

# Chapter 15

## Designs of Mixed Method Research

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### ABSTRACT

*Mixed methods research is becoming an increasingly popular approach in the discipline fields of sociology, psychology, education and health sciences. Calls for the integration of quantitative and qualitative research methods have been advanced in these fields. A key feature of mixed methods research is its methodological pluralism, which frequently results in research which provides broader perspectives than those offered by mono-method designs. The central premise of mixed methods is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems and complex phenomena than either approach alone. The purpose of this chapter is to review designs of mixed methods research. The study surveys the common designs of mixed methods research and examine the main characteristics of each in terms of purposes, strengths, and issues, and posits suggestions on the application of these designs.*

### INTRODUCTION

Mixed method research is a combination technique where statistical information obtained from quantitative measurements is supported and enriched by qualitative information obtained from the explanations provided by the research participants. Mixed method research is one of the recent developments of research methodologies that has gained attention from many education and social science researchers (Creswell, 2003; Brannen, 2005; Andrew & Halcomb, 2011; Creswell et al., 2011; Creswell, 2014; Denzin, 2012; Kakai et al., 2014; Klassen et al., 2012; Mertens, 2014; Teddlie & Tashakkori, 2011; Venkatesh et al., 2013). Quantitative techniques have also been used to extend qualitative results and research objectives. According to Creswell (2003), “A mixed methods study involves the collection or analysis of both quantitative and/or qualitative data in a single study.” In such a study, the quantitative and qualitative

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data collection can be done either concurrently or sequentially. Each type of data is given a priority level and integrated at one or more stages in the research process. Mixed Methods Research supports the use of multiple research techniques to obtain answers to the research questions and encourage researchers to have a diverse approach towards research method selections (Johnson and Onwuegbuzie, 2004; Klassen, Creswell, Clark, Smith, & Meissner, 2012; Creswell, Klassen, Plano Clark, & Smith, 2011; Kakai et al., 2014).

Quantitative data can be useful to get generalized answers to research questions related to a large group of people. However, quantitative data often is not suitable to get specific answers or explanations related to research questions. On the other hand, qualitative data can provide meaning and context regarding the people and environments of study but unable to provide generalized findings because the number and range of participants is low. Both methods, used together, can complement each other. The rise of mixed method research technique started in 1980s and the article of Campbell and Fiske (1959) can be called as the first formal use of mixed method research technique in the social science methodological literature. In their article, Campbell and Fiske (1959) used the concept of triangulation (i.e. use of more than one techniques to validate the research results and to make sure the variance explained is the result of the underlying phenomenon and not the research technique). According to Bouchard (1976), the triangulation provides convergence of findings and “enhances our beliefs that the results are valid and not a methodological artifact” (p. 268). Webb, Campbell, Schwartz, and Sechrest (1966) extended the idea of (Campbell and Fiske, 1959) and defined triangulation as use of multiple measures that “are hypothesized to share in the theoretically relevant components but have different patterns of irrelevant components” (p. 3). Denzin (1978) first outlined how the triangulation works by defining triangulation as “the combination of methodologies in the study of the same phenomenon” (p. 291). Jick (1979) observed that triangulation may not be suitable for all research purposes but it can provide researchers multiple advantages. Some these advantages include more confidence in research results, more creative data collection, richer data, and ability to synthesize or integrate theories, and compare competing theories. According to Morse (1991), methodical triangulations can be of two types: simultaneous or sequential. In simultaneous triangulation, qualitative and quantitative methods are used simultaneously. During the data collection stage, there is limited interaction between the qualitative and quantitative data sources but, during data interpretation stage, the findings complement one another. In sequential triangulation, the results of first approach employed are pre-requisite to plan the next research method used.

According to Rossman and Wilson (1985), there could be multiple reasons for combining quantitative and qualitative research. First, method combination can provide confirmation of the results of each individual method. Second, combination of methods can provide a richer data set. Third, method combinations can result in methods of thinking by analyzing the contradictions that emerge from the two data sources. According to Greene, Caracelli, and Graham Greene (1993), researchers can use mixed method research for various major purposes. Some of these purposes include triangulation (i.e. validation and testing of consistency of findings obtained through different methods), complementarity (i.e. clarification of results from one method with the use of the other method), development (i.e. using results of one method to shape the choice of method to be used in the next step of research), initiation (developing new research questions or challenging results obtained through use of one method), and expansion (i.e. enriching the study and exploring specific features of each research method used). According to Collins, Onwuegbuzie, and Sutton (2006), there could be four rationales for use of mixed method research. These rationales include enrichment of mix of research participants, enhancing validity of research instruments, assessment of the validity of research intervention, and enhancing the significance of research study.

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