

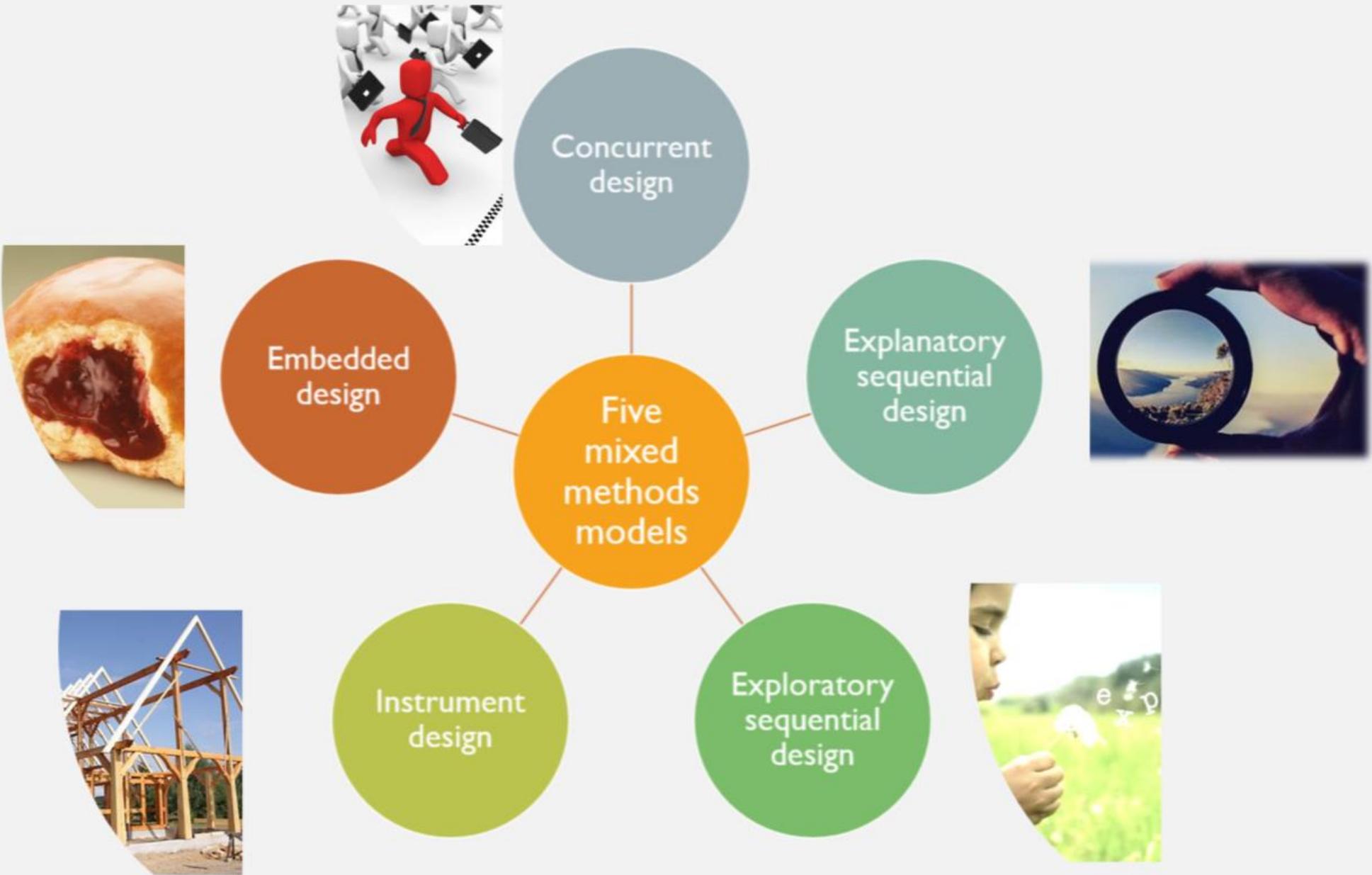
USING A MIXED METHODS RESEARCH APPROACH – PART 2

Professor Caroline Bulsara and Dr Amanda Timler
Institute for Health Research, Notre Dame Fremantle
Research Methods October 2020

WHEN DOES A MIXED METHOD APPROACH WORK?



- Lots of Stakeholders
- Diverse opinions
- A 'Wicked' problem
- For a micro or a macro scale project



Concurrent design



Embedded design



Explanatory sequential design

Five mixed methods models



Instrument design



Exploratory sequential design

USING QUALITATIVE METHODOLOGIES IN MIXED METHODS

- Grounded theory
- Qualitative Descriptive

Ask yourself....

- How useful will individual narratives be?
- How much is known about the topic?
- How large of a sample do I have access to?
 - GT and QD may need a slightly larger sample

Ask yourself...

- Do I need depth of individual experiences
- OR
- A grouping of the most common themes
 - categories
- Does the QUAL come *before* or *after* the QUANT?

CONSENSUS METHODS IN MIXED METHODS DESIGNS

- World café
- Delphi



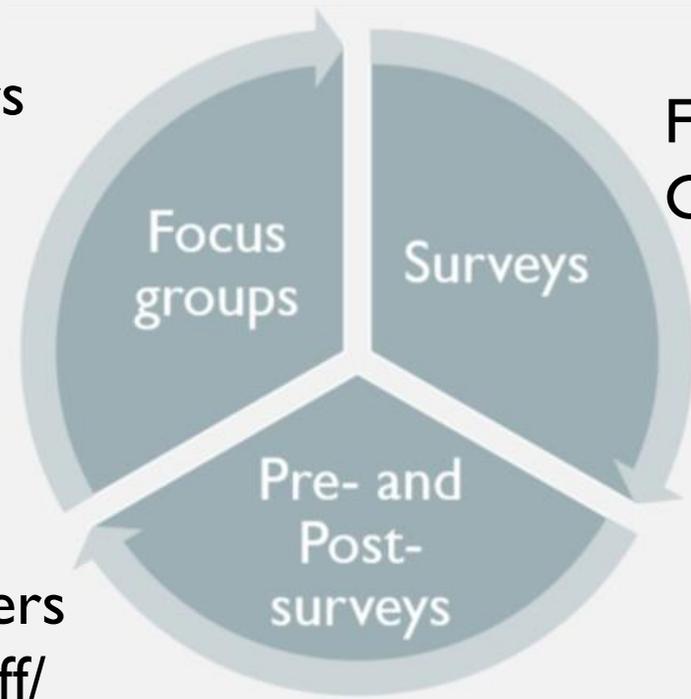
CONCURRENT DESIGN



Aged care: the use of medicinal cannabis among those with dementia

Family members

Family members
Carer/ Research nurse



Family members
Aged care staff/
Research nurse

EXPLANATORY SEQUENTIAL DESIGN

Does an adolescents level of motor competence influence their identity health?

Quant

Large group of adolescents completed:

1. AMCQ (Adolescent Motor Competence Questionnaire)
2. AIDA (Adolescent Identity Development assessment)

Results: Those with LMC and females had lower identity scores

Qual

Subsample participated in a small group or one-on-one interview.

Results:

- Smaller social networks
- Participated in fewer activities

Why?

EXPLORATORY SEQUENTIAL MIXED METHODS DESIGN

- Understanding the experience of nurses when caring for those with a history of methamphetamine use

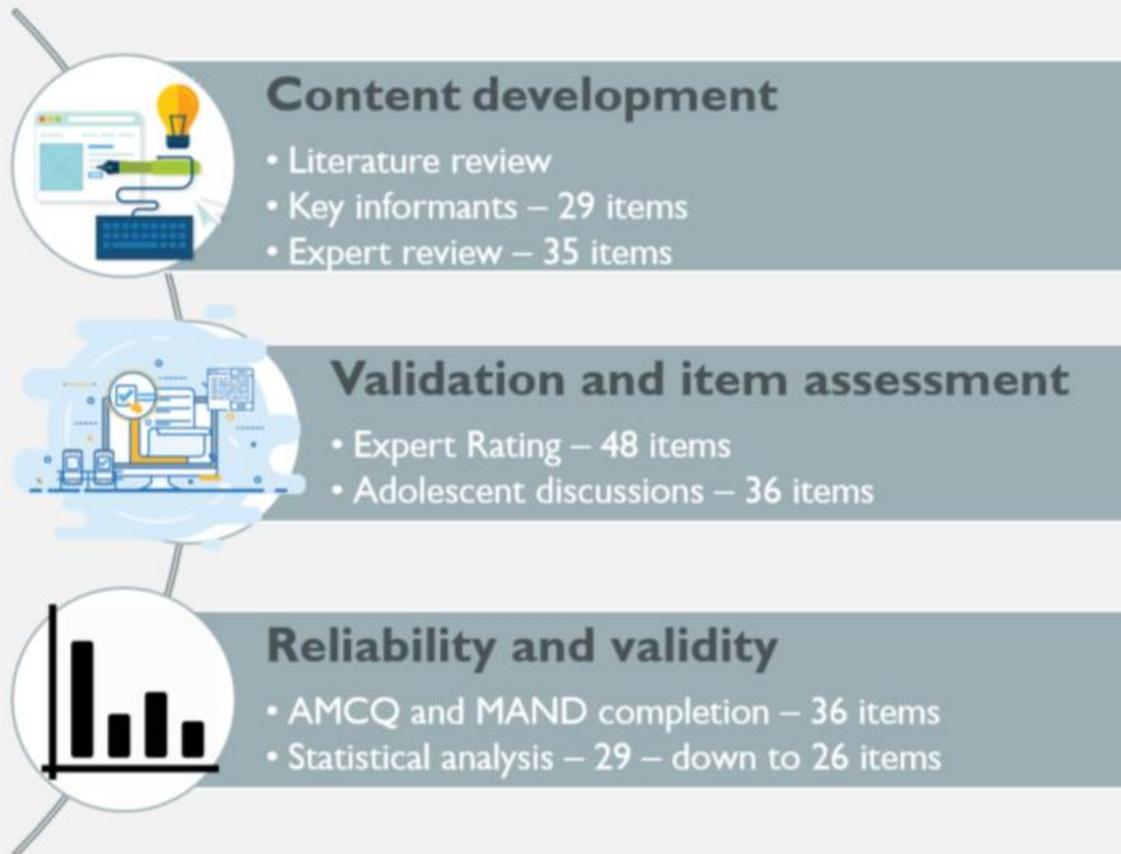


CHARACTERISTICS OF INSTRUMENT DESIGN MODEL

- Priority to quantitative data.
- Two phases begin with qualitative data and then moves to quantitative design and testing.
- Uses the qualitative information to develop an instrument for data collection.
- E.g. Interviews or Focus groups to create a questionnaire / scale.

INSTRUMENT DESIGN

- Development of the Adolescent Motor Competence Questionnaire (AMCQ)



ADOLESCENT MOTOR COMPETENCE QUESTIONNAIRE

Full Name: _____ Date: _____
 Birthdate: _____ Please circle one: Male / Female

On the following pages you will find statements that could be used to describe your co-ordination. For each statement, please put an X in the box that best describes you. Please answer each statement even if you are not entirely sure of the answer. There are no right or wrong answers, just place an X in the box that describes you best.

	NEVER	SOMETIMES	FREQUENTLY	ALWAYS
1. I CAN THROW A BALL TO HIT A TARGET	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I PREFER TO PARTICIPATE IN INDIVIDUAL SPORTS (SUCH AS SWIMMING, MARTIAL ARTS, ATHLETICS) RATHER THAN TEAM SPORTS (SUCH AS FOOTBALL AND NETBALL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I PREFER NOT TO PARTICIPATE IN SPORTS AT SCHOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I CAN KICK A BALL ACCURATELY TO HIT A TARGET (E.G. FOOTBALL OR RUGBY BALL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. PEOPLE SAY I AM CLUMSY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I CAN RIDE A BICYCLE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I FIND IT EASY TO GET READY TO GO OUT (E.G. BRUSH AND STYLE MY HAIR, PUTTING ON MAKEUP, BUTTONING UP SHIRTS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I CAN CATCH A BALL CONSISTENTLY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

INSTRUMENT DESIGN – EXAMPLE 2

PATIENT EMPOWERMENT



Resources	<ul style="list-style-type: none"> •Capability of using resources to handle illness •Sufficient resources to handle illness
Information relating to illness	<ul style="list-style-type: none"> •Sufficient information •Relevance of information
Involvement in decision making process	<ul style="list-style-type: none"> •Desire for involvement in decision making process •Capability to be involved in decision making process
Family support	<ul style="list-style-type: none"> •Availability of a supportive family •Patient need for the support of family
Support of friends	<ul style="list-style-type: none"> •Availability of supportive friends •Patient need for the support of friends

PATIENT SUPPORT STRATEGIES QUESTIONNAIRE

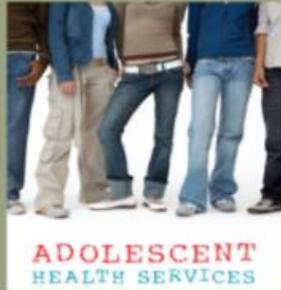
INSTRUCTIONS TO PATIENT

Please indicate by marking with a tick (✓) whether you strongly agree, agree, disagree or strongly disagree with the following statements. Please read the statements carefully and tick your responses to them. **If a question does not apply to you please leave it blank.**

	Strongly agree	Agree	Disagree	Strongly disagree
1. I am capable of handling my illness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have all the information I need to manage my illness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am capable of helping health professionals reach decisions related to my illness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My family are very supportive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I need the support of my family and friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. My family and friends still rely on me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I can adapt to the changes in my lifestyle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Health professionals are happy to include me in decisions related to my illness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I want my family and friends to continue to rely on me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. My friends are always supportive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

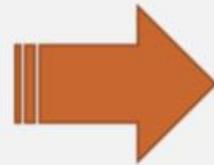
EMBEDDED DESIGN

Medical and health services available for adolescents in WA



World Café Forum
with Adolescents

Survey for
health
professionals

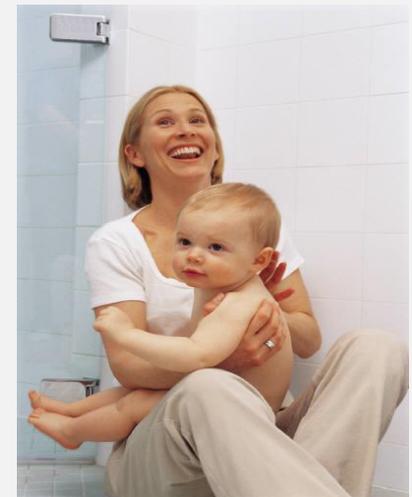


- Use of technology
- Privacy issues
- Where and how to access services
- There was a 'Gap' between services provided for children and services provided for adults

DATA TRANSFORMATION DESIGN MODEL – EXAMPLE I

An evaluation of an asthma awareness program asks new mothers by telephone interview what changes they have made to protect their baby from exposure to smoke.

- Telephone interview and survey with open ended responses.



SHORTER TYPE OF RESPONSE

Questionnaire contents for Job: BAIR2-L. Filter: 65(8)

Q(65)=q11a.what changes made

Case=18

Q(65)=2,1,8"KEEP AWAY FROM HIM WHEN WE SMOKE//""^

Case=24

Q(65)=8"CLOSE WINDOWS AND DOOR TO STOP NEIGHBOURS SMOKE FROM
B\GETTING IN THE HOUSE//""^

Case=26

Q(65)=3,8"HUSBAND CUT DOWN ON HIS SMOKING//""^

Case=73

Q(65)=3,8"GET HUSBAND TOGO AWAY FROM THE DOOR OF THE HOUSE TO
SMOKE OUTSIDE//""^

Case=168

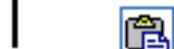
Q(65)=8"BY NOT GOING TO THE PUB AS MUCH/ITS TOO SMOKEY//""^

PRESENTATION OF SHORTER RESPONSE

Table 20 Type of changes made to create / maintain smoke free environment (multiple response)

Response (n=98)	n	% respondents
Asking people not to smoke	38	38.8
Stop smoking in the house	24	24.4
Avoiding smokers	20	20.4
Quitting / cutting down	17	17.3
Stop smoking in the car	5	5.1
Stop frequenting smoky venues	3	3.1
Reinforced views	18	18.4
Other*	3	3.1

[Other* includes – "the partner who smokes left", "husband is trying very hard to give up" and "we have a wood fireplace and make sure there is no smoke in the house that will affect my child"]



EXAMPLE CONTENT ANALYSIS PRESENTED QUALITATIVELY

Women's beliefs about the causes of breast cancer (eg from Sue Wilkinson in Qualitative Psychology Ed Jonathon Smith).

Category and then quote:

5. *Stress, strain and worry.*

Not discussed.

6. *Caused by childbearing*

'I mean I don't know whether the age of which you have children makes a difference as well because my [pause] 8 year old relatively late, I was an old mum'.

'They say if you've had one, you're more likely to get it than if you've had a big family.'

7. *Secondary to trauma or surgery*

CONTENT ANALYSIS QUANTITATIVELY PRESENTED

ATTRIBUTION OF ILL HEALTH

- *Stress, strain and worry. 0 times.*
- *Caused by childbearing. 22 times.*
- *Secondary to trauma and surgery. 9 times.*

Allows the researcher to see how generalisable some themes are.

SYNTHESIS AND INTERPRETATION IN MIXED METHODS APPROACH



- Is saying something about **the overall view** of the findings.
- Convergent – both sets of data will have synergies and divergent findings.
- Sequential – is synthesized at each stage. Interpretation occurs at the end.
- Embedded – balance of opinions (sound therapy example) for practicalities of application for an intervention.

EXAMPLE:

Study conducted by doctors around preparedness of patients for end of life care in a hospital setting

A study is planned by several palliative care doctors around how prepared patients and their families are for end of life care.

Anecdotally, preparing families for this end stage of life has been less than optimal. Junior doctors and nurses have often been placed in the situation of avoiding questions or delivering the unexpectedly bad news to families. The study plans to invite the following groups: (i) patients (ii) family members (iii) nurses (iv) doctors and junior medical staff.

WHAT TO CONSIDER

- Q1. What are the best methods to use for collecting the data? If so, for whom? What the potential risks / challenges be with the suggested data collection methods for participants?
- Q2. What sorts of things would you want to avoid from your participants? Think about each group separately.
- Q3. Is it a good idea to involve doctors and nurses in the hospital in data collection for the research study? If yes / no – justify your answers.
- Q4. What sort of recruitment strategies would be best suited depending on which data collection methods are used? Is there more than one recruitment strategy to use? We want to ensure that the maximum number of people take part.
- Q5. Can you think of a “follow up” stage to the research once results of the survey and interviews are available? What could be done next to use the findings and create change? Clue: translational research.
- Q6. Why do you believe that you, as researchers, would choose the data collection approaches you have selected – what would you hope to achieve?

WHERE TO DRAW THE LINE

When is enough a enough? Not all studies require a **mixed approach**. If one approach (surveys or interviews) provides enough information to answer the problem being studied then no additional information should be collected. Remember collecting more information than required is **overwhelming, difficult to analyse, and unethical**.

THINGS TO TAKE-AWAY

- The timeframe and study duration – is mixed methods feasible?
- The complexity of the concepts being examined.
- How many perspectives are needed to fully understand the issue?
- What types of methods will be collected and who will you ask to complete these?
- Different techniques and software programs may be needed when analyzing MMR.

THINK ABOUT APPLYING A MIXED
METHODS DESIGN IN YOUR OWN
RESEARCH AREA. WHICH TYPE OF
“MIXTURE” WOULD BE MOST
APPROPRIATE AND WHY?