Preface

The intent of this book is to create a practical, easy to read and understand, user-friendly book that will reach a wide audience of inexperienced researchers. The main target is the novice researcher; for example, master or doctoral level students committed to writing their thesis, dissertation, or scholarly articles. Typically, these students have very limited knowledge of research. The majority of books on research are highly complex and target the advanced researchers. This book will help to fill the void for beginning researchers who are committed to conducting high quality research while at the same time being new to the research task. Mixed methods research (MMR) is often used in schools, businesses and non-profit organizations as it is appropriate in addressing and resolving questions that they face.

Graduate students and faculty can used the book as a reference and/or textbook for research courses. Graduate students, while committed to conducting high quality research, often have a limited knowledge of conducting research for their thesis or dissertation. This book takes novice students through the entire research process by offering step by step guidance. This book is also intended for a broader audience in social and human sciences, representing many disciplines, as MMR is rapidly gaining in popularity due to the added richness in findings it affords the researcher. Faculty often ponder how to best train students in MMR. It can be a challenge since students come from a wide variety of backgrounds and arrive with various skill levels and research interests. Hence faculty may find the book useful. We also encourage all graduate students to become proficient in this third research paradigm.

THE ISSUE AT HAND

Conducting empirical research to complete either a master’s thesis or dissertation is a graduation requirement at most higher educational institutions today. Even accomplished students may be faced with the responsibility of conducting research for the first time, requiring them to make decisions regarding methodology and design, followed by the daunting tasks of data analysis and interpretation. Similarly, course instructors are faced with selecting teaching materials that provide the resources students need in order to learn both quantitative and qualitative methods. This in itself can be challenging since students often like to preselect either a quantitative or qualitative track. Likewise, their advisors may be more experienced in one or the other and uncomfortable training their students in both. We need to break this trend as many issues today are highly complex and the MMR approach may be the best way to gain a complete understanding of the issue under investigation. This book demonstrates how MMR designs can address a wide array of research questions and help navigate the inexperienced researchers through the complicated mix of research decisions that must be made.
Preface

The contributors to this book are all experienced MM researchers and, combined, they walk the reader through the entire research process beginning with the need to establish an epistemological foundation to formulating the research questions, selecting the appropriate research design, collecting data, and interpreting both quantitative and qualitative findings. The final chapter includes a practical step by step outline for conducting a research study from start to finish.

ORGANIZATION OF THE BOOK

The book is organized into 15 chapters spread over seven sections which follows a natural research project outline. A brief description of each of the chapters follows:

Chapter 1, The Nature of Research Methodologies: Terms and Usage within Quantitative, Qualitative, and Mixed Methods

Mixed methods research is, generally speaking, an approach to knowledge (theory to practice) that attempts to consider multiple viewpoints, perspectives, and positions. Before the advent of mixed methods, many studies used multiple methods to achieve the benefits of triangulation without restricting themselves to any paradigm or methodological category. Today, the primary philosophy of mixed methods research is that of pragmatism. This chapter covers the history and the foundation of research methodologies and explains the purpose of research within various methodologies. This chapter also reviews and discusses key research terminology.

Chapter 2, Moving from Tension to Texture: The Paradigmatic Roots of Mixed Methods Research

Much like a jigsaw puzzle box-top guides one while connecting the pieces, an individual’s research paradigm operates as a conscious or subconscious influence in conducting a research project. This chapter starts by making the argument for the critical role of research paradigms before moving into a thorough investigation of the paradigmatic origins of the qualitative-quantitative “debate.” While mixed methods research is often seen as the mediator in the dispute, the authors then articulate four broad ways in which mixed-methods research addresses the paradigm divide at the heart of qualitative and quantitative research. The result is paradigmatically complex, but offers researchers flexibility as they seek to address their research question.

Chapter 3, Mixed Method Research: A Concept

Mixed methods has emerged as the third research community in the social and behavioral sciences during the past decades, joining quantitative and qualitative methods of scholarly inquiry. In recent years, mixed methods research, research paradigm, methodology, and action research have encouraged the combined use of quantitative and qualitative research to answer complex questions. Mixed methods research integrates both methods, the quantitative and the qualitative, to present research findings within a single-system process. The chapter introduces the concept of action research and how mixed methods is applied to action research and its processes. A plan of action for attaining better research results through mixed methods research is also put forth.
Chapter 4, It Is All in the Design: Creating the Foundations of a Mixed Methods Research Study

Various designs are used in research, all with specific advantages and disadvantages, and it is important to be clear about the role and purpose of each. Researchers need to know where the design fits into the whole research process from framing the research purpose and question(s), data collection and analysis, to reporting the findings. Researchers can decide to use a quantitative, qualitative, or a mixed methods design. This chapter introduces the various approaches aligned with each design. Which one the researcher selects, depends on the objective of the study and the nature of the phenomenon.

Chapter 5, Designs of Mixed Methods Research

Mixed methods research is becoming an increasingly popular approach in the 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. This chapter surveys the common designs of mixed methods research and examines the main characteristics of each in terms of purpose, strength, and issues. Suggestions are also put forth regarding the application of these designs.

Chapter 6, Sampling in Research

Research is aimed at discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws. Research is often conducted using a sample of the population of interest rather than conducting a census. There is no guarantee, however, that any sample will be precisely representative of the population from which it comes. This chapter is designed to equip researchers with knowledge of the general issues involved with sampling. The chapter covers the purpose of sampling and how to reduce sampling and non-sampling errors. Highlighted are the types of sample designs and how to implement them—along with the advantages and disadvantages of each. Also covered are guides to determine sample size.

Chapter 7, Analyzing Qualitative Data: Visualizing Lived Experiences through Poems and Photography

Use of photography and poetry offer a way for participants to express lived experiences through a visual and written means of self-expression. These forms of data collection can provide a rich, thick description of those often lying on the periphery of society. Traditional means of qualitative research such as interview and observation can at times create a barrier between the researcher and the participants because of the face-to-face interaction. Participants may be uncomfortable expressing authentic feelings during a formal interview process. By offering participants the opportunity to personally select descriptive photographs and articulate expression in their own voice through poetry, an authentic expression occurs.
Chapter 8, Analyzing Quantitative Data

The main purpose of this chapter is to present a conceptual and practical overview of some of the basic and advanced statistical tools for analyzing quantitative data. Analyzing quantitative data involves two broad analytical methods that serve two main purposes, which are descriptive and inferential statistical methods. The chapter covers both descriptive and inferential quantitative methods. It introduces some of the descriptive statistical methods such as mean, median, mode, variance, standard deviation, and graphical methods (e.g., histograms). It also covers inferential statistical methods such as correlation, simple regression, multiple regression, t-test for two independent samples, t-test for two dependent samples, and analysis of variance (ANOVA).

Chapter 9, Analyzing Quantitative Data in Mixed Methods Research for Improved Scientific Study

The purpose of the chapter is to review the role of quantitative methods in corporate research and the methods for analyzing quantitative data. The study used secondary data and a survey of published articles on schools, businesses and non-profit organizations. The key findings show that exploratory data can be analyzed using graphs and charts, and hypothesis testing can be employed to test statements made. Impacts of one variable on another and the relationships between variables are explained using correlation and regression analysis. The implications are that the value of a quantitative analysis arises when it is possible to identify features that occur frequently across the many participatory discussions aimed at studying a particular research theme.

Chapter 10, How Marketers Conduct Mixed Methods Research: Incorporating the Exploratory Sequential Design with the Hierarchy of Effects Model

The complimentary nature of qualitative and quantitative research methods are examined with respect to a study assessing the market’s view of a training and development institute in the Middle East. The qualitative portion consisted of focus groups conducted with seven distinct market segments served by the institute. The results proved insightful with respect to uncovering and understanding differences of opinion among the seven groups; however, taken alone, the qualitative research would have been very misleading with respect to the institute’s standing in the Middle East.

Chapter 11, Analyzing Qualitative Data

This chapter provides an introduction to the process of qualitative analysis and to use step by step examples to provide an idea of how the process of qualitative analysis actually works. Crabtree and Miller, 1992, note that there are many different strategies for analysis, in fact, they suggest there are as many strategies as there are qualitative researchers. This chapter is intended to give the researcher a place to begin and to inspire a deeper dive into this rewarding form of data analysis. While qualitative data analysis can be time consuming the rewards that come from immersion in the data far outweigh the time spent doing so.
Chapter 12, Examining Online Communities: A Method for Quantitative Analysis of Qualitative Data

Methods of individual communication continue to expand through online media. Given the dynamic nature of online communications, traditional methods for studying communications may not suffice. A hybridized content analytic approach that combines qualitative and quantitative methods offers a unique methodological tool for researchers who seek to better understand computer-mediated communications and the psychological characteristics of those who communicate online by evaluating qualitative information using quantitative methods. This means of measurement allows researchers to statistically evaluate whether investigated phenomena are occurring in combination with the richness that qualitative assessment provides. As with any approach to computer-mediated communication, various ethical considerations must be kept in mind and these are discussed in concert with this hybridized approach to content analysis.


The research question is: How effective is the current edTPA mentoring and support program for teacher candidates? This research utilized mixed method interactive program evaluation. An online survey collected teacher candidates’ perceptions of mentoring and support for edTPA. The survey questions were organized around four constructs: preparedness, support from instructor, support from university supervisors, and support from cooperating teacher. With \( N = 46 \), a comprehensive data analysis was conducted that identified areas of strength and need of the program. As a result, the researchers developed an edTPA mentoring and support program model.

Chapter 14, Morphological Ontology Design Engineering: A Methodology to Model Ill-Structured Problems

In the social-technical domain, scientists are often confronted with a class of problems that are termed “messy”, “ill-structured” or “wicked”. These problems address complex issues that not well-defined, contain unresolvable uncertainties, and are characterized by a lack of common agreement on problem definition. This chapter proposes a new mixed methods research technique, Morphological Ontology Design Engineering (MODE), which can be applied to develop models for ill-structured problems. MODE combines three different research methodologies into a single, methodology. MODE draws from research paradigms that include exploratory and descriptive research approaches to develop models. General morphological analysis offers a systematic method to extract meaningful information from domain experts, while ontology-based representation is used to logically represent domain knowledge. The design science methodology guides the entire process. MODE is applied to a case study where an ontological model is developed to support the implementation of a South African national cybersecurity policy.
Chapter 15, Creating and Implementing a Mixed Methods Research Study

This chapter serves as a guideline for outlining the core characteristics of mixed methods research (MMR) and the various steps researchers undertake in order to conduct a research study. The purpose is to create a worksheet assisting the researcher step by step from beginning to end following the seven steps to conducting research. While the focus is on MMR, the steps are similar for any type of research methodology. It is important to note that MMR is not a limiting form of research. Researchers need a mixed method research question and a mixed methods purpose statement for the research project. This chapter will also help explain why mixed methods research is one of the best approaches in answering a research question. Finally the chapter includes a suggestion of the importance of adding a visual diagram of the mixed methods research project into the implementation and final report.