

## Chapter 15

# The Movement of Mixed Methods Research and the Role of Information Science Professionals

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### ABSTRACT

*Mixed methods research integrates qualitative and quantitative research approaches in many or all phases of a study to comprehensively address a research problem by collecting quantitative and qualitative data concurrently or in phases with the aim to maximizing their inherent advantages while minimizing their disadvantages. Many disciplines are embracing mixed methods research. Library and information science research is lagging behind in the adoption and use of mixed methods research. That might be due to limited access to the literature on the subject or difficulties in dealing with the relative lack of consistency and incomplete coherence among mixed methods researchers. This chapter traces the common characteristics and designs of mixed methods research, its growth, and application in research. It provides a framework to design, execute, and evaluate mixed methods research studies so that library and information science researchers and researchers from other fields may play a role in its development and application.*

### INTRODUCTION AND BACKGROUND

Mixed methods research is gaining popularity as a result of its potential to investigate complex problems and provide a relatively comprehensive picture in instances where a single research method is unable to address the phenomenon. Consequently, many disciplines, including education, library and information science, management, health sciences, psychology and sport management are embracing it (Molina-Azorin & Feters, 2016; Ngulube, 2013, 2016; Ngulube & Ngulube, 2015). Mixed methods research is

DOI: 10.4018/978-1-6684-3881-7.ch015

suited for complex research problems comprising many components, or people and contextual factors that cannot be fully addressed by using one methodology. Mertens (2015) throws wicked problems such as “climate change, terrorism and conflict, social inequities, healthcare, educational access, and poverty” (p. 3) into the mix. Wicked problems are “replete with social and institutional uncertainties” and cannot be resolved by traditional research processes (Mertens, 2015, p. 3). Mixed method approaches can address wicked problems because of its capability to bring together diverse researchers and groups, and give them a common language to use in their investigation (Gomez, 2014).

Mixed methods research also “offers opportunities for innovation and multiple perspectives and insights to a phenomenon” (Cameron, 2013, p. 51), and provides “a way to work efficiently with the nuances of present-day research” (Morse, 2010, p. 340). It is recognised as a “third methodological movement” (Tashakkori & Teddlie, 2010a, p. ix) along with quantitative and qualitative methodologies. In a nutshell, mixed methods research contributes to building a better world as it is envisaged in the 17 Sustainable Development Goals (SDGs) of the United Nations as it offers the potential for a complete methodological toolkit for researchers, integrates expertise from across diverse research methodologists, engages stakeholders and involve them in creating knowledge, produces evidence that resonates, and helps researchers to evaluate, demonstrate and disseminate the impacts of their research (Molina-Azorin & Feters, 2019). However, “the developing world is not highly visible in publications regarding or involving mixed methods” (Tashakkori & Teddlie, 2010b, p. 33).

Although Creswell and Tashakkori (2007a) recommend that one should read the literature that has emerged since 1979, one should aim at reading the literature after 2010 due to the nature of the evolution of mixed methods research. The assumption is that the years 2000 to 2009 were the advocacy and expansion phase in the development of mixed methods research (Creswell & Plano Clark, 2011). That implies that issues such as nomenclature and basic definitions, methodological principles sampling, data analysis and drawing inferences, and the structure of mixed methods research were consolidated after that period. According to Creswell and Plano Clark (2018), the period reflected on the controversies and issues of concern in mixed methods research, mapped mixed methods literature and presented new paradigms for mixed methods (for example, Mertens, 2007, 2015). Works published earlier than 2010 must be read with caution, although they form a basis of understanding mixed methods research.

The adoption of mixed methods research has been limited in fields such as agriculture (Akimowicz et al., 2018) education, nursing, psychology and sociology (Alise & Teddlie, 2010), economic and management sciences (Ngulube & Ngulube, 2015), knowledge management (Ngulube, 2019) and organisational science (Gibson, 2016). The problem of the researchers’ uncertainty about how to “actually do mixed method research” seems to be universal (Morse, 2010, p.340). That is partly due to the existence of inconsistencies and variations within mixed methods research (Denscombe, 2008, Creamer, 2018). Some researchers think that any study that involves both qualitative and quantitative methods is mixed methods research (Morse, 2010; Romm & Ngulube, 2015). It is going to be demonstrated later that mixed methods research is more than just including a bit of qualitative data with quantitative data in one study. Furthermore, the purpose for mixing and the type of mixed methods research design used should be clearly specified. In fact, Creamer (2018) avers that viewing mixed method research as merely combining qualitative and quantitative research methods, is failing to realise the full potential of the methodology. In other words, qualitative and quantitative research methods should be combined at all stages of the research process, including formulating the problem, reviewing the literature, designing the research analysis data and drawing inferences for a study to be different from a multimethod one as discussed later.

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