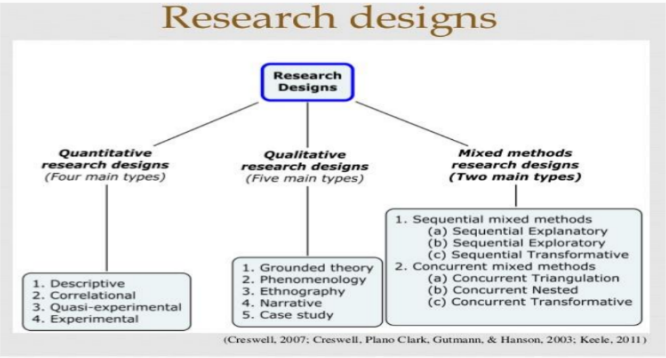
SMR | LEC 11 | DONE BY: OLA ALAHDAB

MIXED METHODS RESEARCH (MMR):



•Frequently referred to as the 'third methodological orientation'

What is Mixed Methods Research (MMR)?

A Mixed methods research design is a research approach whereby researchers **collect & analyse both quantitative & qualitative data within the same study** to understand a research problem.

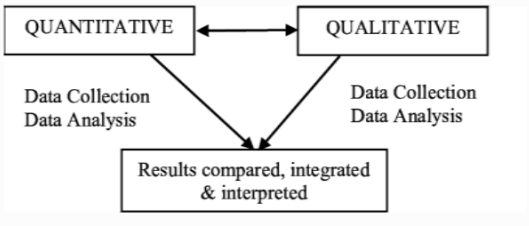
• "It is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding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

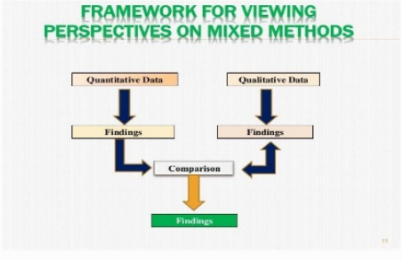
The key word is 'mixed', as an essential step in the mixed methods approach is **data linkage** or integration.

❑ The researcher Mixes qualitative and quantitative data at the same time (concurrently) or one after the other (sequentially).

❑ The concept of mixing methods was first introduced by **Jick (1979)**, for seeking convergence across qualitative & quantitative methods within social science research.

❑ This is beyond simply the inclusion of open-ended questions in a survey tool or the collection of demographic data from interview participants, but rather involves the explicit integration of qualitative and quantitative elements in a single study.





Multi versus Mixed Methods

Multi Methods:

➢Uses more than one method.

➢Can be two qualitative or two quantitative.

Mixed Methods:

➢ Uses both qualitative and quantitative.

➢ Involves mixing & integration of the data so that one type of data informs another.

The Rise of Mixed Method Research (MMR):

• It has a short history as an identifiable methodological movement which can be traced to the early 1980s & has been described as a 'quiet' revolution due to its **focus of resolving tensions between the qualitative & quantitative methodological movements.**

Philosophy in mixed methods research:

• MMR represents an opportunity to transform these tensions into new knowledge through a dialectical discovery.

• A pragmatic perspective draws on employing "what works" using diverse approaches, giving primacy to the importance of the research problem and question, and valuing both objective & subjective knowledge.

MMR involves collecting both quantitative and qualitative data:

- Quantitative data
  - Instruments
  - Checklists
  - Records

- Qualitative data
  - Interviews
  - Observations
  - Documents
  - Audio-visual materials

When do you use mixed methods research?

• You have a sense that scores are not telling you the entire story. If you just asked a few people about the concept you might obtain a better understanding.

- **Mixed methods research provides a more complete understanding of the research problem than either quantitative or qualitative alone**.

• Interpretation of data from one design only might be misleading, for example, a structured questionnaire about teachers' emotions regarding teaching practices may only show negative or positive emotion without adequately explain the event that triggered the emotions.

Planning of MMR:

• 4 questions must be addressed by the researcher during the planning stage of MMR:

Qualitative versus quantitative research

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.

Qualitative versus quantitative research (Continued)

Criteria	Qualitative research	Quantitative research
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.

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

• **Priority** in mixed methods design is the **relative weight** assigned to the qualitative and quantitative research components.

• Sometimes priority is referred to as **dominance**.

Rationales for mixed methods research adopted from (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)
Explanation	• 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.

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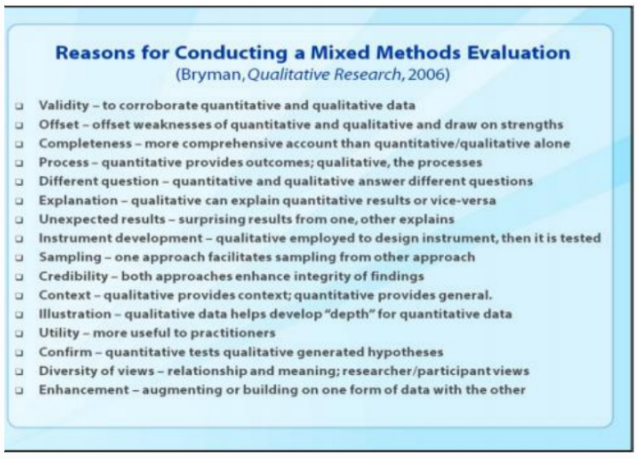


Notations of MMR:

• The use of **upper case** refers to ***emphasis*** (i.e. the primary or dominant method), whereas the use of **lower case** refers to ***lower emphasis***, priority or dominancei.

➢ QUAN or quan refers to quantitative data.
➢ QUAL or qual refers to qualitative data.
➢ MM refers to mixed-methods.
➢ → data collected sequentially.
➢ + data collected simultaneously.
➢ = converged data collection.
➢ ( ) one method embedded in the other.

Mixed methods designs (According to the order or timing of implementation of the data collection):

• Sequential Explanatory Design
• Sequential Exploratory Design
• Sequential Transformative Design
• Concurrent Triangulation Design
• Concurrent Embedded/Nested Design
• Concurrent Transformative Design

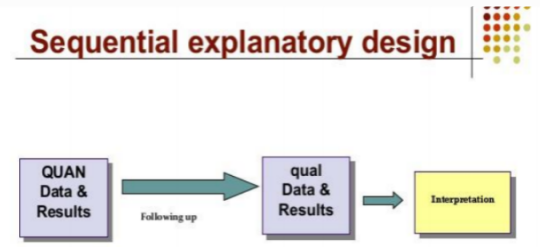
SEQUENTIAL EXPLANATORY DESIGN:

('QUAN → qual')

• Alternatively, we can refer to it as explanatory design.
• The most frequently applied mixed methods design in both health and social sciences literature.
• The reason for favouring sequential explanatory design is that quantitative design in the first stage will portrayتمثل

		Criteria				
Timing	Designs	Weighting	Mixing/ stage of integration	Notation	Theoretical perspective	Description
Sequential	Explanatory	Usually quantitative	Interpretation phase	QUAN→qual	May be present	The researcher seeks to elaborate on or expand the findings of one method with another method
	Exploratory	Usually qualitative	Interpretation phase	QUAL→quan		
	Transformative	Qualitative, quantitative or equal	Interpretation phase	qual→quan or quan→qual	Use of theoretical perspective (e.g. advocacy)	
Concurrent	Triangulation	Preferably equal; can be quant or qual	Interpretation or analysis phase	QUAN + QUAL	May be present	The researcher converges two types of data at same time to provide an inclusive analysis of the research
	Embedded	Qualitative or quantitative	Analysis phase	QUAN(qual) or QUAL(quan)		
	Transformative	Qualitative, quantitative or equal	Usually analysis phase, can be interpretation phase too	qual + quan or quan + qual	Use of theoretical perspective (e.g. advocacy)	

the objective **statistical findings** from the group in general.
Afterwards, a qualitative approach can be used to discover **subjective nuances** الفروق الدقيقة from participants as individuals and explain the phenomenon behind the numbers that cannot be described merely by the quantitative data.



• Viewing the study as a **two-phase project**.
• It is denoted by 'QUAN → qual' which represents the **quantitative study occurs first** and has greater weight in addressing the study's aims, **and the qualitative study follows** to explain quantitative results.
• Used to explain the initial quantitative results in more **depth** with qualitative data (e.g. statistical differences among groups).
• The rationale for this approach is that the quantitative data & their subsequent analysis provide a general understanding of the research problem. The qualitative data & their analysis refine & explain those statistical results by exploring participants' views in more depth.
• **This design can be especially useful when *unexpected results* arise from a quantitative study**.
• **Data analysis is usually connected**, and integration usually occurs at the **data interpretation stage**.

• To reiterate, key characteristics:
➢Data collection priority (**Quantitative** data).
➢Sequence (**First quantitative** data then qual).
➢Use of data (**to refine**, elaborate).

• Questions to consider when collecting the qualitative data:
➢What results need further explanation?
➢What qualitative questions arose from the quantitative results?
• **Interview schedule questions depend on and are developed based on the quantitative findings**.
• In explanatory research where qualitative research is mostly used to substantiate findings generated in a population-level survey, **priority is mostly assigned to the quantitative component**.

Examples on Sequential Explanatory Study:
1• Researchers may ask persons with hearing loss to rate their conversational abilities before and after an aural rehabilitation program (QUAN) & then have the same participants take part in one-on-one clinician-led follow-up interviews to discuss reasons for specific ratings (qual).

2• A study aimed to : 1) to identify the proportion of individuals with cerebral palsy, spinal cord injury, multiple sclerosis, or arthritis who report difficulties with accessing and/or utilising needed health care services; 2) to identify reasons for access or utilisation

difficulties and the consequences that these may produce.
• The **quantitative component involved a survey** that identified a group of 'accessstressed' individuals who reported substantial problems in accessing and/or using health care services.
• The qualitative study component focused on this group to examine what specific barriers made access problematic and what consequences resulted from not receiving care when needed.

Drawbacks of Sequential Explanatory Design:
• It is more **time-consuming** when compared to concurrent design.
• Potential for **loss of participants**.
• Can be **difficult to fully plan** the qualitative arm since it will be dependent on the results of the quantitative results.

{يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تُلْهِكُمْ أَمْوَالُكُمْ وَلَا أَوْلَادُكُمْ عَن ذِكْرِ اللَّهِ ۚ وَمَن يَفْعَلْ ذَٰلِكَ فَأُولَٰئِكَ هُمُ الْخَاسِرُونَ} [المنافقون : 9]