations about mixed methods research design and education aimed at addressing current societal dilemmas and inspiring design innovations. I offer some concluding words to help realize the future-forward mixed methods research design innovations discussed in this *Handbook*.

ILLUSTRATING SOME EVOLVING LANDSCAPES OF MIXED METHODS RESEARCH DESIGN TERMINOLOGY

How we define and use terminology has had implications for mixed methods research design. I predict evolutions in design terminology will occur alongside the exponential uptake of mixed methods research around the globe. Section 1 of this *Handbook* relates the evolving design dialogues from authors (see Chapters 2–6) who have experienced and contributed to the many crossroads of mixed methods research design practices. I imagine a future where design typologies expand at an unprecedented rate and are influenced by emerging literature such as the design naming practices advanced by Michael Fetters (2022). I anticipate that researchers will be challenged to keep pace with the rapid evolutions in design terminology and naming practices. Given the newness of Fetters's editorial in the *Journal of Mixed Methods Research* at the time of publishing this *Handbook*, I can only speculate on its uptake and practical impact for achieving design naming conventions in future mixed methods research.

I offer evidence of my own in-progress terminology evolutions in thinking about and defining the requisite integration in mixed methods research design. In discussing integration as the distinguishing feature of mixed methods research and thus of its design in the *Handbook's* Introduction (see Chapter 1), I allude to a possibility of moving beyond dichotomizing data as qualitative or quantitative. This evolution is noteworthy because until recently, I had been steadfast in defining the requisite integration in mixed methods research

as necessitating *both* quantitative and qualitative data (e.g., Onwuegbuzie & Poth, 2016; Poth, 2018, 2020). In this evolution, I join *Handbook* authors (see Chapter 19) as well as others (e.g., Bazeley, 2018; Bergman, 2008; Mason, 2006; Pearce, 2015; Song et al., 2010) in calls for transcending what has been called a counterproductive “qualitative–quantitative divide”. It is not clear to me yet how this potential evolution in terminology will unfold in terms of timing or outcome. This experience leads me to call attention to the need for self-monitoring evolutions in our thinking and for tracking evolutions in key design terminology in emerging literature because these evolutions are likely to have practical yet unpredictable consequences.

In calling attention to monitoring evolving landscapes of mixed methods research design terminology and its potential implications for the field of mixed methods research, I draw upon the impactful editorial by Fetters and colleagues (2021) and specifically their advocacy for acting upon the problem of racializing research rhetoric. These authors define racializing research rhetoric as “written and spoken language of research communities that reifies or perpetuates racism and racist systems of power or obscures the role of racism in the shaping of health and social inequities” (p. 8). I found their discussion of the term “segregated” as a descriptor within a mixed methods research design to be particularly of use when scrutinizing my own work and in informing my proactive approach in my work with chapter authors as editor of this *Handbook*.

Similar to the authors of the editorial, I humbly acknowledge that I am not an expert in scientific racism or anti-racist scholarship, yet I view my responsibility as Editor of this *Handbook* as being to raise awareness of, take actions to address, and model an openness for scrutiny with the aim of lessening the presence of racialized research rhetoric in this *Handbook*. In this work, I found authors to be receptive. This is not to say that I was entirely successful, and I acknowledge the need for further learning on my part to recognize, react appropriately and remove the racism that infiltrates everyday life and writing. Please be brave and let me know what I have missed in this *Handbook* to further my learning. I imagine a future where mixed methods researchers define and use globally relevant and appropriate design terminology that avoids perpetuating structural racism in their proposals and publications. I call upon each of us to action this commitment in our mixed methods research work and to be open to practices that keep pace with the evolving landscapes of design terminology.

ILLUMINATING MANY CONTEXTUAL INFLUENCES ON MIXED METHODS RESEARCH DESIGN PRACTICES

As a collection, the 35 chapters detail mixed methods research design contexts across six continents. Representing more than 50 unique study contexts poignantly illustrates a wide range of contextual influences on mixed methods research designs. That the design of mixed methods research is subject to changeable contextual influences that can create messy and uncertain conditions is well known (Plano Clark & Ivankova, 2016; Poth, 2018). Yet, the practice of providing detailed descriptions of the dynamic contextual influences remains less common than one might expect. To begin to address this gap and to provide guiding examples, this *Handbook* had, as an aim, for chapters to provide comprehensive descriptions of the key contextual influences shaping a study such as the participants, sites and researchers, as well as their surrounding environments (Poth, 2018). In published accounts of mixed methods research, comprehensive descriptions provide access to design details such as what was done, how it was done and why it was done that way. By applying different paradigm frames in her description of published mixed methods research accounts, Mertens (2023) provides novel practical guidance to help researchers clarify the assumptions that guide their mixed methods research design decisions.

The design of mixed methods research rarely occurs as planned; much of the uncertainty can be attributed to the dynamic contextual influences. The range of possible contextual influences is staggering, for example, from cultural and social norms to historical and economical settings. Paying attention to the many sources of contextual influences on the design of mixed methods research is paramount, as is recognizing that these contexts are dynamic and those involved are influencing as well as being influenced by the changeable contexts. Sanscartier (2020) described a craft attitude as helpful for acknowledging and engaging with the messiness inherent in mixed methods research. Section 2 (see Chapters 7–12) illustrates the craft attitude and provides practical design guidance for mixed methods researchers through descriptions of navigating uncertainty. Whereas some chapters describe the dynamic nature of the research contexts as necessitating emergent approaches to design (Chapters 7 and 8), others make the case for adaptive approaches (Chapters 10 and 12). Descriptions can inspire thoughtful reflections, helping researchers recognize how their

backgrounds and experiences shape their design decisions, and make such understandings accessible for others to learn from and emulate.

In developing this *Handbook*, we were intentional in seeking illustrations of international design applications and those describing cultural context adaptations. Specific to Section 3 (see Chapters 13–21), we sought to expand our understanding of the influences of cultural contexts and intersections of other designs with mixed methods (see also Section 3 Introduction). Specific to Section 5 (see Chapters 27–31), we asked researchers to describe their research contexts and comment on its potential influences on their mixed methods research designs (see also Section 5 Introduction). We had difficulty locating guiding examples and did our best to explain what we were aiming for. During our editorial review of initial drafts, we realized researchers were struggling to fulfil our request and appreciated the groundbreaking efforts of *Handbook* contributors. Together, Sections 3 and 5 contribute essential descriptions of cultural adaptations of mixed methods research and illustrate new ways of designing culturally appropriate mixed methods research. In offering practical guidance transferable to study contexts beyond those described in the *Handbook*, I call for researchers to advance practice, in these emerging areas, through context- or cultural-specific methodological and theoretical discussions. I highlight the innovative efforts of Jamelia Harris (2022) to offer “lessons from the field” gleaned from mixed methods research experiences in six countries across Africa and the Caribbean as a guiding example providing a methodological discussion of a specific context.

It is my sincere hope that this *Handbook* enhances the visibility of diverse global cultural contexts in which mixed methods research takes place (see also Section 5 Conclusion). I suggest, as a global community of mixed methods researchers, that we commit to selecting publications that feature less familiar research contexts and cultures for reading and citing in our work. Let us diversify the contexts we feature in our selections of mixed methods-focused books and articles to read and also to suggest to others as assigned course readings and citations. Let us promote making explicit our own paradigmatic assumptions (Mertens, 2023) and the contextual influences in our design descriptions and encourage the practice as we review the work of others. Let us glean insights from our perspectives of how theories, cultures, participants, settings and researchers influence the design of mixed methods research. As we reflect and share with others, we can increase our own awareness of the dynamic contextual influences on mixed methods research design.

REPRESENTING DIVERSE MIXED METHODS RESEARCH DESIGN PERSPECTIVES

The perspectives that researchers see in published mixed methods research design can have important consequences on future research teams and participants. For researchers wanting to form research collaborations, they might seek guiding examples of various team configurations (see Chapters 16 and 35). For researchers seeking particular participants, they might seek guiding examples of sampling, recruitment, and protocol procedures (see Chapters 9 and 25). Among the key challenges encountered by researchers is access to information and guidance in mixed methods research design descriptions in order to generate publications that are more inclusive of diverse perspectives. Researchers can be discouraged from undertaking mixed methods research designs if they do not see themselves, or the participants they seek to include, represented in the literature. I see four key actions as potential disruptors to the lack-of-diverse-representation-in-publications-cycle through focused advocacy for showcasing opportunities, recruitment of peer reviews with lived experiences, accounts of procedures and outcomes, and efforts to enhance readership.

One way to disrupt the cycle is to advocate for showcasing diverse researcher and participant perspectives in mixed methods research designs through earmarked opportunities at conferences, in publications, and with funding agencies. In Chapter 1, I describe my editorial efforts to include diverse perspectives in this *Handbook* in terms of authors' career stage, geographical location, research context and areas of expertise. I am grateful for the input afforded by Section Leadst, International Advisory Board members and global mixed methods research members through the community-sourcing approach to bring the diverse group of 78 authors and their design topics to the *Handbook*. I suggest the use of a broad community-sourcing approach in future publications.

To increase the number of refereed publications and conference sessions, I draw attention to the need for favourable reviews from peer reviewers who recognize and value diverse perspectives from both researchers and participants. To that end, I advocate for the recruitment of peer reviewers, possibly with lived experience, to evaluate publications, conferences and funding proposals that are inclusive of diverse perspectives. Such expertise would enhance the likelihood of equitable treatment. Supporting journals

that publish diverse perspectives by giving them our time as peer reviewers is also a worthwhile investment in creating a more inclusive community. My extensive reviewer experiences have greatly expanded my familiarity with mixed methods research designs that are inclusive of diverse perspectives and has informed my own development of more inclusive designs of mixed methods research. If you are new to the field, I recommend you contact the editor for a journal you wish to contribute to and let them know of your interest to review.

Effectively conveyed, detailed descriptions of researchers' backgrounds as well as those of participants and their selection, recruitment and involvement can offer essential access to the unique perspectives that researchers bring to their research individually and collectively as a team. I offer evidence of my efforts in Chapter 36 to make explicit the individual and collective perspectives of our three-member collaboration involving myself, John W. Creswell and Peter Rawlins. In describing our different backgrounds and roles during the development of this *Handbook*, we sought to make explicit the diversity in our individual perspectives and contributions to our collective outcomes. My numerous research team experiences have provided insight into how effective teams are formed and sustained (Poth, 2019) and I encourage descriptions for others to learn from. I recognize that word count limitations and prescribed structures in proposals and publications can constrain researchers in providing this information.

I advocate for expansions in word counts in our mixed methods research publications and consideration of expanding the formats and audiences for publications we cite beyond what is typical (i.e., peer-reviewed publications) to support the movement towards public scholarship and expand the readership of mixed methods research.

Finally, to help researchers locate mixed methods research publications inclusive of diverse perspectives, I advocate for the intentional use of specific labels or phrasing to identify the perspectives in the titles, abstracts and keywords. Identifying all the perspectives may not be possible or desirable in all the suggested locations. Instead, researchers should include identifiers in any of the locations based on what is possible in their publishing outlets. I draw attention to the use of phrases in *Handbook* chapter titles to identify participant perspectives: for example, "Integrating ... from Ethnically and Racially Minoritized Groups..." (Chapter 25). I suggest that identifiers of design perspectives can help make future publications findable for researchers.

ASSIMILATING PRACTICE EVOLUTIONS IN MIXED METHODS RESEARCH DESIGN EDUCATION

Conceptualizing the necessary design expertise as evolving and changing has implications for *what* we focus on learning as mixed methods researchers and *how* we go about teaching as mixed methods research instructors. As I attempt to address the query often asked to me, “What do I need to know and be able to do to design mixed methods research?” I openly acknowledge it represents an enduring question. Consensus has not yet been reached among the global community of mixed methods researchers and because of the changeable nature of mixed methods research expertise, reaching consensus may not be possible or desirable. I also wish to acknowledge the growing scholarship of mixed methods research-specific teaching and learning literature over the past two decades (e.g., Creswell et al., 2003; Greene, 2010; Guetterman, 2017) that has influenced and continues to influence my thinking. Among the key challenges encountered by those teaching or planning to teach mixed methods research is the lack of practical guidance informing instruction that assimilates practice evaluations in real-time, priority afforded to preparing researchers to be capable of future design innovations, and attention given to supporting learner-centred development of design expertise. In speculating about the future of mixed methods research education, I advance the need for keeping pace with design practice evolutions in mixed methods research, anticipating areas of future-forward mixed methods research design expertise, and sustaining individualized progression towards design proficiency specific to mixed methods research.

Keeping pace with design practice evolutions emanating from the field is vital to maintaining the relevance of mixed methods research education. I have seen firsthand over the last decade some of the evolutions in mixed methods research practices that have emerged in response to researcher needs in the field that have now become part of the expertise required for mixed methods research design. For instance, the use of visuals in the design of mixed methods research might seem to be an established practice—especially to newcomers to the field—yet it represents a relatively new practice that has only recently become common practice. A key contribution of design diagrams is making explicit the requisite integration of qualitative and quantitative perspectives in mixed methods research. The inclusion of design diagrams in recent publication guidance might lend the illusion of a long-ago established practice; for

example, in Creswell & Plano Clark’s (2018) writing structures and Fetters and Molina-Azorin’s (2019) checklists of mixed methods elements.

Design diagrams provide an important example of a recent mixed methods research practice evolution that would now be accommodated within the scope of expected design expertise for a researcher to know and be able to do. Indeed, developing the knowledge and skills required for visuals has become a staple topic in my own teaching of mixed methods research. In this *Handbook*, we see examples of the use of visuals in Chapter 8 where Schoonenboom advances a strategy for visualizing the interactions between methods and inferences. Also embedded throughout Section 4 (Chapters 22–26) are discussions of software applications for visualizations supporting innovative integrations (see also Section 4 Conclusion). A broad audience can benefit from Shannon-Baker’s (Chapter 32) innovative use of visuals to teach and learn mixed methods research. When I first started teaching a doctoral mixed methods research course more than a decade ago, I could not have predicted how my approach and the skills I teach would evolve to reflect practice advancements emerging from the field. I speculate that the pace of evolutions will increase because the fallacy of mixed methods research design expertise as a fixed definition was motivated by an imagined-to-be-ideal rather than being a definition rooted in reality. Education needs to keep pace with what researchers need to know and be able to do in a rapidly changing world.

Anticipating areas of future-forward mixed methods research design expertise is essential for preparing researchers capable of design innovations. As an early advocate of adaptive practices, I have seen first-hand the need to prepare mixed methods researchers to think creatively about the practice dilemmas they encounter. At the time I was interested in designing mixed methods research for what others were calling “wicked” problems—defined as those “that involve multiple interacting systems, are replete with social and institutional uncertainties, and for which only imperfect knowledge about their nature and solutions exist” (Rittel & Webber, 1973, as cited in Mertens, 2015, p.3). With no known solutions, I realized the need for rethinking some of the established design practices when faced with greater complexity. In my book, *Innovations in mixed methods research: A practical guide to integrative thinking with complexity* (Poht, 2018), I described six adaptive practices for responding appropriately to varying conditions of complexity in our mixed methods research. I did not know it at the time, but I was advancing future-forward design guidance evidenced by the increasing recognition

of sources of complexity and the usefulness of complexity theories for mixed methods research (Kallemeyen et al., 2020). Several *Handbook* chapters offer future-forward orientations to guide researchers in the situational know-how for mixed methods research design addressing complex (or wicked) problems (Chapters 4, 9 and 20). Looking ahead, I anticipate additional emerging practices such the innovative use of technology applications (see Section 4 chapters and section Conclusion), digital technologies (see Section 6 Conclusion), joint displays as an integration technique (Fetters & Guetterman, 2021), and community-involved approaches (Chapter 15, 27 and 29) as likely expertise that will be included in future delineations of what mixed methods research designers need to know and be able to do.

Sustaining individualized progression towards design proficiency specific to mixed methods research specific to mixed methods research is necessary for supporting learner-centered educational approaches. Experience tells me that the diverse backgrounds and experiences of mixed methods research learners requires rethinking of our one-size-fits-all training approaches. Learners are not *tabula rasa*, also described as “blank canvases”, and it should be expected that mixed methods research learners draw upon their diverse research backgrounds and disciplinary experience and expertise. I advocate for a customized approach where the mixed methods research learning is either entirely or partly tailored to respond to individual learners’ needs, priorities and goals. A learner-centred approach positions the learner to make connections between the experience and knowledge they already have and new information they learn specific to mixed methods research, and then apply it in practice. When learners gain practical experiences, they become more proficient as mixed methods researchers (Guetterman, 2017) and more able to contribute to design theory and practice innovations.

To fulfil their design potential, learners need early and continuous exposure to mixed methods research in formal undergraduate and graduate programme coursework. In introductory research design courses, mixed methods research should be introduced alongside qualitative and quantitative research. Such courses that do not should be updated. This is necessary to normalize mixed methods research as a legitimate and established research approach with its own (and exponentially growing) body of literature. It is also imperative to create specialized mixed methods research courses in the same way I see advanced quantitative and qualitative coursework. This helps to distinguish the specialized expertise that is necessary to undertake mixed methods research and that

helps the field to move beyond the assumption that having expertise in qualitative and quantitative research is sufficient. Of course, I recognize that these types of institutional changes are difficult. I know this well as more than a decade ago I launched the inaugural mixed methods doctoral course at my own institution and even though this course fills to capacity at each offering and the demand for an advanced course is high, I have not yet managed to launch the advanced course—yet. But the time I spend mentoring students formally in advanced independent study courses, as research assistants and in member supervisory or examining committees as well as informally, to the extent possible, is well spent for the good of preparing them for their own mentoring roles. I am proud that a member of the first doctoral mixed methods course I taught in 2011 is a contributor to this *Handbook*. I leave it to you to figure out who that was, but they were exceptional as a course learner more than a decade ago and it is a true delight to watch as they now make important contributions as a faculty member in a peer research institution. This is an example of how our global community members will bring about massive shifts in mixed methods research design education over time.

CALL FOR CREATIVE AND OPEN MIXED METHODS RESEARCH DESIGN AND EDUCATION CONVERSATIONS

As this *Handbook* journey ends, it is my hope that the ideas advanced in this *Handbook* endure in the work that is taken up by others. While the topics in and contributors to this *Handbook* naturally evolved over time from what was initially proposed, I am confident that the ideas presented will stimulate rich conversations and mixed methods research design innovations. I advocate that both creativity and openness are vital for inspiring the design of mixed methods research applicable for global contexts and the education of mixed methods researchers capable of design innovations for the yet unknown future. I admit that the way forward is not yet clear, but I am confident that inspiring design innovations necessitates attending to the evolving landscapes of design terminology, many influences on design practices, diverse representations of design perspectives and practice evolutions in design education. I call for the global community of mixed methods researchers to promote the creativity and openness necessary for realizing the mixed methods research design innovation potential discussed in this *Handbook*. Are

we willing and prepared for such conversations in our mixed methods research design and education initiatives? I look forward to what the future brings!

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