Mixed Methods Approach

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Intended Learning Outcomes

By the end of this lesson, you will be able:

- Define a mixed methods approach.
- Understand the different categorisations of this approach.

Source

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of mixed methods research*, *1*(2), 112-133.

Definitions, definitions

Mixed methods research is a research design (or methodology) in which the researcher collects, analyses, and mixes (integrates or connects) both quantitative and qualitative data in a single study or a multiphase program of inquiry. (Creswell, 2014)

Mixed methods is a term that is usually used to designate combining qualitative and quantitative research methods in the same research project. I prefer the term **multimethod** research to indicate that different styles may be combined in the same research project. These need not be restricted to quantitative and qualitative; but may include, for example, qualitative participant observation with qualitative in-depth inter-viewing. Alternatively it could include quantitative survey research with quantitative experimental research. And of course it would include quantitative with qualitative styles (Hunter,2003)

Three Different Classifications

- The reasons for the design
- The structure of the design
- The research family to which it belongs (methodology).

Reasons

Green et al's Categorisation

- Triangulation
- Complementarity
- Development
- Expansion
- Initiation

Triangulation

The different methods provide corroboration of results.

Example: In order to understand teacher viewpoints on mixed-ability teaching a research project uses both of the following:

- **A questionnaire of a very large sample of teachers across the country.**
- **Interviews with a much smaller sample but that represent the same demographic range as the questionnaire**

Complementarity

The results of one data set can enhance or explain the other.

Example: In order to understand who teachers ask (or don't ask) to answer questions in whole class interactive teaching and why, a project might include:

- **A structured observation recording how many children are asked/not asked to respond and compared for different representation (e.g. gender, achievement)**
- **A qualitative analysis of lesson transcripts exploring both the nature of the questions asked and the answers given.**

Development

Results from one method help to develop another method.

Example: In order to understand student beliefs about the value and purpose of online learning in a secondary school, a project might:

- **Conduct a questionnaire to establish key areas of concern among different groups**
- **Set up focus groups where both the focus of discussion and make up of the groups is informed by the findings from the questionnaire.**

Expansion

Several methods can extend the range of enquiry and answer different research questions.

Example: In order to understand if and how a focus on 'practical Maths' might improve performance, a project might:

- **undertake an experimental design; comparing two groups using (and not using) this approach with a pre/post-test design to compare outcomes**
    - **Research question: Can practical Maths improve student performance?**
- **conduct an unstructured observation in the experimental group to explore the variety of classroom interpretations of practical maths, noting how students engage**
    - **Research question: How does student engagement vary in response to a range of different 'practical maths' activities?**

Initiation

Different methods allow for the discovery of paradox or contradiction and so enable the exploration of complexity.

Example: to explore the complex relationship between teacher beliefs and teacher practice in relation to the explicit teaching of grammar, a project might:

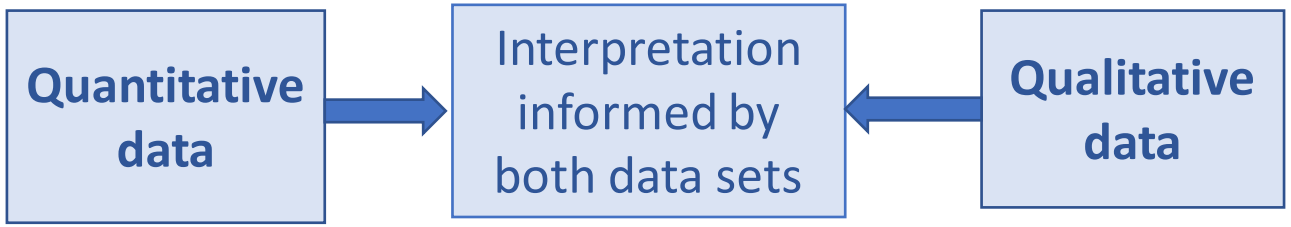
- interview teachers to establish espoused beliefs about the value of explicit teaching of grammar
- conduct a structured observation noting examples of practice in line with beliefs and those that are counter to stated beliefs
- facilitate a teacher reflection on the observation.

Structures

Mixed Methods Research Designs

- Some researchers suggest that over forty different mixed-methods research designs have been identified
- However, Cresswell and Plano-Clark have attempted to summarise (or categorise) these different designs by identifying four main typologies

Triangulation Design



to obtain different but complementary data on the same topic, each having equal weight

Strengths: it makes intuitive sense, data can be collected separately so could involve multiple researchers

Challenges: implementation requires more effort and a wider range of expertise, there may be problems with drawing conclusions as the data may not be in agreement

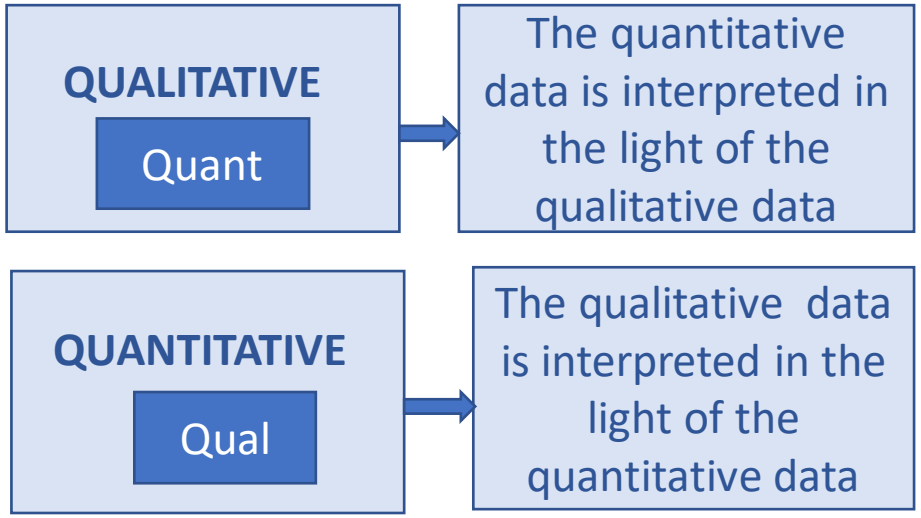
Triangulation Design: An Example

In order to understand social behaviour in the playground, a project might:

- Conduct a structured observation of focus children at break time, noting the size and gender of the social groupings they join, the activities they are engaged in and the frequency with which they change either group or activity.

- Conduct a post-break time interview, asking children about their preferred activities, the pleasures and challenges of break time and with whom they play.

Embedded Design



One method plays a supportive role in a study based primarily on the other method

BUT where the data would not make sense if it were not embedded in the other method

Strengths : providing contextual detail to a quantitative study or statistical detail to a qualitative study

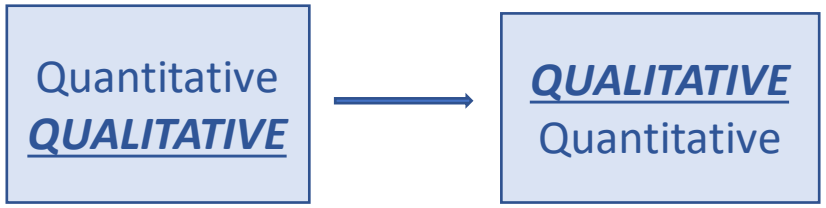
Challenges: It can be difficult to integrate the results

Embedded Design: An Example

In a study looking historically at how language has been used in samples of student writing across different decades:

- The main method would use linguistic analysis: quantifying features such as subordination, prepositional phrases, expanded noun phrases etc.
- The embedded method would use interpretive analysis to see what ideas and content are represented by these different features

The Explanatory Design

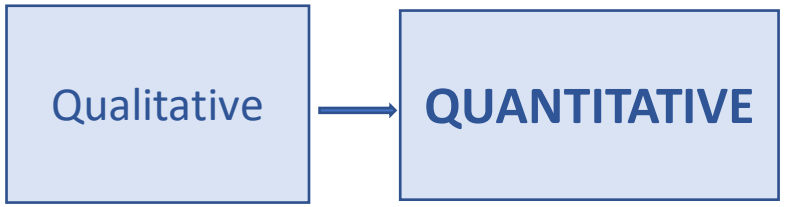


A *TWO-PHASE DESIGN* where the researcher prioritises the qualitative data which is informed by, or added to, using quantitative data

Common forms

- Quantitative data informs selection of participants for an in-depth qualitative study
- Quantitative data informs areas to pursue in an in-depth interview
- Findings from an in-depth qualitative study inform post-hoc clarifying quantitative data

The Exploratory Design



A *TWO-PHASE DESIGN* where the researcher prioritises the quantitative data which is informed by the pre-collection qualitative data

- Exploratory qualitative data is used to design a quantitative tool
- In order to measure a phenomenon, qualitative data helps explore the phenomena to be measured