



EBL 101

## Research Methods: Mixed Methods Research

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Research paradigms. Qualitative research. Quantitative research. The firm adherence to one or the other can cause a lot of upheaval, as can be seen in the long-standing paradigm wars between the two. Researchers from both sides of this ontological divide have been convinced of the “rightness” of their methodologies and beliefs around their specific approach to research. The side taken often depends upon from which disciplines the researchers are coming, as some disciplines work strictly quantitatively while some work from the qualitative perspective. Increasingly, however, we are seeing mixed methods used in research studies. In a 2004 article, Johnson and Onwuegbuzi argued from the position that “there is now a trilogy of major research paradigms: qualitative research, quantitative research, and mixed methods research” (p. 24).

As always, I can only scratch the surface of any topic in this column, and mixed methods research (also referred to as mixed research) is no exception, especially as its history is steeped in philosophical understandings of

research and knowledge acquisition in general. The mixed methods paradigm attempts to get in the middle of the two other approaches (quantitative and qualitative), seeking to respect both by using both in a research study. According to Johnson, Onwuegbuzie, and Turner (2007), “mixed methods research is, generally speaking, an approach to knowledge (theory and practice) that attempts to consider multiple viewpoints, perspectives, positions, and standpoints (always including the standpoints of qualitative and quantitative research)” (p. 113). These researchers encourage a broad interpretation of “methods” in mixed methods research to allow for “inclusion of issues and strategies surrounding methods of data collection (e.g., questionnaires, interviews, observations), methods of research (e.g., experiments, ethnography), and related philosophical issues (e.g., ontology, epistemology, axiology)” (Johnson, Onwuegbuzie, and Turner, 2007, p. 118).

Looking at literature dealing with mixed methods research is a bit like navigating a maze: there's a lot of it and it all looks much the same at the start. The Johnson, Onwuegbuzie, and Turner (2007) article is particularly helpful, as it not only gives a history of this methodology, but also lists key players in the mixed methods mix, and looks specifically at the definitions that have emerged in the past 2 decades. The definitions are especially useful for a column such as this. The following are from the Johnson, Onwuegbuzie, and Turner (2007) article:

Mixed methods research is a research design (or methodology) in which the researcher collects, analyzes, and mixes (integrates or connects) both quantitative and qualitative data in a single study or a multiphase program of inquiry. (Creswell, p. 119)

Mixed methods research is a systematic integration of quantitative and qualitative methods in a single study for purposes of obtaining a fuller picture and deeper understanding of a phenomenon. Mixed methods can be integrated in such a way that qualitative and quantitative methods retain their original structures and procedures (pure form mixed methods). Alternatively, these two methods can be adapted, altered, or synthesized to fit the research and cost situations of the study (modified form mixed methods). (Chen, p. 119)

Mixed methods means the combination of different qualitative and quantitative methods of data collection and data analysis in one empirical research project. This combination can serve for two different purposes: it can help to discover and to handle threats for validity arising from the use of qualitative or quantitative research by applying methods from the alternative methodological tradition and can thus ensure good scientific practice by enhancing the validity of methods and research findings. Or it can be used to gain a fuller picture and deeper understanding of the investigated phenomenon by

relating complementary findings to each other which result from the use of methods from the different methodological traditions of qualitative and quantitative research. (Kelle, p. 120)

Mixed methods research refers to the use of data collection methods that collect both quantitative and qualitative data. Mixed methods research acknowledges that all methods have inherent biases and weaknesses; that using a mixed method approach increases the likelihood that the sum of the data collected will be richer, more meaningful, and ultimately more useful in answering the research questions. (Preskill, p. 121).

There are many more definitions of mixed methods research out there. While there are some variations in the content, most contain similar core ideas of using both qualitative and quantitative methods in order to more fully explore a research question. Mixed methods research requires balance and an open mind to the benefits of various approaches to research.

In terms of mixed methods in Library and Information Science (LIS) research, Raya Fidel asks, "Are we there yet?" Fidel's article is a must read, as she explores mixed methods research from an LIS perspective, coming to the conclusion after an analysis of 465 articles published in four major LIS research journals that only 5% of these articles used mixed methods, and that the methodology was not mentioned by name in the articles (p. 269). For her study, Fidel uses the definition of mixed methods research written by Tashakkori and Creswell (2007) because of its inclusive nature: MMR is 'research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry' (p. 4)" (Fidel, 2008, p. 269). However, given that the definitions of mixed methods research vary, that Fidel found mixed methods research even though the terminology was not explicitly used in the research article, and that her research project examined only 4 LIS research journals, it is not surprising to find

that mixed methods research is being undertaken in LIS. For example, see the following:

Brettle, A., Hulme, C., & Ormandy, P. (2006) The costs and effectiveness of information-skills training and mediated searching: quantitative results from the EMPIRIC project. *Health Information & Libraries Journal*, 23(4), 239–247. DOI: 10.1111/j.14711842.2006.00670.x

Kwon, N. (2008). A mixed-methods investigation of the relationship between critical thinking and library anxiety among undergraduate students in their information search process. *College & Research Libraries*, 69(2), 117-131.

Digging into mixed methods research would be beneficial to LIS researchers. Coming at a research question from multiple methodological perspectives in the same study will add a depth and breadth to the findings, and open up options for data collection and analysis.

Resources:

### On the Web

- The Twitter hashtag #mixedmethods will yield tweets having to do with mixed methods research.
- Developing Mixed Methods Research with Dr. John W. Creswell, video, <http://www.youtube.com/watch?v=PSVsD9fAx38> (an excellent encapsulation in about 6 minutes)
- What is Mixed Methods Research? John Creswell, video. <http://www.youtube.com/watch?v=10aNiTlpyX8> (15 min)
- Creswell, J. (2012) Introduction to Mixed Methods Research, Keynote address for the CAQD Conference, University of Marburg, Germany, March 8, 2012. <http://prezi.com/qsksm16l->

[\\_vi/introduction-to-mixed-methods-research](#)

- Best Practices for Mixed Methods Research in the Health Sciences, National Institutes of Health, [http://obssr.od.nih.gov/mixed\\_methods\\_research](http://obssr.od.nih.gov/mixed_methods_research)
- *Journal of Mixed Methods Research*, Sage Publications, <http://mmr.sagepub.com>

### Books

Creswell, J. W. & Plano Clark, V.L. (2011). *Designing and conducting mixed methods research*. Los Angeles: Sage.

Hesse-Biber. S.N. (2010). *Mixed methods research: merging theory with practice*. New York: Guilford Press.

Tashakkori, A., & Teddlie, C. (Eds.). (2003). *Handbook of mixed methods in social and behavioral research*. Thousand Oaks, CA: Sage.

Teddlie, C. & Tashakkori, A. (2009) *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Los Angeles: Sage.

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- Fidel, R. (2008). Are we there yet?: Mixed methods research in library and information science. *Library and Information Science Research*, 30, 265-272.
- Johnson, R.B. & Onwuegbuzie, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26. Stable URL: <http://www.jstor.org/stable/3700093>
- Johnson, R.B., Onwuegbuzie, A.J. & Turner, L.A. Toward a definition of mixed methods research. *Journal of Mixed Methods Research* 1, 112-133. doi:10.1177/1558689806298224