Chapter 4
Combinations of Practical Integration Strategies Used in Mixed Methods Information Studies

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ABSTRACT

Mixed methods, integrating qualitative (QUAL), and quantitative (QUAN) methods (e.g., research questions, data collections and analyses, and results) in empirical studies and program evaluations are becoming increasingly popular for answering complex questions. Several strategies for integrating QUAL and QUAN phases, results, and data have been proposed over the years, but their conceptualization is usually design-driven, or fragmented, or not empirically tested. In addition, researchers, graduate students, and professionals using mixed methods find it difficult to plan, conduct, and report the application of these strategies simply and clearly. In this chapter, the authors will present nine practical strategies and several combinations of strategies, illustrated with published mixed methods studies in information science. This chapter contributes to advance methodological knowledge on mixed methods in information science and calls for better reporting of mixed methods studies and integration strategies specifically.

INTRODUCTION

In this chapter the authors take the position that mixed methods (MM) integrate qualitative (QUAL) and quantitative (QUAN) methods in both empirical research and program evaluation (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010). MM allow for the development of practice-specific knowledge and training for information researchers, graduate students, and professionals (Granikov,

DOI: 10.4018/978-1-7998-8844-4.ch004

Hong, Crist, & Pluye, 2020; Ngulube, 2020). MM help to answer questions about the effectiveness of interventions and programs, the processes behind them, and the stakeholders' experiences and perspectives on phenomena under study.

In multiple disciplines, MM have become increasingly popular to answer complex questions, and while several strategies for integrating QUAL and QUAN methods have been proposed over the years, researchers, graduate students, and professionals find it difficult to plan to use, use and report them simply and clearly. For example, in an earlier prevalence study on the use of mixed methods in patient-oriented research, authors found that only about 36% of publications that met the definition of MM, provided a detailed description of the integration of qualitative and quantitative methods. The other publications barely mentioned that a mixed methods study was performed, and described qualitative and quantitative methods succinctly, but not their integration (Pluye, Garcia Bengoechea, Granikov, Kaur, & Tang, 2018).

The objectives of this chapter are to (a) describe nine elementary practical strategies to integrate QUAL and QUAN evidence (scientific data or results of their analysis), (b) illustrate these strategies with MM publications in information studies, and (c) present examples of combinations of elementary integration strategies.

BACKGROUND

MM empirical research or program evaluations meet three conditions: (a) at least one QUAL and one QUAN method are combined; (b) each method is used in a rigorous manner according to generally accepted criteria of the methodology or research tradition invoked; and (c) the methods are integrated at least through research question(s)/objectives(s), the MM design (be it planned or emergent), and the integration of methods and evidence (Fetters, 2020; Johnson, Onewuegbuzie, & Turner, 2007; Pluye & Hong, 2014). It follows that QUAN methods that are not integrated with rigorous QUAL methods are not MM, and vice versa. In an earlier prevalence study on the use of mixed methods in patient-oriented research, authors found that about 10% and 7% of publications entitled "mixed methods" used only quantitative and only qualitative methods, respectively (Pluye et al., 2018).

By way of illustration, a survey conducted using a structured questionnaire that includes closed-ended questions and some final open-ended questions, is an example worth highlighting as a source of MM trainees' recurring questions. These open-ended questions can be seen as QUAL or QUAN methods depending on how they are designed and used. Answers to open-ended questions yield QUAL data when they are obtained through a rigorous QUAL methodology and research process (explicit, transparent, and reproducible) that produces plausible QUAL results (credible, contextual, confirmable, and transferable). Researchers know the participants and interact with them (by reformulating responses or stimulating the development of responses) to learn more about the context and to better understand the meaning of the data such as interviewees' words, non-verbal language, and context.

In contrast, an optional written response to an open-ended question asked at the end of a validated, self-administered, anonymous structured online questionnaire cannot be considered qualitative data. In epidemiological surveys, responses obtained in this way traditionally provide some illustrations for discussing statistical results. While these responses are informative, they do not constitute qualitative data because they are not obtained through a rigorous qualitative scientific research process and methodology. Furthermore, these responses cannot be used to produce plausible qualitative results. Researchers cannot know who wrote these responses and why; they cannot interact with participants who responded and