

Mapping the Expansion of Mixed Methods Research



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Keynote presentation to the
CAQD Conference, Marburg, Germany, March 10, 2011



TOPICS

- To introduce mixed methods research
- To map the continued expansion of mixed methods research
- To introduce a framework for understanding this expansion
- Mapping “trilogy”: Developing, Expanding, Predicting the Future.
- This is the second in my trilogy on “mapping” in mixed methods; first – “Mapping the Development of Mixed Methods” *SAGE Handbook on Mixed Methods* (2nd ed.)(2010)

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POSITIONING MYSELF

- Applied research methodologist in the social sciences, health sciences and medicine
- Trained in quantitative research, self-taught in qualitative research, first-generation of researchers in mixed methods

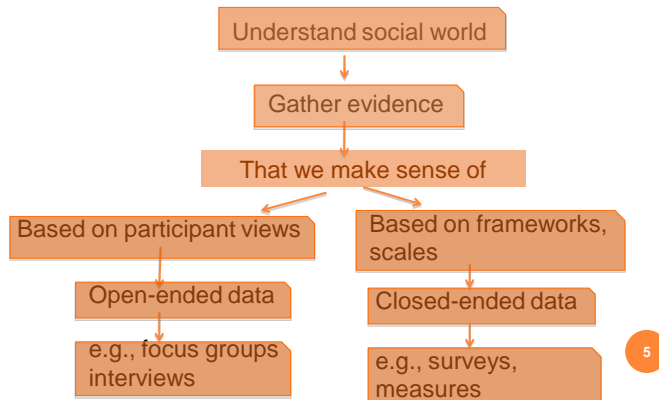
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MY RESEARCH METHODS BOOKS AND JOURNAL....



Published by Sage Publications, Pearson Education (Merrill Educ.)

MIXED METHODS HAS EXPANDED OUR VIEW OF WHAT CONSTITUTES EVIDENCE



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IT HAS EXPANDED OUR VIEW OF USEFUL DATA TO COLLECT

Quantitative Data

- Measurable ideas
- (Probable) cause and effect
- Comparisons of groups
- Representative studies
- Breadth

Qualitative Data

- Process
- Context or setting
- Voice of participants
- Hard to measure ideas
- Depth

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IT HAS EXPANDED OUR UNDERSTANDING AS TO WHEN TO KEEP QUALITATIVE AND QUANTITATIVE DATA SEPARATE

- Tradition
- Skills
- Publishable outlets

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IT HAS EXPANDED OUR UNDERSTANDING OF THE ADVANTAGES OF INTEGRATING QUALITATIVE AND QUANTITATIVE DATA

- Combines strengths of both - synergy
- Provides two different pictures
- Encourages interdisciplinary work
- Demonstrates breadth of methodological skills
- Builds on an intuitive way of knowing

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IT HAS EXPANDED THE SKILLS NEEDED TO UNDERTAKE RESEARCH

- Knowledge of quantitative data collection/analysis
- Knowledge of qualitative data collection/analysis
- Openness to multiple methodologies

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IT HAS EXPANDED OUR RESEARCH METHODS PROCEDURES AND CHALLENGES

- Merge or combine the two datasets (converge)
- Have one dataset build on the other (sequence)
- Merging is more difficult, but it takes less time than building
 - Challenge: how to merge text data and numeric data
 - Challenge: how to build from one dataset to another

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MIXED METHODS HAS EXPANDED INTO AN IDENTIFIABLE CORE SET OF SIX CHARACTERISTICS

- Collecting and analyzing persuasively and rigorously both qualitative and quantitative data
- Mixing the two forms of data concurrently, sequentially, or embedding one within the other
- Giving priority to one or to both forms of data
- Using these procedures in a single study or in multiple phases of a program of study
- Framing these procedures within philosophical worldviews and theoretical lenses
- Combining the procedures into specific research designs that direct the plan for conducting the study

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Involving Rigorous and Persuasive Data Collection

- **Quantitative Data Collection**
 - Site selection
 - Permissions
 - Recruitment
 - Random sampling
 - Large sample size
 - Types of data (instruments, observations, records)
 - Validity/reliability
 - Standard procedures
 - Anticipate ethical issues
- **Qualitative Data Collection**
 - Site selection
 - Permissions
 - Recruitment
 - Purposeful sampling
 - Small sample size
 - Types of data (open-ended interviews, observations, video, documents)
 - Protocols
 - Reciprocity
 - Anticipate ethical and field issues

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Also Involving Rigorous and Persuasive Data Analysis

Quantitative Data Analysis

- Data scoring
- Data input
- Clean database
- Quantitative statistics software program
- Response analysis
- Descriptive analysis
- Inferential analysis (effect sizes, confidence intervals)
- Represent results

Qualitative Data Analysis

- Preparing the data
- Procedures of analysis (reading, memoing, coding, theme development)
- Specific procedures for designs (e.g., grounded theory, phenomenology)
- Qualitative data analysis software program
- Validity and reliability strategies
- Reflexivity approaches
- Represent findings

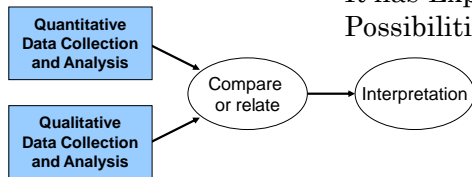
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It has Expanded Our Worldviews that Underpin Research

Postpositivist Worldview	Constructivist Worldview	Participatory Worldview	Pragmatist Worldview
Determination	Understanding	Political	Consequences of actions
Reductionism	Multiple participant meanings	Empowerment and issue oriented	Problem centered
Empirical observation and measurement	Social and historical construction	Collaborative	Pluralistic
Theory verification	Theory generation	Change oriented	Real-world practice oriented

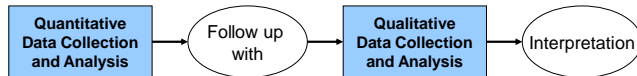
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Convergent Parallel Design

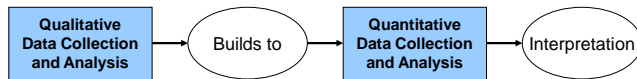


It has Expanded Design Possibilities

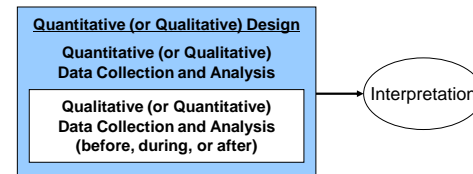
Explanatory Sequential Design



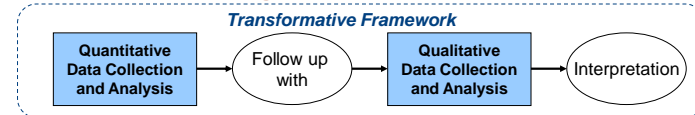
Exploratory Sequential Design



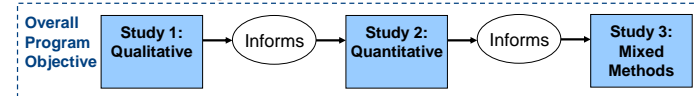
Embedded Design



Transformative Design



Multiphase Design



THESE EXPANSIONS HAVE LED TO A NEW METHODOLOGY: MIXED METHODS RESEARCH

- Designs and methodological challenges
- Terminology
- Diagrams
- Aspects incorporated into process of research (e.g., titles, problem statements, philosophies, theories, research questions, data collection, data analysis, interpretation)
- Notation system

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An Expanding Notation System

Notation	What It Indicates	Example	Key Citations
Uppercase letters	Prioritized methods	QUAN, QUAL	Morse (1991, 2003)
Lowercase letters	Lesser priority	quan, qual	Morse (1991, 2003)
+	Concurrent methods	QUAN + QUAL	Morse (1991, 2003)
→	Sequential methods	QUAL → quan	Morse (1991, 2003)

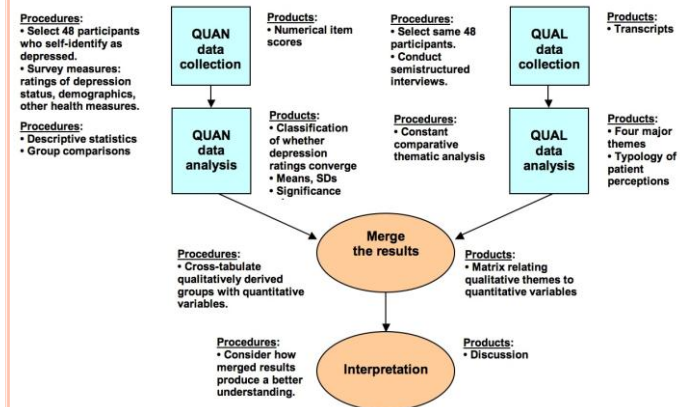
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An Expanding Notation System (Cont'd)

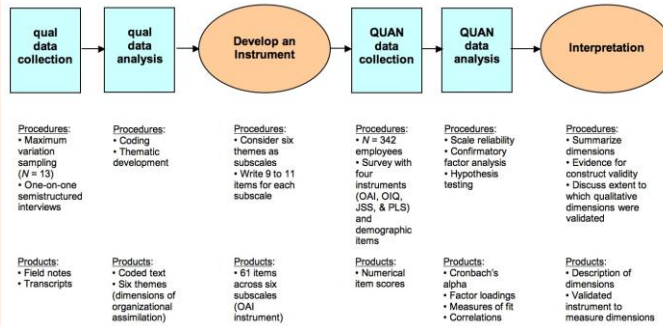
Notation	What It Indicates	Example	Key Citations
()	Embed within a design or framework	QUAN(qual)	Plano Clark (2005)
↔	Recursive	QUAL↔QUAN	Nastasi et al. (2007)
[]	Study within a series	QUAL → [QUAN + qual]	Morse & Niehaus (2009)
=	Mixing purpose	QUAN → qual = explain results	Morse & Niehaus (2009)

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Expanding Procedures: A Convergent Design Diagram

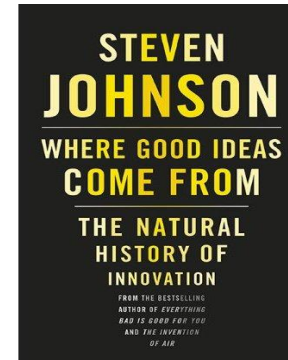


Expanding Procedures: A Sequential Design



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How Can We Frame this Expansion to Understand It? Steven Johnson's book (2010)



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WHERE GOOD IDEAS COME FROM (JOHNSON):

- The adjacent possible: Each new innovation opens up new paths to explore and simultaneous discoveries
- Liquid networks: An idea is not a single thing, it is more like a swarm
- Exaptation: borrowing from an entirely different field, something gets hijacked for a completely different purpose
- Platforms: structures that support new paradigms above them

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Good Ideas - The Adjacent Possible: Simultaneous Discovery

- **Evolution of mixed methods**
 - Evolved over last twenty years
 - Quantitative research to qualitative to mixed methods
- **Simultaneous discoveries**
 - Beginnings in 1985-1990
 - Jennifer Greene – USA- University of Illinois - evaluator
 - John Hunter and Allen Brewer – USA -Northwestern and Boston College - sociologists
 - Alan Bryman - England – management
 - John Creswell – USA – education
 - Fielding – sociologist in UK
 - Morse – nursing in Canada

GOOD IDEAS - LIQUID NETWORKS: A SWARM

- o A swarm
 - Across countries
 - Across books
 - Across funding agencies
 - Across different disciplines
 - Across graduate programs (i.e., dissertations)

DISCIPLINE - JOURNAL EXPANSIONS

Journal of Psychiatric and Mental Health Nursing, 2011

Mixed methods research in mental health nursing

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Abstract

This paper addresses the better understanding of mixed methods application in mental health nursing and the identification of a range of research and mental health issues involved in designing and conducting mixed methods research. The paper aims to help to design and conduct mixed methods research and to design and conduct mixed methods research. The paper aims to help to design and conduct mixed methods research and to design and conduct mixed methods research.

Designing A Mixed Methods Study In Primary Care

Abstract

Mixed methods research is a well-established research paradigm for exploring the complexity of health care practice. The design of mixed methods research is a complex task that requires a clear understanding of the strengths and limitations of both qualitative and quantitative research. This paper discusses the design of mixed methods research in primary care, focusing on the challenges of integrating qualitative and quantitative research in a way that is meaningful to practice.

Introduction

With an emphasis on a range of qualitative research in health care, mixed methods research has emerged as a research paradigm that combines the strengths of both qualitative and quantitative research. This paper discusses the design of mixed methods research in primary care, focusing on the challenges of integrating qualitative and quantitative research in a way that is meaningful to practice.

DISCIPLINE-JOURNAL EXPANSIONS

Journal of Counseling Psychology, 2011, 58, 1, 1-12

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Mixed Methods Research Designs in Counseling Psychology

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Wicki L. Plano Clark and Kelly S. Petka
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With the increased popularity of qualitative research, researchers in counseling psychology are expanding their methodologies to include mixed methods designs. These designs involve the collection, analysis, and integration of qualitative and quantitative data in a single or multiple study. This article presents an overview of mixed methods research designs. It defines mixed methods research, discusses its origins and philosophical basis, addresses steps and procedures used in these designs, and identifies 6 different types of designs. Important design features are illustrated using studies published in the counseling literature. Finally, the article ends with recommendations for designing, implementing, and reporting mixed methods studies in the literature and for discussing their viability and continued usefulness in the field of counseling psychology.

Journal of Traumatic Stress, Vol. 22, No. 4, December 2009, pp. 612-621 © 2009

The Application of Mixed Methods Designs to Trauma Research

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Despite the use of quantitative and qualitative data in trauma research and design, mixed methods studies in this field have not been analyzed in a helpful research design investigation. This discussion begins by reviewing four categories of mixed methods research in the social and human sciences. Combining these characteristics, the authors focus on their value in mixed methods designs that are applicable to trauma research. These designs are defined and their essential elements noted. Applying these design to trauma research, a mixed methods study is used to illustrate mixed methods research studies. From this work, one simple study can be derived, and in the discussion of mixed methods procedures noted. Finally, drawing on other mixed methods designs available, several follow-up mixed methods studies are described for this simple study enabling trauma researchers to view design options for applying mixed methods research in trauma investigations.

DISSERTATION EXPANSIONS

Table 1
Number of Dissertations and Theses with "Mixed Methods" in the Title

Year Range	Number
2005-2009	2524
2000-2004	532
1995-1999	100
1990-1994	26
1985-1989	17
1980-1984	3

Note: The number represents the number of dissertations and theses which contained the words "mixed methods" in the citation and abstract. This search was conducted using the search engine "Proquest" (Proquest Search Engine, 2009).

Source: Haines, C. (2010). *Value added by mixed methods research*. Unpublished dissertation proposal, University of Nebraska-Lincoln.

Good Ideas - Exaptation: Something Gets Hijacked for a Completely Different Purpose

- Multi-trait multimethod matrix from psychology (Campbell & Fiske, 1959)(mixed methods hijacks psychology)
- Qualitative Comparative Analysis (sociology hijacks mixed methods)
- Instrument development (mixed methods hijacks scale development in measurement field)
- Intervention studies in medicine (health sciences hijacks social science mixed methods)

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GOOD IDEAS: PLATFORMS: STRUCTURES THAT SUPPORT NEW PARADIGMS ABOVE THEM

- Conferences
- Journals
- Student support
- Computer programs

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THE EXPANSION OF MIXED METHODS INTO COMPUTER APPLICATIONS FOR DATA ANALYSIS

- Maxqda
 - Quantifying qualitative data
 - Linking text data and quantitative “attributes”
 - Exporting and importing data into a statistical program
 - Word counts
- Use of computer programs to generate data used in types of designs because analyses are different in the designs
- Creation of joint displays – e.g., correspondence display, GIS displays

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SIDE-BY-SIDE COMPARISON JOINT DISPLAY

	QUAL results	QUAN results
Comparison of Information from Interview and Survey Data: Examples of Four of the Eight Themes		
Theme	Face-to-face Interviews	Telephone Survey
1. How and why child was placed in program	Two aspects of decision: (1) Community-based "Inclusive" option (2) Specific child care center Factors affecting choice: • Visited and liked classroom & teacher • Convenience of location • Flexibility in hours • Good reputation of center • Concern if center would accept child because of behavior	Parents' most important reasons for using program: • Offers special education services or therapies • Provides opportunities for child to learn • Provides opportunities to play with other children
2. Program's appropriateness for child	In successful placement, there is a "match or fit" between child's and family's needs & program. Factors affecting match or fit: • Acceptance by staff & children • Likes activities and routines for child • Child likes program • Sees benefits or specific improvements	• 90% said very important for child to be in inclusive program • 80% indicated child usually or always receives special services needed • 88% were satisfied with way in which child's educational goals were made
3. Helpful and unhelpful players	Characteristics of helpful players: • Consistent presence over time & settings • Personal investment in child • Provides different types of support • Dependable source of information about child Characteristics of unhelpful players: • Minimize or disregard family concerns • Inadequate communication	The most helpful supports were: • Other family members at home • Child's teachers • Other professionals in community and at child's program
4. Child's participation in family and community activities	Factors that affect participation: • Parent's safety concerns about child • Parent's perception of what is expected of child's behavior • Lack of other young children in immediate neighborhood • Family's own style, schedule, and how it participates in the community • An extended family system was so strong a part of family's culture that family did not need or choose to participate much in the community • Young age of children	Limitations on participation: • Child's language skills • Family's schedule and time constraints • Attitudes of others towards child's disability • Child's behavior • Lack of other children to play with in neighborhood

SOURCE: LI et al., 2000, Table 2, pp. 124-125. Reprinted with permission of SAGE Publications, Inc.

SUMMARY

- Extensive expansion in mixed methods
- We know more about what is occurring than how exactly it has expanded
- New applications continually emerge
- New scholars are becoming involved
- New challenges are arising

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ADDITIONAL RESOURCES

Books:

- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage.
- Greene, J. C. (2007). *Mixed methods in social inquiry*. San Francisco: Jossey-Bass.
- Mertens, D. M. (2005). *Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Morse, J. & Niehaus, L. (2009). *Mixed method design: Principles and procedures*. Walnut Grove, CA: Left Coast Press.
- Plano Clark, V. L., & Creswell, J. W. (2008). *The mixed methods reader*. Thousand Oaks, CA: Sage.
- Ridenour, C. S., & Newman, I. (2008). *Mixed methods research: Exploring the interactive continuum* (2nd ed.). Carbondale, IL: Southern Illinois University Press.
- Tashakkori, A. & Teddlie, C. (Eds.) (2010). *Handbook of mixed methods in social and behavioral research* (2nd ed.). Thousand Oaks, CA: Sage.
- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Thousand Oaks, CA: Sage.

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ADDITIONAL RESOURCES

Articles and Chapters:

- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97-113.
- Caracelli, V. J., & Greene, J. C. (1993). Data analysis strategies for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 15 (2), 195-207.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M., & Hanson, W. (2003). Advanced mixed methods research designs. In: A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Creswell, J. W., Plano Clark, V. L., & Garrett, A. L. (2008). Methodological issues in conducting mixed methods research. In M.M. Bergman (Ed.), *Advances in mixed methods research*. London: Sage.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11 (3), 255-274.
- Ivankova, N. V., Creswell, J. W., & Stick, S. (2006). Using mixed methods sequential explanatory design: From theory to practice. *Field Methods*, 18(1), 3-20.
- Morgan, D. L. (2007). Paradigms lost and pragmatism regained. *Journal of Mixed Methods Research*, 1, 48-76.
- Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research*, 40, 120-123.

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