



WOX7001 - RESEARCH METHODOLOGY

Topic 7 - Mixed Method Research

Agenda

01

DEFINITION

02

DESIGNING
MIXED METHOD
STUDY

03

MIXED METHOD
RQ

How would you combine two types of data?

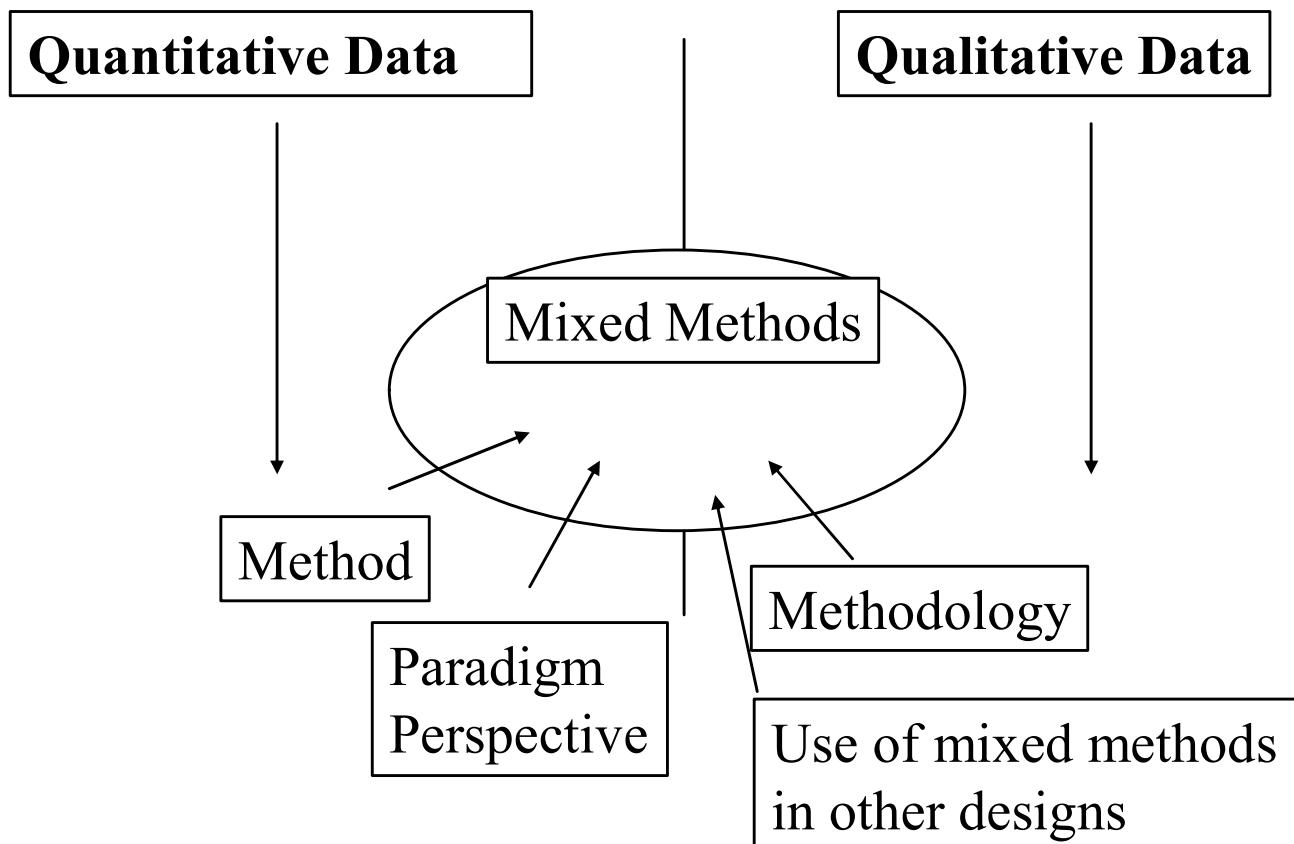
Qualitative Text Data

- ❖ This is a sample of a text file of words that might be collected on interview transcripts, observation fieldnotes, or optically-scanned documents.

Quantitative Numeric Data

- ❖ 2 3 4 2 5 2 3 1 1 2 3 4 2 3 3 2
1 1 1 5 3 4 1 2 3 1 4 4 5 5 4 1
2 1 4 3 3 5 1 4 2 3 1 5 5 2 2 1
5 3 5 1 3 1 5 3 2 2 5 1 3 2 4 4
3 1 2 4 2 2 4 1 5 5 4 2 1 5

Definition/Framework of Mixed Method



A mixed methods researcher...

- Collects both quantitative and qualitative data
- “Mixes” them
- “Mixes” them at the same time (concurrently) or one after the other (sequentially)
- Emphasizes both equally or unequally

A definition...

- *Mixed methods research is both a method and methodology for conducting research that involves collecting, analyzing, and integrating quantitative and qualitative research in a single study or a longitudinal program of inquiry.*
- *The purpose of this form of research is that both qualitative and quantitative research, in combination, provide a better understanding of a research problem or issue than either research approach alone.*

Mixing or linking the data

Converge data:



Connect data:



Embed the data:



What is the reason for using mixed methods?

- ❖ The insufficient argument – either quantitative or qualitative may be insufficient by itself
- ❖ Multiple angles argument – quantitative and qualitative approaches provide different “pictures”
- ❖ The more-evidence-the-better argument – combined quantitative and qualitative provides more evidence
- ❖ Community of practice argument – mixed methods may be the preferred approach within a scholarly community
- ❖ Eager-to-learn argument – it is the latest methodology
- ❖ “Its intuitive” argument – it mirrors “real life”

Designing a Mixed Methods Study

- ❖ Preliminary considerations
- ❖ Creating a title
- ❖ Posing a general question
- ❖ Listing the types of data collection and analysis
- ❖ Making explicit your worldview
- ❖ Identifying your research design
- ❖ Drawing a figure of your design
- ❖ Writing a purpose statement
- ❖ Writing research questions
- ❖ Completing a research plan

List your types of data collection (a review)

- ❖ Quantitative data (closed-ended)
- ❖ Instruments
- ❖ Behavioral checklists
- ❖ Records
- ❖ Qualitative data (open-ended)
- ❖ Interviews
- ❖ Observations
- ❖ Documents
- ❖ Audio-visual materials

Activity – List your sources of data

Quantitative Sources of Data

- ❖ Via questionnaire analysis
- ❖ Via experiments

Qualitative Sources of Data

- Via observation analysis
- Via analysis of interview
transcribe

List your approach to data analysis (a review)

- Quantitative analysis
 - Use statistical analysis,
 - For description
 - For comparing groups
 - For relating variables
 - Design-type
- Qualitative analysis
 - Use text and images,
 - For coding
 - For theme development
 - For relating themes
 - Design-type

Make explicit your (theory)

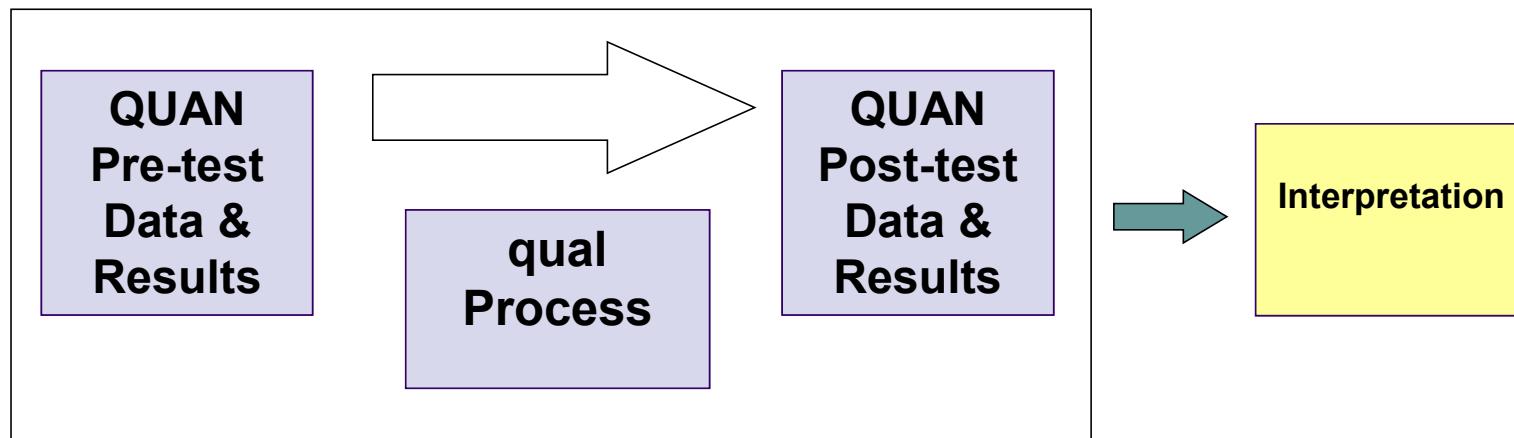
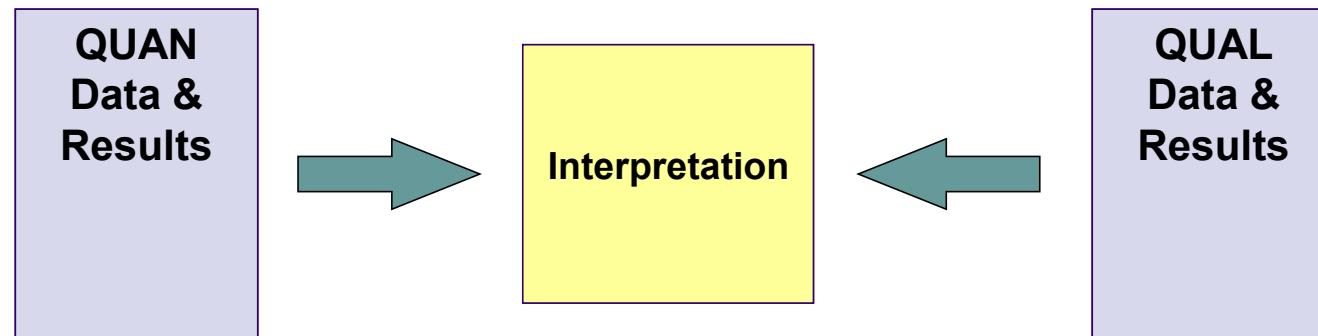
- ❖ Components:

- ❖ What is it
- ❖ Who has used it in your field
- ❖ How it will shape your study (rephrase your guiding research question, if a theory applies)

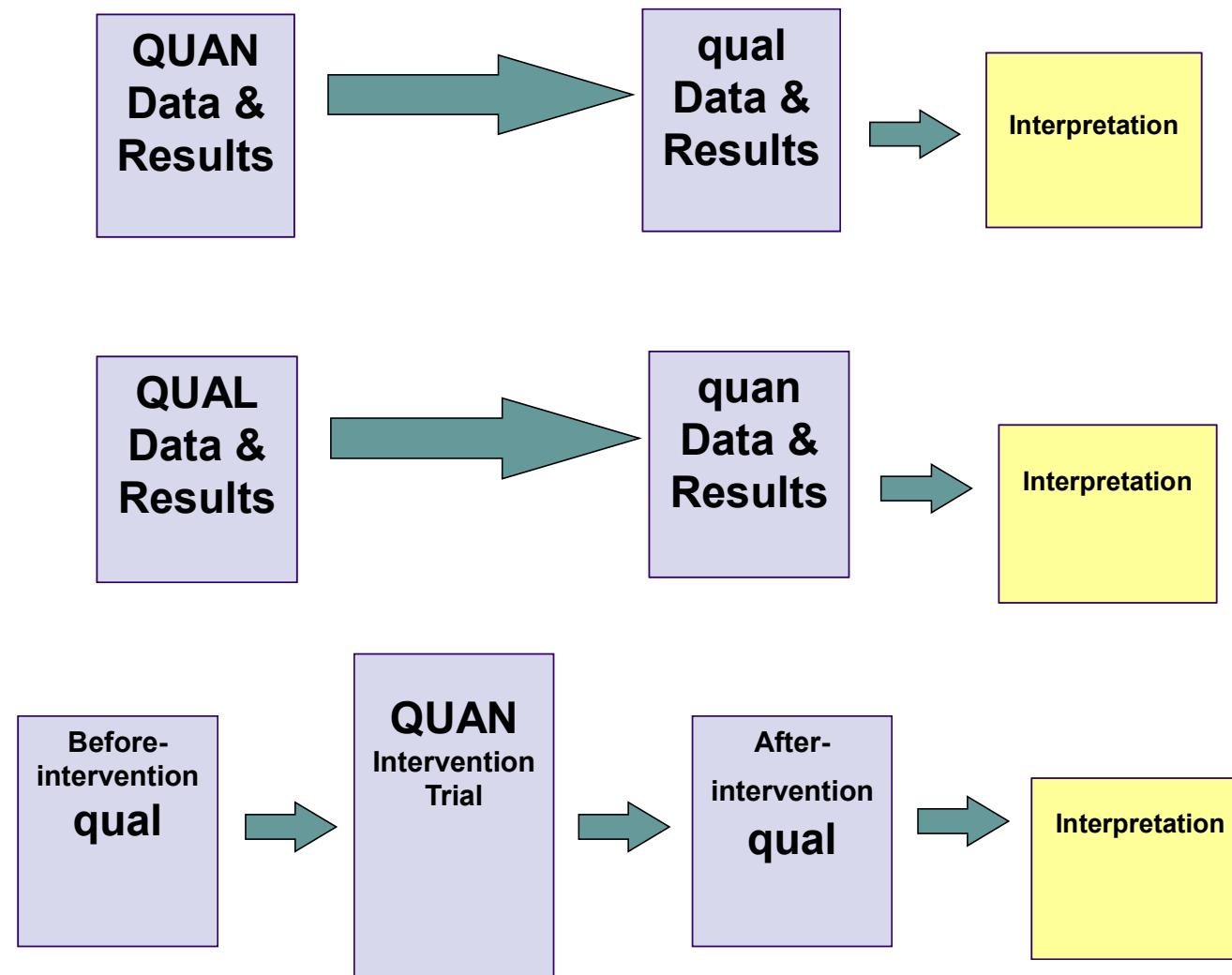
State your procedures (methods)

- ❖ Procedures for handling your qualitative and quantitative data
- ❖ Sequence - concurrent or sequential or both
- ❖ Emphasis - emphasis on qualitative or quantitative
- ❖ Sometimes both concurrent and sequential phases are used
- ❖ Designs may include more than two phases
- ❖ Think about using a simple, elegant design

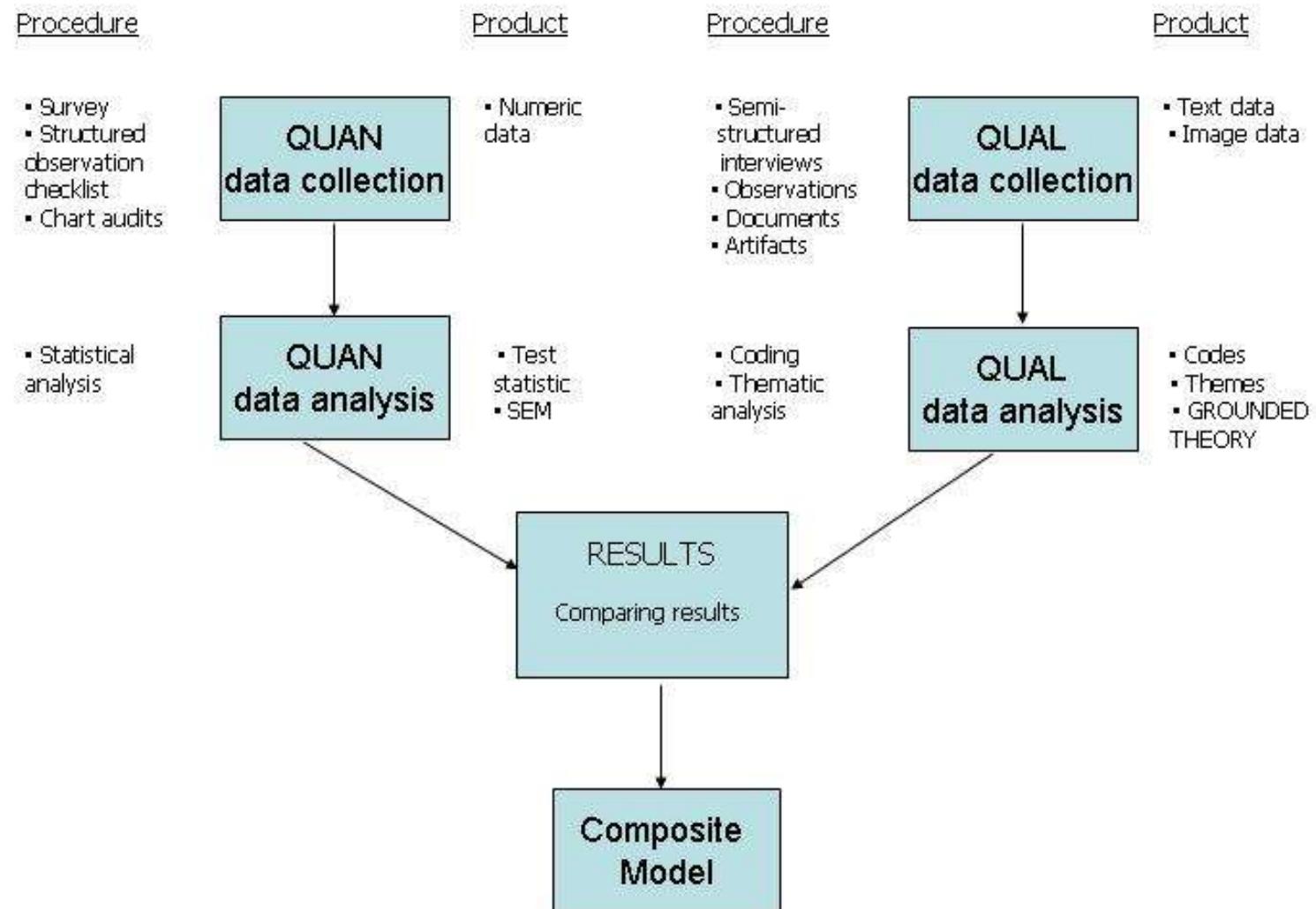
Concurrent Mixed Methods Designs



Sequential designs



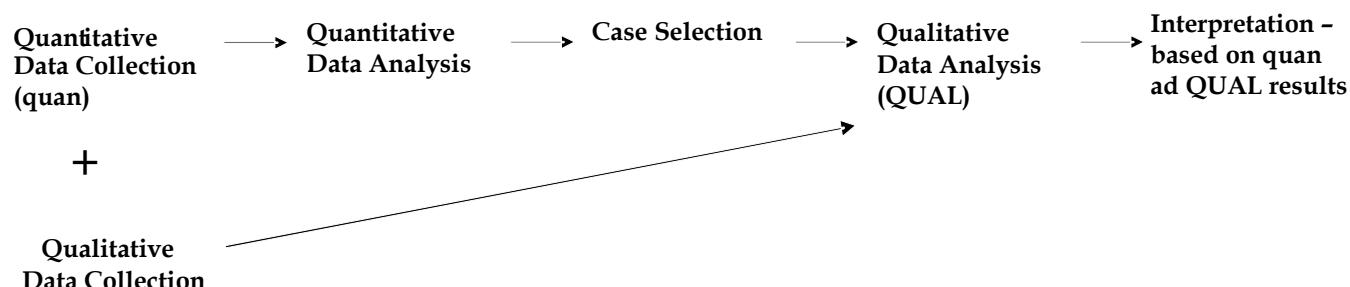
Concurrent Triangulation Design Visual Model



Design options

Design Name	Equal priority	QUAN emphasis	QUAL emphasis
Concurrent, triangulation	QUAL+QUAN	QUAN+qual	QUAL+quan
Concurrent, embedded	n/a	QUAN(qual)	QUAL(quan)
Explanatory, sequential, quan first	QUAN→QUAL	QUAN→qual	quan→QUAL
Exploratory sequential, qual first	QUAL→QUAN	qual→QUAN	QUAL→quan
Sequential, embedded	n/a	(qual) QUAN QUAN (qual)	(quan) QUAL QUAL (quan)

Explanatory sequential design

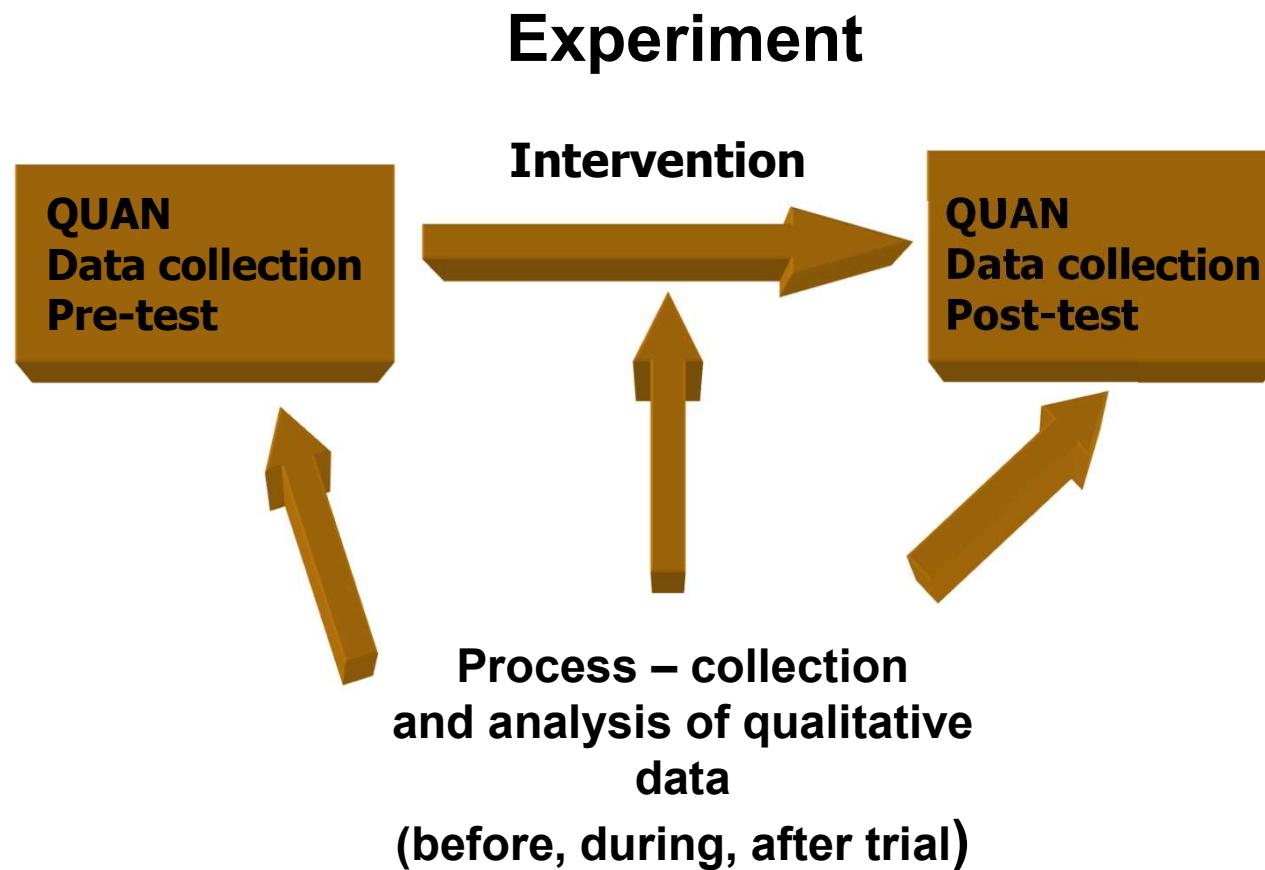


<u>Quantitative Data*</u>	<u>Quantitative Analysis</u>	<u>Case Selection</u>	<u>Qualitative Analysis</u>	<u>Interpretation</u>
Number of cigarettes CESD6	Graphic plot of CES D6 scores over time for each participant	Selected 5 cases maximally varying Identified critical months in which smoking varied	Description of each case Identification of life events occurring during critical months where smoking increased or decreased Thematic analysis of life events for each case Cross-case thematic analysis	Why did changes in smoking occur?
Semistructured interviews, audio recorded and transcribed	Graphic plot of cigarettes/day values over time for each participant			

* Data collected 10 times over the course of a calendar year for 40 participants

Source: Creswell, Plano Clark, Shope, McVea. (in progress)

Embedded research design



Mixing the quan and qual data

Type of Mixing	Type of Design	Why Mixing Occurs	Where Mixing Occurs in Research Process
Connecting	Sequential	One phase builds on the other	Between data analysis (Phase 1) and data collection (Phase 2)
Merging	Concurrent	Bring results together	After analysis of both quan and qual - typically in discussion
Embedding	Sequential or Concurrent	Either building or bringing results together	Either between phases or in discussion after analysis

Write a purpose statement for mixed method

This mixed methods study will address _____ (overall content aim of the study). An embedded mixed method design will be used, and it is a design in which one data set provides a supportive, secondary role in a study based primarily on the other data set. The primary purpose of this study will use _____ (quantitative instruments) to test the theory of _____ (the theory) that predicts that _____ (independent variables) will influence _____ (positively, negatively) the _____ (dependent variables or outcomes) for _____ (participants) at _____ (the research site). A secondary purpose will be to gather qualitative data _____ (type of qualitative data, such as interviews) that will explore _____ (the central phenomenon) for _____ (participants) at _____ (site). The reason for collecting the secondary database is _____ (e.g., to address different question, to provide support for the primary purpose).

Writing research questions/hypotheses in mixed methods research

- ❖ Write qualitative research questions and write quantitative research questions/hypotheses
- ❖ Also write a mixed methods research question
- ❖ Write these questions separately

A mixed methods question

Three ways to write this question:

Methodologically-focused:

- ❖ To what extent do the qualitative results confirm the quantitative results?

Content-focused:

How do the interviews with adolescent boys support the quantitative results that their self-esteem changes during the middle school years?

Hybrid of quantitative and qualitative elements:

- ❖ What results emerge from comparing the exploratory qualitative data about boy's self-esteem with outcome quantitative instrument data measured on a self-esteem instrument?

THANK YOU