Chapter 7

Mixing Qualitative and Quantitative Evidence in a Systematic Review:
Methodological Guidance With a Worked Example of Collaborative Information Monitoring

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ABSTRACT

Mixed studies reviews are literature reviews that use a systematic approach to combine quantitative, qualitative, and mixed methods studies. Mixed studies reviews are guided by the principles of mixed methods, specifically the integration of qualitative and quantitative evidence, with the goal of leveraging their complementarity. This chapter discusses and provides methodological guidance for mixed studies reviews in information science. This contribution is valuable since empirical research in information science typically involves diverse data collection and analysis methods and many research topics can be described as complex phenomena – both cases for which the mixed studies approach is recommended. This chapter provides a detailed description of the steps involved in a mixed studies review (question formulation, eligibility criteria, identification, selection, critical appraisal, data extraction, and synthesis) and illustrates each step with a concrete example from library and information science.

INTRODUCTION

Recent years have witnessed considerable developments in mixed methods research, in knowledge synthesis methods, and literature review types. Although library and information science (hereafter referred to as LIS) research is no exception, some have suggested that LIS lags behind other disciplines in using mixed methods (Fidel, 2008; Granikov, Hong, Crist, & Pluye, 2020; Ngulube, 2010; Ngulube, Mokwatlo, & Ndwandwe, 2009). This trend applies to systematic literature reviews as well. The use of systematic reviews has been infrequent in LIS research, although may be on the rise (Koufogiannakis, 2012; Xu, Kang, & Song, 2015). The current chapter is situated in this overlap, focusing on mixed studies reviews, bringing together mixed methods research and systematic reviews.

Primary mixed methods research is defined as a "type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches" (Johnson, Onwuegbuzie, & Turner, 2007, p. 123). Systematic reviews are reviews of existing primary research that are directed by a clearly formulated question and use systematic, explicit, and reproducible methods to identify, select and critically appraise relevant research and to collect and analyse data from the studies that are included in the review (Booth, Sutton, & Papaioannou, 2016). Mixed studies reviews is a type of systematic review that includes quantitative, qualitative, and/or mixed methods studies (Pluye & Hong, 2014). While different terms are used to describe mixed studies reviews, for example, integrative reviews (Whittemore & Knafl, 2005) or mixed methods systematic reviews (Harden, 2010), the term "mixed studies review" is used in this chapter.

The purpose of the chapter is threefold: (1) to be a reference source on mixed studies reviews in LIS, building on scholarly literature from other fields, (2) to provide a detailed description for each step of a mixed studies review, and (3) to promote mixed studies reviews among LIS researchers, trainees, practitioners, journal editors and reviewers. Ultimately, the authors strive to contribute to a common understanding of mixed studies reviews and facilitate their use in LIS. The chapter explains what mixed studies reviews are, why and how to conduct them. The methodological guidance is organized in eight steps. To supplement the guidance for the purpose of explanation, each step is illustrated with a concrete example from a mixed studies review conducted by two of this chapter's authors (Granikov, El Sherif, Bouthillier, & Pluye, 2020).

The guidance presented in this chapter is important due to the limited number of "process guidelines as well as the transparent and complete reporting of systematic reviews" in the LIS field (Xu et al., 2015, p. 296). This chapter does not only address this gap, but also provides guidance for mixed studies reviews, a type of a systematic review appropriate for LIS research known to use diverse methods (i.e., including studies using quantitative, qualitative, and mixed methods) (Ullah & Ameen, 2018). LIS may benefit by adopting lessons and guidelines from methodologists in other disciplines, such as health research (Hayman & Smith, 2020; Xu et al., 2015). Overall, high quality mixed studies reviews reported in an explicit and transparent manner would benefit LIS students, researchers, educators, and practitioners and contribute to the overall development of research methods in LIS.

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