

Lecture 11 (Mixed Methods Research (MMR))

Frequently referred to as the "third methodological orientation"

1. Grounded Theory 2. Phenomenology 3. Ethnography 4. Narrative Inquiry

What is Mixed Methods Research (MMR)?

Mixed Methods Research (MMR) involves collecting and analyzing both quantitative and qualitative data within the same study to better understand a research problem.

According to Vell, Plano Clark, Gutmann, & Hanson (2003), and Keele (2011):

"It is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration."

The key aspect of MMR is the integration of quantitative and qualitative data.

- Concurrent Mixing: Mixing data at the same time.
- Sequential Mixing: Mixing data one after the other.

Framework for Viewing Mixed Methods Perspectives

Quantitative → Qualitative

Data Collection → Data Collection

Data Analysis → Data Analysis

Results compared, integrated, and interpreted

Multi vs. Mixed Methods

Multi Methods:

- Uses more than one method.
- Can be two qualitative or two quantitative methods.

Mixed Methods:

- Uses both qualitative and quantitative methods.
- Involves mixing and integrating data so that one type of data informs another.

The Rise of Mixed Methods Research (MMR)

MMR emerged as an identifiable methodological movement in the early 1980s. It has been described as a "quiet revolution" for resolving tensions between qualitative and quantitative methods.

Philosophy in Mixed Methods Research

- Mixed methods research represents an opportunity to transform these tensions into new knowledge through a dialectical discovery

Pragmatic Perspective:

- Employs diverse approaches focusing on "what works."
- Values both objective and subjective knowledge.
- Emphasizes the importance of the research problem and question.

Qualitative vs Quantitative

Criteria	Qualitative research	Quantitative research
Purpose	To understand and interpret social interactions	To test hypotheses, look at cause and effect and make predictions.
Group studied	Smaller	Larger
Variables	Study of the whole (not variables).	Specific variables studied.
Form of data collected	Qualitative data, such as open ended responses, interviews, participant observation, and field notes.	Quantitative data based on precise measurement using structured and validated data collection instruments.
Type of data analysis	Identify patterns, features and themes	Identify statistical relationships
Results	Particular or specialised findings that are less generalizable.	Generalised findings that can be applied to other populations.
Scientific method	Bottom- up- the researcher generates a new theory from the collected data.	Top- down- the researcher tests the theory with the data.

MMR Data Collection

Qualitative Data:

- Interviews
- Observations
- Documents
- Audio-visual materials

Quantitative Data: - Instruments - Checklists - Records

When to Use Mixed Methods Research

- When quantitative data alone doesn't capture the full story.
- When a more complete understanding of the research problem is needed.
- To prevent misleading interpretations from a single method.

Planning MMR

Researchers must address the following questions:

1. In what sequence will qualitative and quantitative data be collected?
2. What relative priority will be given to each type of data collection and analysis?
3. At what stage will the data be integrated?
4. Will an overall theoretical perspective guide the study?

Priority: The relative weight assigned to qualitative and quantitative components. Sometimes referred to as dominance.

Rationales for Mixed Methods Research (Doyle, Brady, & Byrne, 2016)

Rationale	Explanation
Triangulation (convergence)	Using quantitative and qualitative methods so that findings may be mutually corroborated (Quantitative analyses employ descriptive and inferential statistics, whereas qualitative analyses produce expressive data that provide descriptive details (often in narrative form) to examine the study's research objectives)
Expansion	<ul style="list-style-type: none"> • The first phase has findings that require explanation qualitatively (to explain results or how mechanisms work) in causation models. • Unexpected findings that need to be explained
Exploration	An initial phase is required to develop an instrument, identify variables to study or develop a hypothesis that requires testing (Explore qualitatively then develop an instrument)
Complementarity	Using different methods to address different parts of the phenomenon, to integrate two different but connected answers to a research question: one reached via a quantitative approach and the other by means of a qualitative one.
Offset weaknesses (compensation)	Ensures that weaknesses of each method are minimised

- instrument development: Qualitative insights help in developing quantitative instruments.

Notations in MMR

- Uppercase (QUAN, QUAL): Indicates primary method.
- Lowercase (quan, qual): Indicates secondary method.
- MM: Mixed-methods.
- Arrows (→): Sequential data collection.
- Plus (+): Simultaneous data collection.
- Equal (=): Converged data collection.
- Parentheses (): One method embedded in the other.

Mixed Methods Designs

Sequential Explanatory Design (QUAN → qual):

- The most frequently applied mixed methods design in both health and social sciences literature
- Used when you want to explain the initial quantitative results in more depth with qualitative data

- This design can be especially useful when unexpected results arise from a quantitative study.
- Process: Quantitative data is collected and analyzed first, followed by qualitative data to explain quantitative results.
- Example: A study on rehabilitation effectiveness might first collect quantitative data on patient progress and then use qualitative interviews to understand patient experiences.
- Benefits: Provides broad understanding through quantitative data and detailed insights through qualitative data.
- Drawbacks: Time-consuming and potential for participant loss between stages. Can be difficult to fully plan the qualitative arm since it will be dependent on the results of the quantitative results.

Examples of Sequential Explanatory Study

1. Study on Conversational Abilities:

- Quantitative: Rate conversational abilities before and after a program.
- Qualitative: Follow-up interviews to discuss reasons for specific ratings.

2. Healthcare Access Study:

- Quantitative: Survey identifying individuals with access issues.
- Qualitative: Examining specific barriers and consequences of not receiving care.

Reasons for Conducting Mixed Methods Evaluations (Bryman, 2006)

- Offset: Minimizes weaknesses of each method.
- Complement: Provides a more complete answer than either method alone.
- Process: Quantitative for outcomes, qualitative for processes.
- Different Questions: Answers different aspects of the research question.
- Unexpected Results: Explains surprising results from one method with another.
- Sampling: Facilitates sampling from another approach.
- Integrity: Enhances the credibility of findings.
- Context: Develops depth alongside generalizability.
- Utility: More practical for real-world applications.
- Diversity of Views: Captures a wide range of perspectives.

By integrating quantitative and qualitative methods, MMR offers a comprehensive approach to research, addressing complexities and providing richer insights than using either method alone.

Lecture 12 (you must see the slides for more understanding and more information of this lec)

****the summary of this lec gives a general overview about slides after finishing it go to slides it wont take a lot of time****

1. Data Integration in Mixed Methods Research (MMR)

Integration: how the researcher relates the quantitative and qualitative datasets..

Continuum of Integration:

- Component Designs: Minimal integration, occurs during analysis and interpretation.
- Integrated Designs: Maximum integration, built into the design structure.

Types of Integration (John Creswell, 2015):

1. Merging the Data: Compare quantitative and qualitative results.
2. Explaining the Data: Use qualitative data to explain quantitative results.
3. Building the Data: Use qualitative findings to inform the quantitative phase.
4. Embedding the Data: One dataset supports the other.

2. Sequential Exploratory Design (QUAL → quan)

Purpose: Explore phenomena, identify themes, and design instruments.

Process:

- Phase 1: Collect and analyze qualitative data to identify themes.
- Phase 2: Develop quantitative instruments based on qualitative findings.
- Emphasis: Greater focus on qualitative data.
- Integration: Occurs at the interpretation stage.

Example: Conduct focus groups to identify barriers, then use surveys to rate the impact of these barriers.

3. Sequential Transformative Design

Purpose: Address social justice issues through a transformative theoretical perspective.

Process:

- Two Phases: Start with either qualitative or quantitative data.
- Integration: During the interpretation phase.

Example: Conduct a quantitative survey on mental health, followed by qualitative interviews to explore cultural influences.

4. Concurrent Triangulation Design

Purpose: Validate quantitative findings with qualitative data and reduce implementation time.

Process:

- Data Collection: Collect qualitative and quantitative data simultaneously.
- Priority: Equal importance to both data types.
- Integration: During analysis and interpretation.

Example: Conduct interviews and validated scales during the same visit.

5. Concurrent Embedded/Nested Design

Purpose: Gain a broader perspective and address different research questions.

Process:

- Data Collection: Collect data simultaneously but give more priority to one type.
- Integration: During the analysis phase.

Example: Conduct focus groups and use questionnaires to assess differences in patient and partner perspectives.

6. Concurrent Transformative Design

Purpose: Address social issues faced by a specific group using a theoretical change perspective.

Process:

- Data Collection: Collect qualitative and quantitative data concurrently.
- Integration: During interpretation to provide voice to diverse perspectives.

7. Research Questions in MMR

- Sequential: Questions follow the order of data collection.
- Concurrent: Questions based on the importance or weight of the data (quantitative or qualitative). - if quan more heavily weighted, start with quan research hypothesis, if qual more heavily weighted, start with qual research questions.

8. Data Analysis in MMR

- Separate Analysis: Analyze qualitative and quantitative data separately using appropriate methods.
- Integration: Combine findings during the interpretation phase.

9. Advantages of MMR

- Combines quantitative and qualitative data.
- Reflects participants' views.
- Encourages scholarly interaction.

- Words, pictures, and narrative can be used to add meaning to numbers.
- Numbers can be used to add precision to words, pictures and narrative
- Provides methodological flexibility.
- Collects rich, comprehensive data.

10. Weaknesses of MMR

- Requires knowledge of multiple methods.
- Can be time-consuming and expensive.
- Limited guidance on transformative methods.
- Cyclical continuous process, arbitrary, haphazard
- • Methodological purists contend that one should always work within either a qualitative or a quantitative paradigm.