Mixing Research Methods
An approach to letting the evolving research question drive a PBRN line of investigation

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Overview
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   - Traditions
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IV. Example line of inquiry and spinoff studies
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Quantitative and Qualitative features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Quantitative</th>
<th>Qualitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role of researcher</td>
<td>Detached, objective</td>
<td>Engaged</td>
</tr>
<tr>
<td>Purpose</td>
<td>Test hypothesis</td>
<td>Describe; Develop theory</td>
</tr>
<tr>
<td>Data collection methods</td>
<td>A priori, structured</td>
<td>Flexible, iterative</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Deductive, statistical</td>
<td>Inductive, iterative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>leading to more data collection and revision of question</td>
</tr>
<tr>
<td>Type of data</td>
<td>Numbers</td>
<td>Predominately Words</td>
</tr>
<tr>
<td>Product</td>
<td>Status of hypothesis</td>
<td>Text</td>
</tr>
</tbody>
</table>
Qualitative Methods - Traditions

<table>
<thead>
<tr>
<th>Tradition</th>
<th>Purpose</th>
<th>Methods</th>
<th>Allied Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnography</td>
<td>Cultural description</td>
<td>Intensive fieldwork</td>
<td>Anthropology</td>
</tr>
<tr>
<td>Phenomenology</td>
<td>Explore lived experience</td>
<td>Analysis of cases to formulate meaning</td>
<td>Psychology</td>
</tr>
<tr>
<td>Biography</td>
<td>Meaning of experience as recorded through story</td>
<td>Interviews and documents exploring the life of an individual</td>
<td>Literature, Literary Criticism</td>
</tr>
<tr>
<td>Grounded Theory</td>
<td>Theory development, provide an explanation</td>
<td>Constant comparative method</td>
<td>Sociology</td>
</tr>
</tbody>
</table>

Decisions that drive a study

Epistemology – the theory of knowledge
Philosophical / theoretical perspective
Study design
Specific methods

Mixed Methods

General consensus that no longer a quantitative vs. qualitative methods – both are necessary.

Scope of mixing methods
- within study
- within line of inquiry
- within broad topic area
Mixed Methods

Attack the research problem with an arsenal of methods that have non-overlapping weaknesses in addition to complementary strengths.


Approaches to mixing methods

Sequential studies
Quantitative → Qualitative
Qualitative → Quantitative

Mixed methods in same study
Dominant/ Less Dominant
Secondary method plays a small role
Concurrent
Both Quantitative and Qualitative data collected & analyzed in a complementary manner


Approaches to mixing methods

Data transformation – convert data of one type to the other can be analyzed together.

Typology development – one type of data used to develop a typology that is used to drive analysis with other type of data.

Extreme case analysis – pursue data collection or analysis of data of the other type with the intent of refining the initial explanation for the extreme case.
Example line of inquiry

Direct Observation of Primary Care

- Cross-sectional observation of 84 family practices & 4454 patient visits to 138 physicians in Ohio
- Direct Observation
  - Davis Observation Code
  - Checklists
- Medical Record Reviews
- Patient Exit questionnaire
- Billing Data
- Practice Environment Checklist
- Ethnographic Fieldnotes

Prevention & Competing Demands

- In-depth multimethod comparative case study of 18 family practices & 1,600 visits to 56 clinicians in Nebraska
- Longer direct observation of practice environment recorded in checklists and field notes (4-8 weeks of observation)
- Direct observation of 30 encounters/clinician recorded in checklists and field notes
- Chart audits of patients who were observed
- Interviews of all clinicians, most staff, some community members
Study To Enhance Prevention by Understanding Practice (STEP-UP)

- Randomized clinical trial of 80 family practices in Ohio
- Multimethod assessment (MAP) of values, structures, and processes
- Patient survey and medical record review to assess preventive service delivery at 6 month intervals
- Practice-individualized intervention

Spinoff studies

A Typology of Collaboration

- Multidisciplinary
- Interdisciplinary
- Transdisciplinary

Multidisciplinary Research
- Multiple disciplines
- Each contributes their piece to solving a problem
- Like an edited book or separate presentations by multiple experts

Interdisciplinary Research
- A conversation between and among disciplines
- Working together on solving a common problem
- Like a collaborative health care team

Transdisciplinary Research
- A sustained conversation across and beyond disciplinary boundaries
- Creates a new shared language
- Such as the emergence of family systems medicine
6 Stages of Collaboration

- Acceptance / validation
- Shared expectations
- Declaring group process
- Action consensus
- Common space
- Sustained common action

Benefits

- Including multiple disciplines facilitates creativity and learning
- Ability to better match the evolving research question and methods
- Allows pursuit of multiple lines of inquiry
- Process data informs results and future studies
- Sharing work can increase scholarly productivity and audiences for findings
- Fosters both innovation and rigor
- Fun and potentially transforming

Pitfalls

- Developing needed relationships takes time and energy
- Design and analyses are continually being reinvented
- Requires highly skilled and flexible data collectors and analysts
Transdisciplinary, Multimethod Research

- Tailors the methods to the (evolving) question
- Develops relationships
- Well-suited for PBRN studies

Resources


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