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)

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

MY RESEARCH METHODS BOOKS AND JOURNAL....

Published by Sage Publications, Pearson Education (Merrill Educ.)
MIXED METHODS HAS EXPANDED OUR VIEW OF WHAT CONSTITUTES EVIDENCE

Understand social world

Gather evidence

That we make sense of

Based on participant views

Based on frameworks, scales

Open-ended data

Closed-ended data

e.g., focus groups, interviews

e.g., surveys, measures

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

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

- Tradition
- Skills
- Publishable outlets

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
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

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

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

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
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

It has Expanded Our Worldviews that Underpin Research

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

Convergent Parallel Design

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

An Expanding Notation System

<table>
<thead>
<tr>
<th>Notation</th>
<th>What It Indicates</th>
<th>Example</th>
<th>Key Citations</th>
</tr>
</thead>
</table>

An Expanding Notation System (Cont’d)

<table>
<thead>
<tr>
<th>Notation</th>
<th>What It Indicates</th>
<th>Example</th>
<th>Key Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>( )</td>
<td>Embed within a design or framework</td>
<td>QUAN(qual)</td>
<td>Plano Clark (2005)</td>
</tr>
<tr>
<td>←</td>
<td>Recursive</td>
<td>QUAL ← QUAN</td>
<td>Nastasi et al. (2007)</td>
</tr>
<tr>
<td>=</td>
<td>Mixing purpose</td>
<td>QUAN → qual = explain results</td>
<td>Morse &amp; Niehaus (2009)</td>
</tr>
</tbody>
</table>

Expanding Procedures: A Convergent Design Diagram
Expanding Procedures: A Sequential Design

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 highjacked for a completely different purpose
- Platforms: structures that support new paradigms above them

How Can We Frame this Expansion to Understand It?

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

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

DISCIPLINE - JOURNAL EXPANSIONS

DISCIPLINE - JOURNAL EXPANSIONS

Mixed methods research in mental health nursing

Designing A Mixed Methods Study In Primary Care

The Application of Mixed Methods Designs to Trauma Research

Table 1

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-2009</td>
<td>2124</td>
</tr>
<tr>
<td>2000-2004</td>
<td>532</td>
</tr>
<tr>
<td>1995-1999</td>
<td>106</td>
</tr>
<tr>
<td>1990-1994</td>
<td>26</td>
</tr>
<tr>
<td>1985-1989</td>
<td>17</td>
</tr>
<tr>
<td>1980-1984</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 1: Number of Dissertations and Doires with “Mixed Methods” in the Title

Note: The number represents the number of dissertations and doires which contained the words “mixed methods” in the citation and abstracts. This search was conducted using the search engine “Google” (Google Search Engine, 2009).

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

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

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

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

- Conferences
- Journals
- Student support
- Computer programs

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SIDE-BY-SIDE COMPARISON JOINT DISPLAY

Comparison of Information from Interviews and Survey (Data Examples for Four of the Eight Themes)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Qual results</th>
<th>Quant results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How and why child was placed in program</td>
<td>Two aspects of decision: “inclusive” option</td>
<td>Parent concerned about child’s behavior in previous program</td>
</tr>
<tr>
<td>2. Program’s effectiveness for child</td>
<td>In a favorable placement, there is a “match” or “fit” between child and family’s needs &amp; program</td>
<td>Factors affecting match or fit</td>
</tr>
<tr>
<td>3. Habitat and supportive play</td>
<td>Development of individual strengths</td>
<td>Conducted interviews over time &amp; settings</td>
</tr>
<tr>
<td>4. Child’s involvement in community activities</td>
<td>Factors that affect participation</td>
<td>Environment, relationships, &amp; support</td>
</tr>
</tbody>
</table>

Limitations on participation:
- Child’s language ability
- Geographic distance
- Child’s disability
- Child’s behavior
- Lack of other children to play with in neighborhood

SOURCE: Li et al., 2008, Table 2, pp. 13-15. 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

ADDITIONAL RESOURCES

Books:

Articles and Chapters:

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