

ibtn
CONFERENCE
MTL2018



IBTN Conference 2018 – May 24 to 26 in Montréal

WORKSHOP SESSION: USING QUALITATIVE RESEARCH EMBEDDED IN BEHAVIOURAL TRIALS

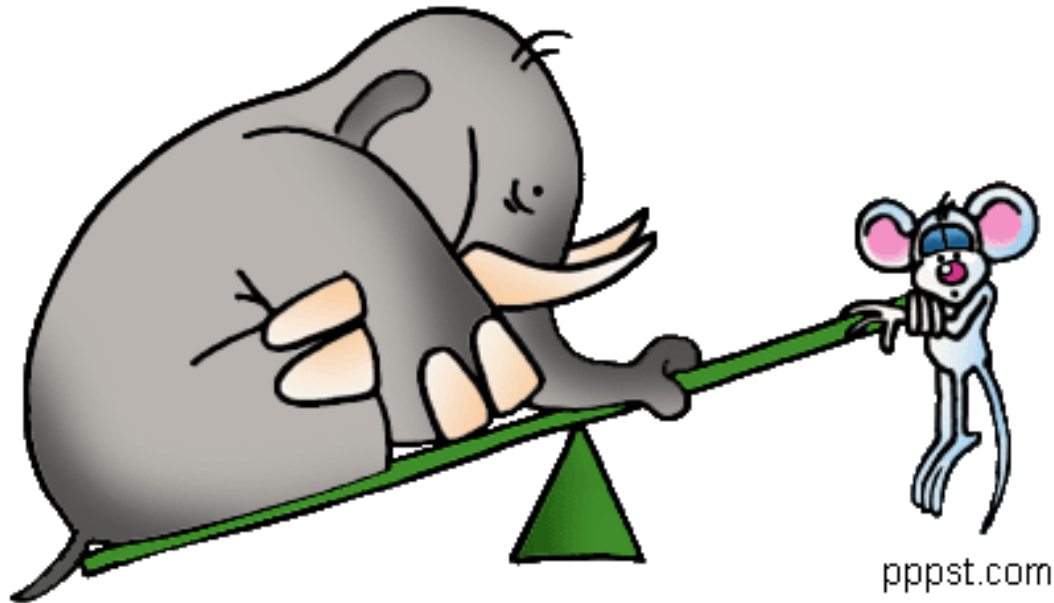
Montreal, May 25th 2018

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WELCOMING AGENDA

- Introductions and expectations
- Positioning myself
- Topics to be discussed
- Expected interaction during the workshop



PURPOSE AND OBJECTIVES

Purpose

- To encourage reflective thinking about good practices regarding qualitative (QL) research embedded in behavioural trials

Objectives

- Discuss the strengths and weaknesses of both quantitative and QL research designs
- Consider key decisions and major steps in bringing together quantitative and QL research
- Identify the key components of a QL study embedded in a trial

WHAT IS RESEARCH ABOUT?



QUANTITATIVE RESEARCH

Key strengths

- It is useful for studying large populations
- Allows testing hypothesis and validating already theories
- Data collection is relatively quick
- Provides precise, manageable, numerical data
- Data analysis is less time consuming
- Facilitates the generalisation of findings
- May have higher credibility among people in decisional-making positions
- Finding are helpful to support informed decisions
- Avoids biases related to confounding factors, selection bias, and interpretation bias
- Administrated treatments can be compared

QUANTITATIVE RESEARCH

Major weaknesses

- Selected theories may not reflect local understandings
- Power calculation might demand vast samples sizes
- Validity requires multiple sites
- Long trial run time may result in the loss of relevance as practice may have moved on by the time the trial is published
- Allocation of participants may be predictable and result in selection bias when the study groups are unmasked
- Trials which test for efficacy may not be widely applicable; trials which test for effectiveness are larger and more expensive
- Results may not always mimic real life treatment situation
- Ethically, patients have to receive equal treatment support in the clinical community

QL RESEARCH IS...

“Quality is the **essential character or nature** of something; quantity is its amount. Qualitative refers to the **meaning**...while quantitative assumes meaning and refers to the measure of it.” (Dabs, 1982)

“The ultimate outcome of qualitative research is to **describe the sense of meaning** that researchers have made of what has been investigated.... “QR is a description of what has been observed plus something special in the nature of the **interpretative emphasis**.” (Walcott, 1985, 1992)

“Ethnography is the **description and understanding of a culture** from a native or insiders point of view (emic).” (Spradley, 1980).

IN BRIEF

- Qualitative research is **naturalistic inquiry**, because the data collection strategies used are interactive to discover **the natural flow of the events and processes**.
- Most qualitative research deals with **people's individual and collective social actions, beliefs, thoughts, and perceptions**.

QL RESEARCH

Key strengths

- Small populations studied in-depth
- Participants' meaning are at stake
- Data is inductively generated
- Collects data in naturalistic settings
- Description is rich
- Provides the grounds to generate a new interpretation
- Useful for describing a phenomenon
- Allows to better understand the individual experience
- A sense of 'story' can be (re)created
- Takes interpretation into account
- Offers room for reflective thinking
- Responds to local challenges

QL RESEARCH

Major weaknesses

- Knowledge is local and may not be generalised
- It is difficult to make predictions
- Theories and hypothesis cannot be tested
- It is time consuming
- Might have lower credibility among decision makers

QUANTITATIVE VS QL RESEARCH

Quantitative Research	Qualitative Research
Prediction	Understanding
Starts with hypotheses	Starts with foreshadowed / tentative question
<ul style="list-style-type: none">- Deductive- Contrived context- Positivist- Often based on a priori theories, empirical results	<ul style="list-style-type: none">- Inductive- Naturalistic context- Constructivist: post positivist- Often based on experience
Hypotheses	Research question about a phenomenon
<ul style="list-style-type: none">- Narrow focus	<ul style="list-style-type: none">- Broad focus

QUANTITATIVE VS QL RESEARCH

Statistical analyses	Analysis of words and actions - Thick description based on words of observer and participants
Subjects - Random / Stratified	Sample of cases (bounded) - Purposive sampling
Procedures and measures fixed in advance of study	Unit of analysis relevant to the phenomenon of study - Language - Activities or Events - Processes
Interpretation based on - Numbers: normal distribution of scores - Statistical significance	Interpretation based on - Words, Patterns - Participants' actions / views / memories / inferences / feelings
Reliability of measures Validity of measures Generalizability	Reliability of observations Trustworthiness of data Triangulation of multiple data sources Naturalistic generalization

IS IT POSSIBLE TO MIX DATA?

Yes, well, I think that is a possible option, but you know, it's hard to say when you don't really tried other options... Do you know what I mean? Do you follow me? I am not sure, I don't know. I think it is possible, but it's hard to be 100% sure.

1238798431216546879
87984651351321354
68798765654321321
35464987979843513
21321354679879213
21654654654698765
13213135468487987
65132134649879876
54312321654654687
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MIXING DATA

Three main arguments

- Compatibility thesis
- Pragmatist philosophy*
- Fundamental principles of mixed methods research



RATIONALE FOR MIXING

Practical reasons

- Generating evidence of effectiveness
- Approach the research problem
- Dynamic between mechanism of action and implementation
- Considers the context
- Save time and money
- Provides responses regarding the relevance of a given implementation
- Provides the users' perspective, key to decision-making and policy implementation

RATIONALE FOR MIXING

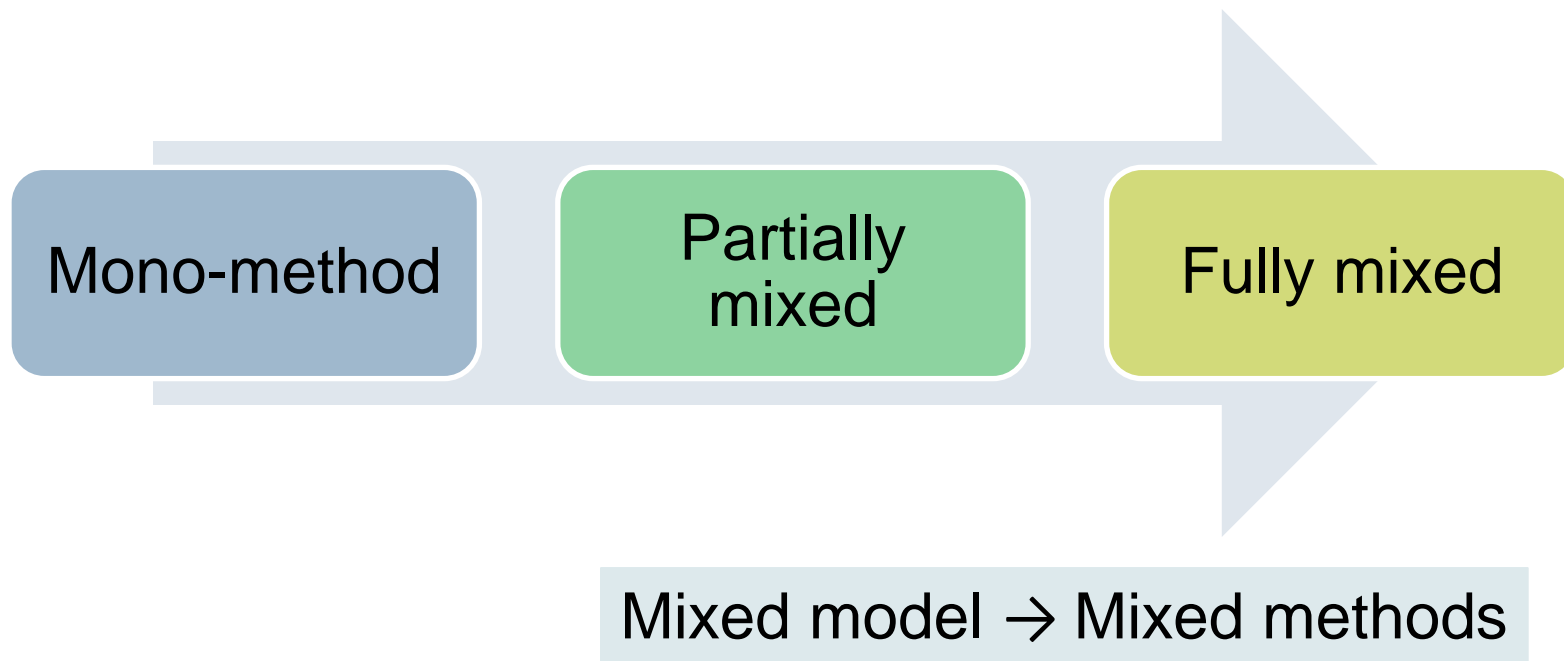
In addition, mixing research methods seeks to achieve...

- Triangulation
- Complementarity
- Development of a new position statement
- Initiation of new perspectives
- Expansion of breath and range of inquiry by using different components

DO WE HAVE A COUPLE?



THE RESEARCH CONTINUUM

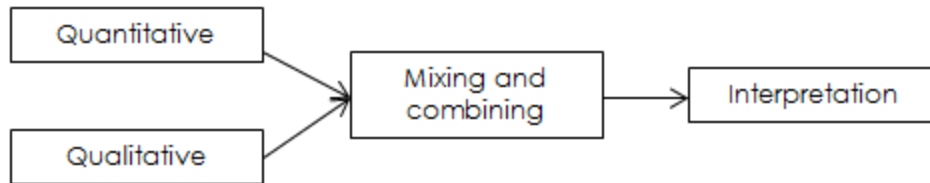


COMMON NOTATION AND MEANING

Notation	Meaning	Example
Upper and lower cases	Emphasis given to a method	<i>qual</i> Qual QUAL
+	Concurrent methods	QUAN + QUAL
→	Sequential methods	QUAL → <i>quan</i>
()	Embedded study	QUAN (<i>qual</i>)
→ ←	Recursive	Quan →← QUAL
[]	Study within a series	QUAL → [QUAN + <i>qual</i>]

CONCURRENT DESIGNS

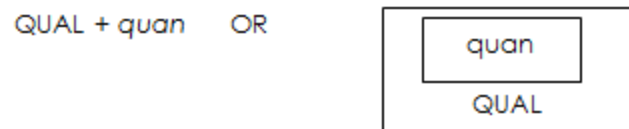
(a) Concurrent triangulation design



(b) Concurrent embedded design

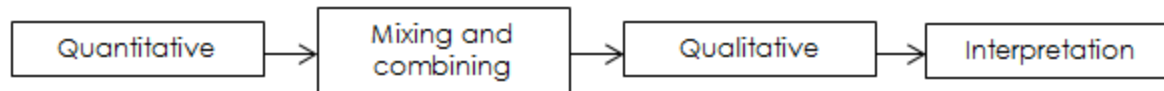


(c) Concurrent transformative design

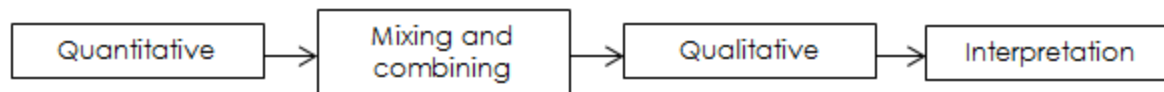


SEQUENTIAL DESIGNS

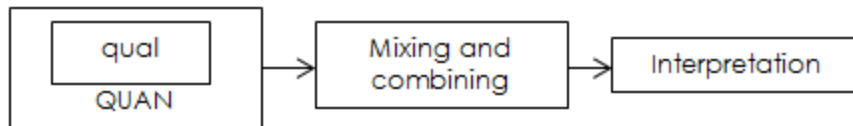
(d) Sequential explanatory design



(e) Sequential explanatory design



(f) Embedded design



(g) Transformative design

QUAL + quan OR QUAN + qual

THE RESEARCH PROCESS

Key steps

- Determine the appropriateness of an embedded study
- Determine the rationale for using such a design
- Select the type of research design that will combine quantitative and QL methods
- Collect data
- Analyse data
- Validate data
- Interpret data
- Write the research report

COMMON QL DESIGNS

Phenomenology	Lived experience
Case Study	Detailed account of one ore more cases
Ethnography	Culture of a group
Narrative	Narration of a series of events
Grounded Theory	Understanding of a process & generation of a theory from collected data

Qualitative description
Framework approach

FOCUSING THE STUDY

Purpose

Aim

Goal

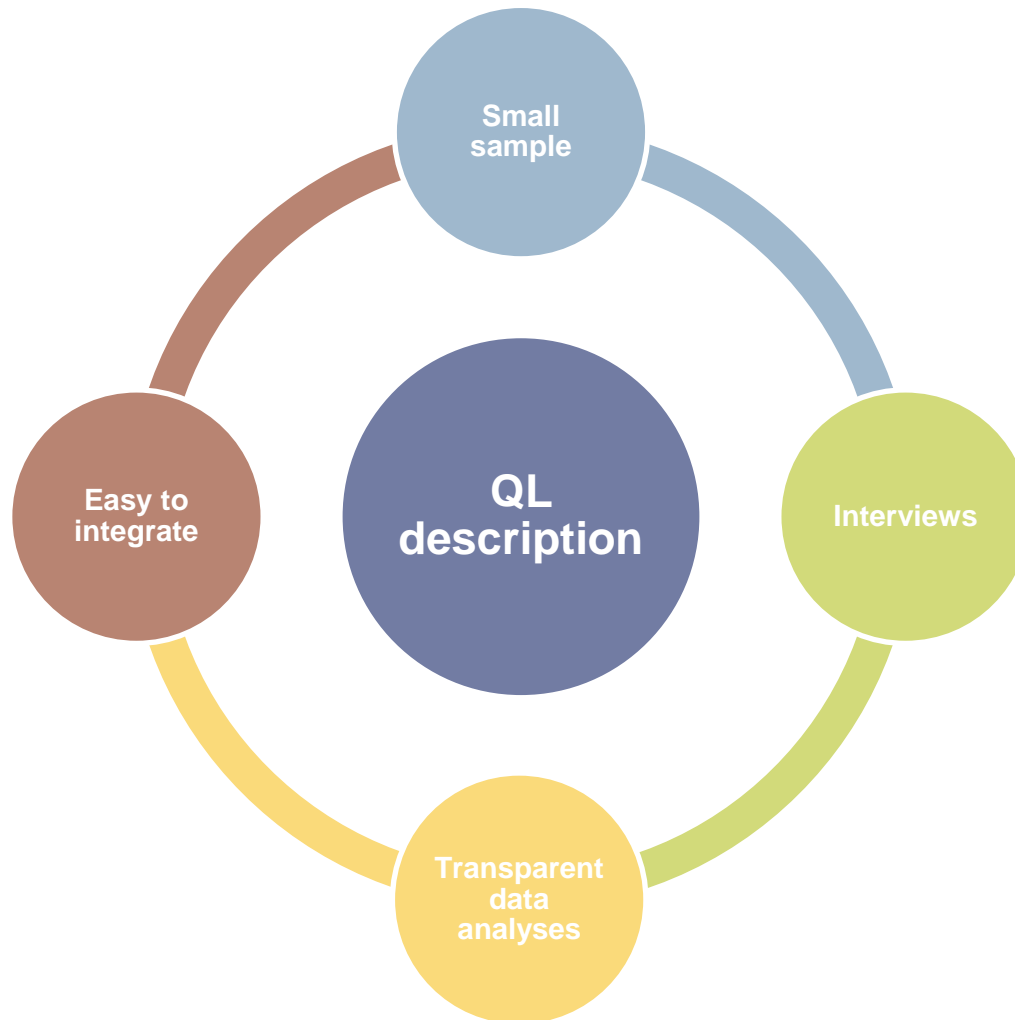
Objective

- Main study vs. embedded study
- Examples: understand, explore, comprehend, investigate, describe

Research (open-ended) questions

- What? How? Why?

TOWARDS A MANAGEABLE QL DESIGN



DATA COLLECTION AND ANALYSES



SAMPLE / PARTICIPANTS

Characteristics

- Purposeful/criterion-based → **purposive sample**

Size

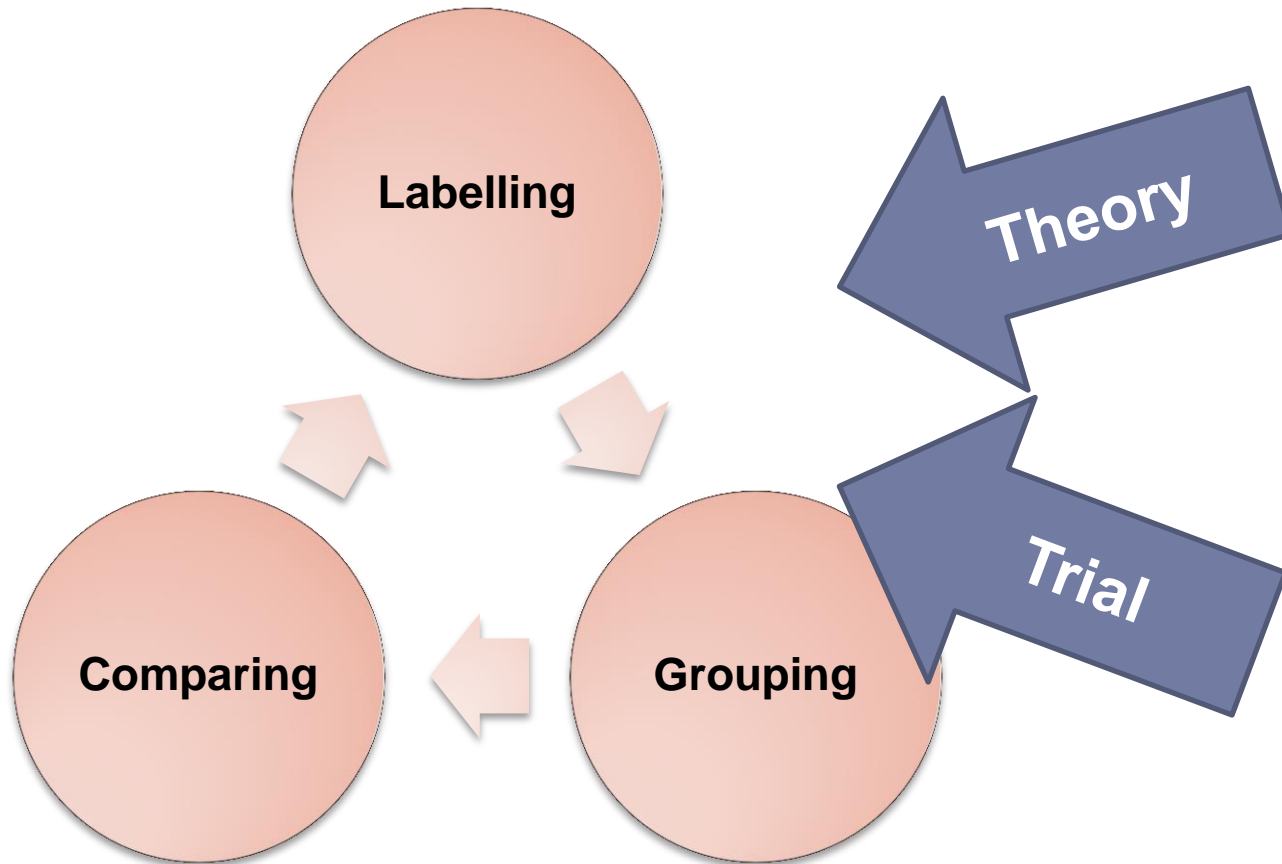
- **Redundancy** and consistency & theoretical saturation
- **A different view** on a certain subject
- **Emergent concepts**

DATA COLLECTION

Instruments

- **Interviews:** in-depth open-ended, non/semi-structured, informal conversation, **guided approach**
- **Focus groups interviews**
- Observation
- Analyses of documents

DATA ANALYSES



USING SOFTWARE

The screenshot displays a qualitative data analysis software interface with three main panels:

- Document System:** A tree view on the left showing a hierarchy of documents. Under 'Interviews', there are 12 documents labeled PT-01 through PT-12, with a total count of 1946. PT-01 is highlighted.
- Code System:** A tree view on the bottom left showing a hierarchy of codes. Under '1. PTS' PERCEPTIONS & BELIEFS', there are sub-codes like '1.1. The disease' (160), '1.1.1. History of the disease' (7), '1.1.2. Perception of the disease' (161), '1.2. Medical context and recommendations' (24), and 'Viewpoint' (21). PT-01 is highlighted.
- Document Browser: PT-01:** A large text area on the right showing the content of document PT-01. It contains interview transcripts with questions (Q:) and responses (R:). The text is numbered 26 through 33. The interface includes a search bar at the top and a status bar at the bottom.

Key features visible in the interface include:

- Search Bar:** Located at the top of the Document Browser, with the text 'Rectangular Snip'.
- Code Application:** Green and red lines connect codes from the Code System to specific parts of the interview transcript. For example, '1.1.1. History of the disease' is linked to line 26, and 'Adult own viewpoint' is linked to line 30.
- Status Bar:** At the bottom, it shows 'Simple Coding Query (OR combination of codes)'.

REDUCTION OF DATA



VALIDITY

- Trustworthiness
- Coherence and cohesiveness

Criteria	Definition	Techniques
Credibility	Confidence in the 'truth' of the findings	Prolonged engagement Persistent observation Triangulation Peer debriefing Negative case study Referential adequacy Member-checking
Transferability	Applicability in other contexts	Thick description
Dependability	Repetition in other context	Inquiry audit
Confirmability	Neutrality	Confirmability audit Audit trail Triangulation Reflexivity

INTERNAL COHERENCE

1. Research project frame

- 1.1. (Philosophical assumptions)
- 1.2. Theoretical framework
- 1.3. Methodological assumptions

2. Need for the study

- 2.1. Purpose
- 2.2. Research question
- 2.3. Research aims

3. Methods

- 3.1. Overall design
- 3.2. Sampling
- 3.3. Data collection
- 3.4. Data reduction/analysis
- 3.5. Data interpretation and warranting conclusions


4. Representing research

- 4.1. Writing

THE WRITTEN REPORT



AN EXAMPLE

Quantitative	QL
8 in 10 Canadians are not active enough	
8 in 10 Canadians think physical inactivity is a serious health issue	
56% of Canadians think they should not change much to be active	
82% of Canadians think that the only way to be active is to turn it into a habit	

POTENTIAL VALUE OF MIXING DATA

Category	Potential value	Examples
Bias	Avoids measurement bias	Helps test face and content validity of instruments in the relevant patient group
Efficiency	Ensures faster recruitment	Uses observation and interviews to identify problems with recruitment in a specific trial
	Saves money	Stops attempts at full trials of poor or unacceptable interventions, or unacceptable trials designs
Ethics	Ensures sensitivity of trials to human beings in trials	Ensures that recruitment and communication strategies can pay attention to health professionals and patients so that the experience is positive for them
	Improves informed consent	Challenges current assumptions about gold standard informed consent, or value of information vs. value of communication
Implementation	Facilitates replicability of intervention in the real world	Describes components of the intervention so that others can make use of the full intervention in the real world
	Facilitates transferability of findings in the real world	Identifies contextual issues important for success
Interpretation	Explains trial findings	Explains why trials were null; this may prevent another trial of a similar intervention. Contextualises results of successful trial to support dissemination and transferability in real world
Relevance	Ensures interventions meet the needs of health professionals and patients	Identifies value of intervention to important stakeholders. Ensures intervention is culturally appropriate
Success	Makes a trial successful, feasible, viable	Engenders stakeholder support for the trial. Makes a trial locally appropriate to cultural needs
Validity	Improves internal validity	Ensures the correct measures are used to measure the correct outcomes
	Improves external validity	Helps to understand how to broaden recruitment to include hard-to-reach groups

ATTENTION: MAJOR CHALLENGE



Paula Lentef® 2009

Move: <http://vimeo.com/27246366>

FANCY A HANDS-ON EXERCISE?

‘MIXING’ IS POSSIBLE



USEFUL RESOURCES

- QuinteT Recruitment Intervention
(<https://www.bristol.ac.uk/population-health-sciences/research/groups/social-sciences-health/quintet/interventions/>)
- Health Research Board – Trials Methodology Research Network (<https://www.hrb-tmrn.ie/>)

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