

Getting the most out of your data: a pragmatic approach to mixed methods

Jennifer Craft Morgan, PhD
Scientist, Institute on Aging
Research Assistant Professor, DAHS
DAHS Research Forum
October 26, 2011

Overview of the Talk

- ❑ The right method for the question
- ❑ What are mixed methods?
- ❑ Examples from my own work
- ❑ Analysis and new directions
- ❑ Best Practices (NIH working group on mixed methods)
- ❑ Challenges
- ❑ Discussion/Q&A

The right method for the question

- Inductive vs. deductive
- Theory building vs. hypothesis testing
- Experimental vs. naturalistic
- Mechanism-focused vs. prediction/estimate focused
- Complexity vs. parsimonious explanation

What is mixed methods research?*

A research approach or methodology:

- focusing on research questions that call for real-life contextual understandings, multi-level perspectives, and cultural influences;
- employing rigorous quantitative research assessing magnitude and frequency of constructs and rigorous qualitative research exploring the meaning and understanding of constructs;

What is mixed methods research?*

- utilizing multiple methods (e.g., intervention trials and in-depth interviews);
- intentionally integrating or combining these methods to draw on the strengths of each; and
- framing the investigation within philosophical and theoretical positions.

*Best Practices for Mixed Method Research in Health Sciences OBSSR, NIH 2011

Pragmatic approach

- ❑ If we meet in the middle, no one gets hurt
- ❑ Reflexivity is prudent
- ❑ Pick your battles ('cause nothing is easy)
- ❑ Maximize rigor regardless of method
- ❑ Build a good team; respect all members
- ❑ Be open about revision
- ❑ Be upfront about choices

Data triangulation

- Using multiple methods allows the researcher to come at the questions from multiple data sources and address the measurement error/biases inherent in any one method
 - Valuing both objective and subjective knowledge
 - Using the tension between the two epistemologies
 - Integration of theories, context
 - Qualitative – process, context and voice
 - Quantitative – measurable, causal models, breadth of experiences

Three general categories

- Merging data
 - Using results together
 - Transforming one kind of data into another
- Connecting data
 - Using one method to inform the other
- Embedding data
 - Data of lesser priority embedded within a different methodology

My dissertation research

- Using focus groups to describe emergent themes related to nursing assistant turnover
- Developed tools to assess these themes in a larger sample of nurse aides; included open response items about motivation for work
- Open responses coded systematically and transformed into 'work values' measures as part of the multivariate model predicting job satisfaction/turnover
- Used qualitative data to inform the measurement of the concepts; used confirmatory factor analysis to develop measurement models

Jobs to Careers evaluation

- Challenge to evaluate 17 different career advancement/skills building projects for frontline workers
 - Used quantitative strategies to assess common measures (e.g. job quality, supervisor support, wages, project evaluation) on a pre-post survey
 - Used qualitative strategies to contextualize and understand the returns to the organizations and partnerships and the process evaluation
 - Large qualitative dataset; neither type prioritized
 - Example of merging

Nurse job satisfaction

- Measurement of satisfaction in nursing in the context of shortage (M Lynn – UNC SON)
 - Started with many interviews (semi-structured) with acute care nurses identifying “satisfiers” and “dissatisfiers” with nursing work
 - Used sociological theories of job satisfaction to organize themes/dimensions; do theory building
 - Used “voice” of nurses to develop items for the new scale; used survey to get a large sample of nurses to rate items and used exploratory factor analysis to reduce the number of items

PHCAST evaluation

- Quantitative strategies (e.g. surveys, knowledge tests, competency checklists) pre-post with matched controls as primary strategy
- Qualitative strategy as a secondary priority
 - Process evaluation
 - Understand the meaning of training for client satisfaction

Evaluating innovations in nursing education

- Challenged to understand the impact of support for service (e.g., loan repayment/scholarship programs) on nurse faculty recruitment or retention
- Challenged to do a quantitative survey-based study of impact
- Needed to do qualitative work to develop instruments and to make meaning/provide context to what we find in the survey data

Analytic strategies

- Lots of choices
- Related to the three types of mixed method research
- Transforming data (e.g. coding qualitative)
- Presents challenges in publishing; often choose which methodology to foreground in particular article; difficult to give equal weight
- Theory-building to inform other analyses of complementary data
- Meaning making for multivariate analysis results

Best practices for applicants*

- Make sure that all parts of the application from the broader philosophical perspectives to the methods of data collection are consistent.
- Use the Review Criteria Checklist to be responsive to the needs of the reviewers.
- Provide a clear rationale for the use of mixed methods based on the study goals, questions, and aims.
- Take mixed methods seriously in the planning of research to improve the quality and utility of the research.

Best practices for applicants*

- Understand the benefit/choice of explicitly choosing to identify the research as mixed methods.
- Make clear the innovative nature of the work being proposed, such as the way mixed methods is used and addressed.
- Participate in formal training opportunities (e.g., courses, conferences, workshops, journals, special issues, article and book readings) to learn about mixed methods.
- Integrate an awareness of formal mixed methods research considerations within the application.

Best practices for applicants*

- Take time to assemble a successful mixed methods team, not simply add people to fill methodological gaps. The group needs to meet regularly during the design phase and throughout the process.
- Describe the individuals on projects that hold qualitative expertise in addition to quantitative and mixed methods expertise.

*Best Practices for Mixed Method Research in Health Science 2011 – OBSSR/NIH

Challenges worth noting

- Timing of data collection; using multiple methods requires more in the way of logistics
- Organizing and separating products; more difficult to differentiate distinct analyses to report on; how to keep the richness while maximizing impact of each part of the work
- Teamwork; when strategies are not differentially prioritized, how do you organize so that one part of the analysis doesn't get shorted
- Timing of analysis; analytic strategies require different timing, qualitative is often ongoing while analysis of quantitative data is episodic

Discussion

- What are your experiences with mixed methods research?
- What challenges have you faced?
- What are your major concerns in planning for or doing mixed method research?
- What experiences have you had on mixed methods research teams?
- What resources do you think you need to take your mixed methods research to the next level?