SMR | LEC 12 | DONE BY: OLA ALAHDAB
MIXED METHODS RESEARCH–2

Data integration in MMR

• Integration refers to how the researcher relates the quantitative and qualitative datasets.
• There is a continuum of integration. That is, the extent to which the two methods and datasets are related to each other varies.
• At one end of the continuum there are "component designs" (in which integration occurs only during data analysis and interpretation).
• Component designs offer minimal integration.
• At the other end of the continuum there are "integrated designs" (in which integration is built into the entire design structure)
• Integrated designs offer maximum integration.

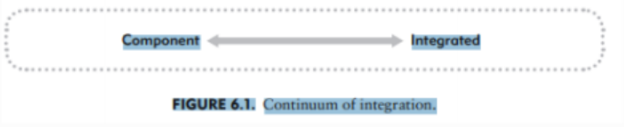
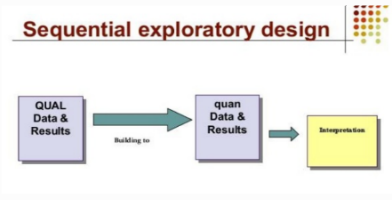


FIGURE 6.1. Continuum of integration.

• types of integration:
1. **Merging** the data: quantitative & qualitative results are brought together & compared.
2. **Explaining** the data: qualitative data are used to explain the results of quantitative data.
3. **Building** the data: qualitative findings are used to build quantitative phase of the study.
4. **Embedding** the data: One set of data is used to augment or support the other set of data

Sequential Exploratory Design ('QUAL → quan'):



• Alternatively, we can refer to it as **exploratory design**.
• Viewing the study as a two phase project.
• Used often to **explore** a phenomenon, **identify** themes, and or **design** an instrument.
• In an exploratory design, **qualitative data** is first collected and analyzed, and themes are used to drive the development of a **quantitative instrument** to further explore the research problem.
• Typically, greater emphasis is placed on the **qualitative data** in the study.
• Data analysis is usually connected, and **integration** usually occurs at the data **interpretation** stage.
• In exploratory studies, where the concepts, variables and relationships among them are mostly unclear, greater priority is often assigned to **qualitative elements** that uncover the 'pool' of variables and relationships among them that may be subsequently studied quantitatively.

Sequential Exploratory Design- Data collection

• In this strategy, the data collection would occur in 2 phases with the initial qualitative data collection followed by the second quantitative data collection.
The challenge is how to use the information from the initial phase in the second phase.
• The qualitative data analysis can be used to develop an instrument with good

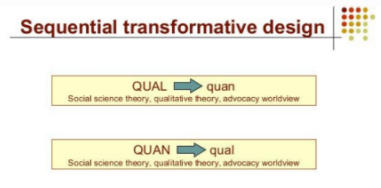
psychometric properties (i.e., validity, reliability).
• The qualitative data analysis will yield quotes, codes, and themes.
• The development of an instrument can proceed by using the quotes to write items for an instrument, the codes to develop variables that group the items, and themes that that group the codes into scales.
• A researcher can analyse the qualitative data to develop new variables, that will be explored further in a quantitative phase.
• The question arises if the sample for the qualitative phase is the same for the quantitative phase. This cannot be, because the qualitative sample is typically much smaller than a quantitative sample needed to generalize from a sample to a population.
Sometimes mixed methods researchers will use entirely different samples for the qualitative and quantitative components of the study.

Sequential Exploratory Design- Data Analysis:
• In this strategy the researcher analyses the two databases **separately** and uses the findings from the initial exploratory database to build into quantitative measures.

Sequential Exploratory Design- Interpretation:
• Researchers interpret the mixed methods results in a discussion section of a study.
• The order of interpretation is to first **report the qualitative** findings, the **use** of the qualitative results (e.g., the development of an instrument). and then the **quantitative results** of the final phase of the study.

- Examples on Sequential Exploratory Study:
1• A researcher may conduct a focus group of special education teachers to generate discussion of perceived barriers to implementing speech and language services in the schools (QUAL). Then, using the ideas generated in the focus group, a large-scale survey might be sent to all the teachers in a district asking them to rate the impact of predetermined barriers (quan).
2• A study sought to: 1) understand the motivating and inhibiting factors to physical activity and exercise in people after spinal cord injury (SCI), and 2) develop, test and implement a survey tool that examines self reported physical activity after SCI and its relationship with secondary conditions.
• Qualitative (exploratory) data collection preceded the quantitative study component.
• The focus groups specifically explored barriers and facilitators of exercise.
Understanding these factors was critical to inform development of the survey tool, which included items on ‘chronic and secondary conditions’, ‘health risk behaviours’, ‘hospital and health care utilisation’, ‘physical functioning’, ‘exercise activities and patterns’, ‘rehabilitative therapy’, ‘wheelchair use’, ‘community integration’

Sequential Transformative Design:

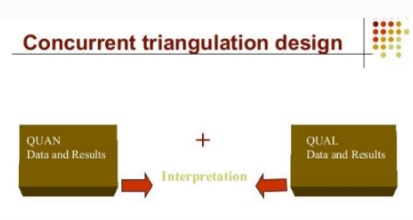


• Has 2 distinct data collection phases.
• Both types of methods are combined in this design, but the research is also explicitly driven by a transformative theoretical perspective.
• In this method **either type of data can be collected first**
• A theoretical perspective (lens) is used to guide the study (transformative framework).
• Purpose is to use the methods that will best serve the theoretical perspective of the researcher.
• **After separate analysis of qualitative and quantitative data, integration of outcomes will take place during the interpretation phase**.

• The researcher uses a theoretical based framework **to advance needs** of underrepresented or marginalised population (women, people with disabilities, racial and ethnic minorities, religious minorities).
• Seeks **to address issues of social justice and call for change**.
• Strength: very **straight-forward** in terms of implementation and reporting.
• Weakness: time consuming. Little guidance due to the relative lack of literature on the transformative nature of moving from the first phase of data collection to the second.

- An example of Sequential Transformative design:
• A sequential transformative study was conducted to examine the cultural influences on mental health problems.
• The study commenced with a quantitative telephone survey of the community which included the General Health Questionnaire.
• The quantitative phase of the study was followed by qualitative interviews which were theoretically driven. These interviews enabled the researchers to explore the cultural health experiences related to the non-use of mental health facilities by Vietnamese and West Indian participants living in an urban area of Montreal.

Concurrent Triangulation Design:



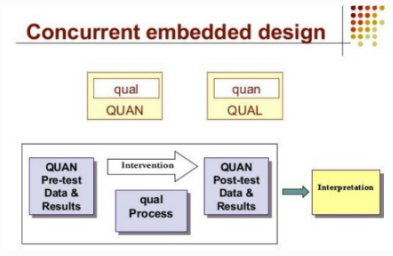
• In this case, the **qualitative & quantitative data are collected simultaneously**.
• Priority is usually equal and given to both forms of data.
• The results are then integrated in the final interpretation.
• **Merging** of QUAN and QUAL results **occurs during the analysis and interpretation** to provide an integrated conclusion and involves comparing, contrasting and synthesising the two strands.
• Used **when the researcher wants to validate quantitative findings with qualitative data**.
• Particularly useful **for decreasing the implementation time**.
• "**Parallel**" term can be used to define the concurrent approach

• Data collection priority (equal).
• Sequence (concurrently).
• Use of data (To compare similar/dissimilar).

- An example on Concurrent Triangulation Design:

• In their study of maternal and child well-being conducted semi structured in-depth interviews with mothers and collected quantitative data using several validated scales (e.g. Parenting Stress Index, Edinburgh Post-Natal Depression Scale (EPDS), Rosenberg Self-Esteem Scale) at the same home visit.
• The authors identified numerous family stressors in interviews, which were corroborated in the quantitative maternal stress index scales. Similarly, the objective measures (EPDS) addressing emotional well-being that indicated a high level of maternal depression were supported by findings from the interviews, in which mothers reported low energy levels, despondency and anxiety attacks.
• The authors note that concurrent use of qualitative and quantitative measures adds to the depth and scope of finding.

Concurrent Embedded/Nested Design



• **Quantitative and qualitative data are collected and analysed at the same time**.
However, **priority is usually unequal** and given to one of the two forms of data—either quantitative or qualitative data.
• In this case, **both types of data are collected simultaneously, but** one of the two methods is embedded in the other in a way that allows the researcher to address a question that is different from the one answered by the dominant method.
• The **integration of data occurs in the analysis**.

• Primarily purpose is **for gaining a broader perspective** than could be gained from using only the predominant data collection method.
• Secondary purpose is use of embedded method **to address different research questions**.

- An example of Concurrent Nested/Embedded Design:

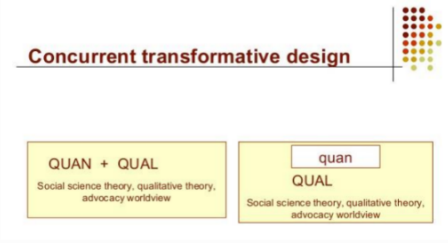
• Strasser et al. (2007) conducted a concurrent nested design to explore eating-related distress of advanced male cancer patients and their female partners.
• The primary method used in the study was focus groups which were attended by patients

Table 10.3 Choosing a Mixed Methods Project, Expected Outcomes, Type of Design

Reasons for Choosing Mixed Methods	Expected Outcomes	Recommended Mixed Methods Design
Comparing different perspectives drawn from quantitative and qualitative data	Merging the two databases to show how the data convergent or diverge	Convergent parallel mixed methods design
Explaining quantitative results with qualitative	A more in-depth understanding of the quantitative	Explanatory sequential
data	results (often cultural relevance)	mixed methods design
Developing better measurement instruments	A test of better measures for a sample of a population	Exploratory sequential mixed methods design
Understanding experimental results by incorporating perspectives of individuals	An understanding of participant views within the context of an experimental intervention	Embedded mixed methods design
Developing an understanding of needed changes for a marginalized group	A call for action	Transformative mixed methods design

and their partners with the conduct of these groups and the analysis of the data based on grounded theory (qualitative) techniques.
• The secondary or nested focus of the study was the differences in patients' and their partners' assessment of the intensity and symptoms and degree of cachexia-related symptoms of eating-related disorders of patients. This secondary information was collected by a structured questionnaire which was completed at the time of the first focus group.
• The eating-related distress differed for patients and their partners as indicated in the qualitative findings, and this was complemented by the quantitative findings.

Concurrent Transformative Design



• **Guided by a theoretical perspective** of change.
• Concurrent collection of both quantitative and qualitative data.
• Similar to sequential transformative designs, these designs are useful **for giving voice to diverse or alternative perspectives, advocating for research participants, and better understanding a phenomenon** that may be changing as a result of being studied.
• Aims **to address social issues** faced by the group of people.

Research Questions in MMR:

• Think about order of data collection:
➢**If sequential,** ask first question first, second second.
➢**If concurrent**, ask questions based on weight or importance- if quan more heavily weighted , start with quan research hypothesis, if qual more heavily weighted, start with qual research questions.

Data analysis in mixed methods:

• It is unusual for qualitative and quantitative data to be analysed together.
• Typically, we use analytic methods appropriate to our data collection strategy.
• Each of our analyses must meet standards of rigor specific to the overall approach.
• The key is actually how we:
❖ **Use** each form of analysis.
❖ **Integrate** our INTERPRETATION of our analyses.

Advantages of MMR:

• Compares quantitative and qualitative data.
• Reflects participants' point of view.
• Fosters scholarly interaction.
• Collects rich, comprehensive data.
•Provides methodological flexibility.
• Words, pictures, and narrative can be used to add meaning to numbers.
• Numbers can be used to add precision to words, pictures and narrative.

Weaknesses of MMR:

• A researcher has to learn about multiple methods and approaches and understand how to mix them appropriately.

• Methodological purists contend that one should always work within either a qualitative or a quantitative paradigm.
• Mixed method research can be difficult for a single researcher to carry out, especially if the two approaches are expected to be used concurrently.
• Mixed method research is more expensive and more time-consuming.
• Little guidance on transformative methods in the literature.

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آخر محاضرة بآخر امتحان بيسك ') ❤️

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