

NERUPI Toolkit: Data Collection Strategies – Part I: Primary research

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- **Primary research**

- Research that relies on direct data collection – usually through “fieldwork” - rather than using existing datasets (Today’s session)

- **Secondary research**

- Research that relies on existing data – usually collected by someone else – e.g. using administrative datasets (April 25th)

How can primary research help us to acquire a better picture and strengthen our evaluations?

1. Introductions
2. Opportunities for primary research
 - OfS guidance, impact evaluations, NERUPI approach and mixed methods research
3. Practical considerations
 - Pros and cons, examples
4. Reliability and validity in research
 - Maximising validity of results, Ethics and power in fieldwork research
5. Signposting to resources

OfS Guidance

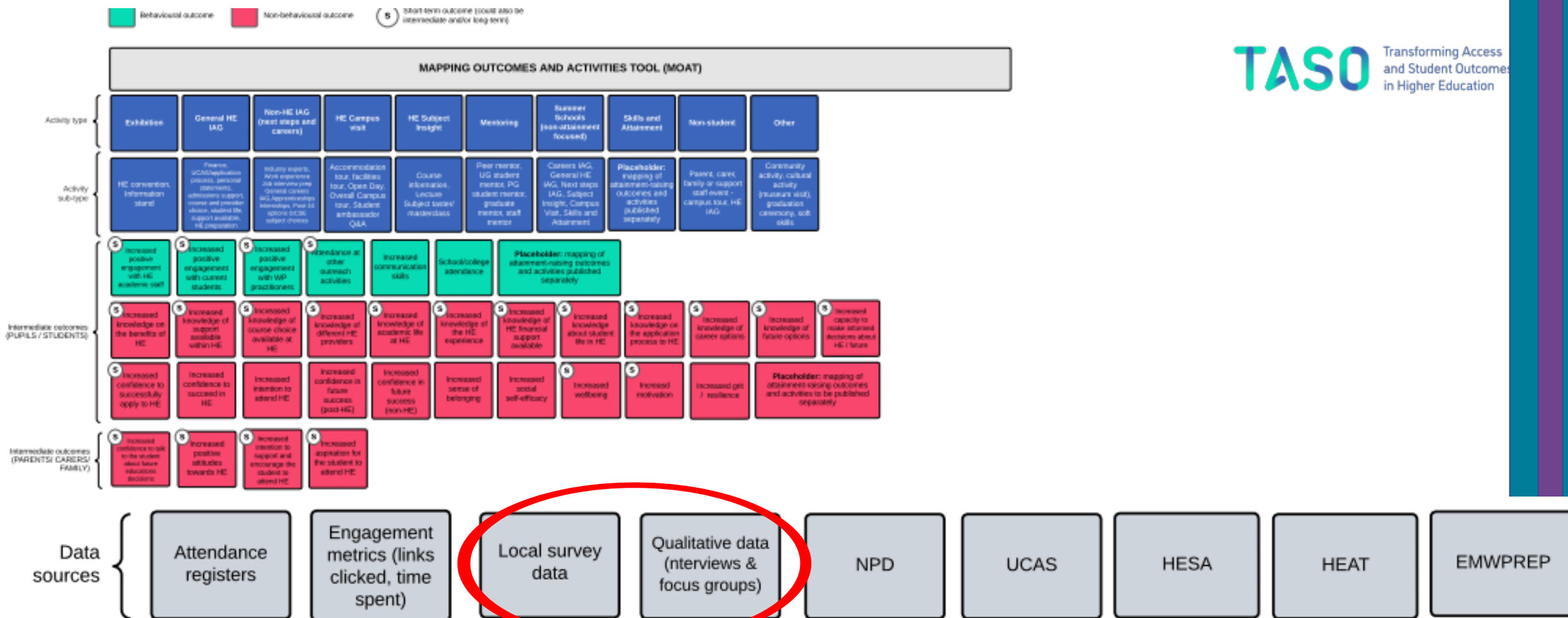
- Considering the equal opportunities risks:
 - ...whether a lack of information and data is contributing to a risk, and if so whether it can put in place any data collection systems to mitigate it, or seek to develop better understanding through evaluation (p.15-16).
- Using evidence to inform practice:
 - ...a provider's own evaluation and research findings (p.24)
- Evaluating intervention strategies:
 - ...We expect a provider to consider whether it is able to evaluate the outcomes of individual activities within an intervention strategy and the outcomes of the whole intervention strategy (p.40).
- Student consultation:
 - ...consulting and engaging with students from different backgrounds to ensure that views are representative of a provider's student population and are reflected in the plan (p.49)
- Collaborating for evaluation:
 - ...whether collaboration with other higher education providers could strengthen its evaluation strategies by, for example, increasing sample sizes or creating comparator groups to better understand the potential impact of particular interventions (p. 28)

191. Both qualitative and quantitative methods are welcome in plans, and the methods used will depend on what is being evaluated. Using different methods and then triangulating findings can be useful in understanding the effectiveness and impact of a provider's activities.¹⁰⁹ This can enable a provider to gain insights into how its activities are working and the impact they are having.

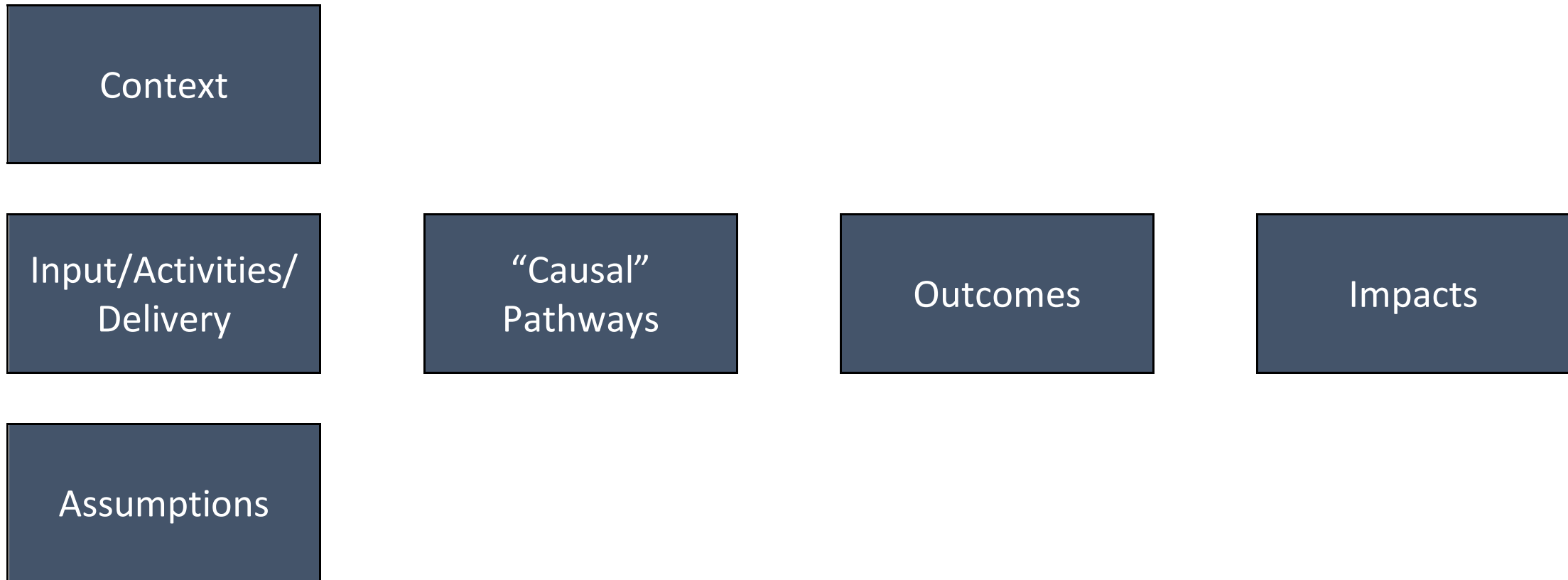
192. A provider may wish to consider the following when designing evaluations:

- potential barriers to preferred approach
- the availability of expertise needed to conduct this evaluation properly
- if collaboration is needed to make this evaluation work well
- exploring counterfactuals, i.e. what would happen to target groups if a provider did nothing
- the number of participants needed to help get the insights needed
- the number of years a provider wants to run the evaluation for
- whether comparison groups are appropriate and, if so, whether the selection method takes account of possible selection bias
- what happens if a provider is running a small programme

TASO's MOAT and AR-MOAT



Aspects of ToC that underpin evaluation



- **There will be different research questions about different aspects and probably different methods to answer these questions.**

Why focus on outcomes?

- Sets out the purpose and can help get shared clarity about what it is trying to achieve
- Contextualised to the intervention (activities, resources etc)
- Provides a structure and focus to aim for
- Encouraging for both staff and participants, through providing evidence of progress
- Central to Impact Evaluation, 'proving' causality and finding out what works in APP

Levels of measurement



Collaborative Enhancement Project



- **Individual level**

- might include detailed aspects describing psychological processes which underpin the pathways (such as changes in individuals' identity and attitudes)
- changes in behaviours
- individual perceptions as well as objective measures

- **Community level**

- aspects describing group or community level changes (such as increased engagement rates)
- better understanding or deepened understandings

- **Organisation level**

- might align with institutional priorities
- change in resources and expertise, or stakeholder involvement.

Different types of data

Objective data

(e.g. test results)

Behavioural outcomes

(e.g. applications to HE)

Non-behavioural outcomes (e.g. confidence)

Validated scales

(e.g. ASQ, well-being)

➤ **May be multiple causal pathways, different interventions linking together**

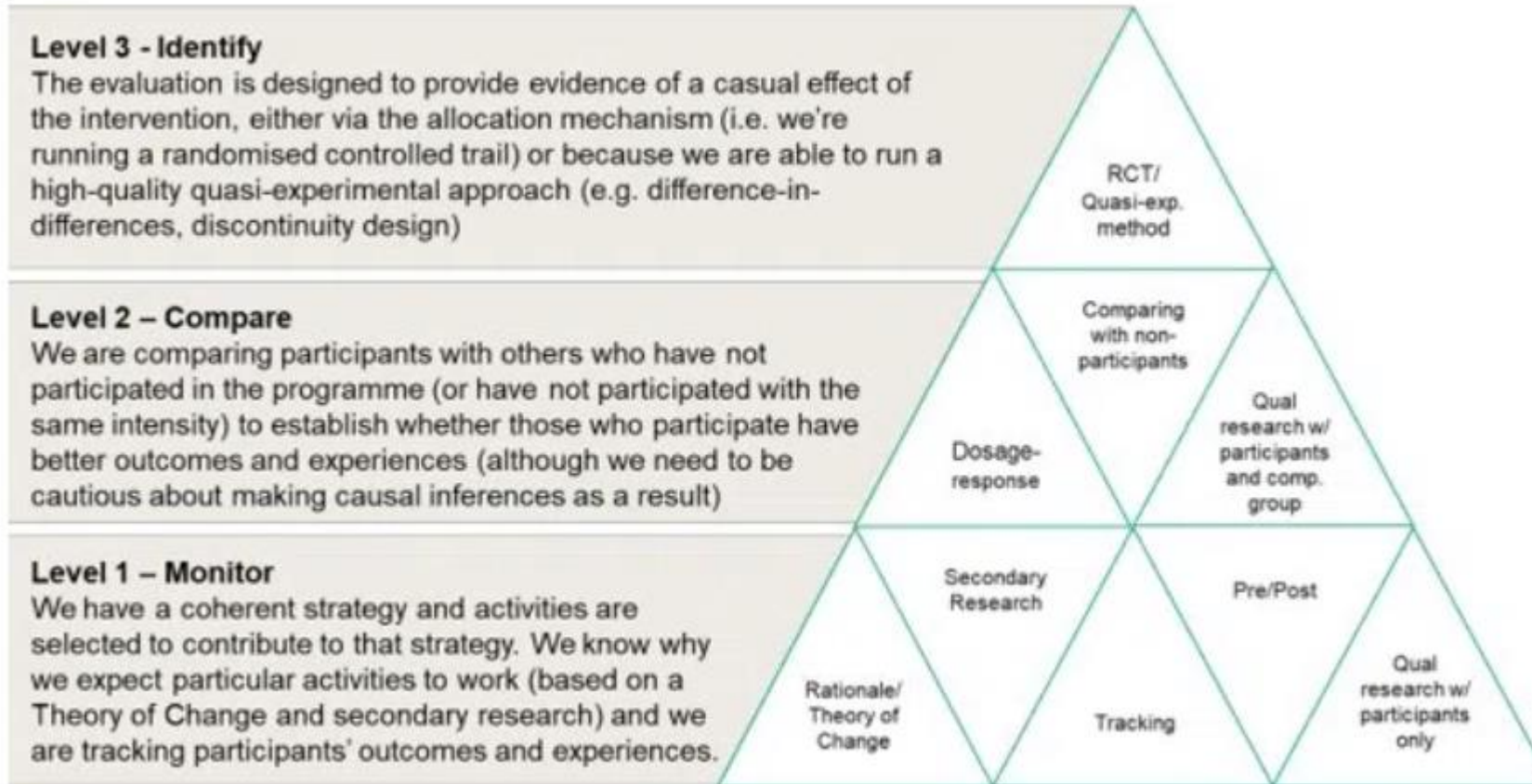
➤ **Some interventions may only impact on outcomes at one point in time**

Advantages & Disadvantages

Advantages of primary research	Disadvantages of primary research
Specific to the organisation and research question(s)	Time consuming
Provides detailed information	Expensive
Relevant and up to date	Can be difficult to undertake (e.g. access) and is sometimes difficult to analyse
Can gather a mixture of quantitative and qualitative data	Risk of unreliability

1. How do you think primary research can add most value to APP work?
2. What type(s) of primary research methods are most useful in your context?
3. Can you identify any opportunities for collaborative projects?

TASO pyramid

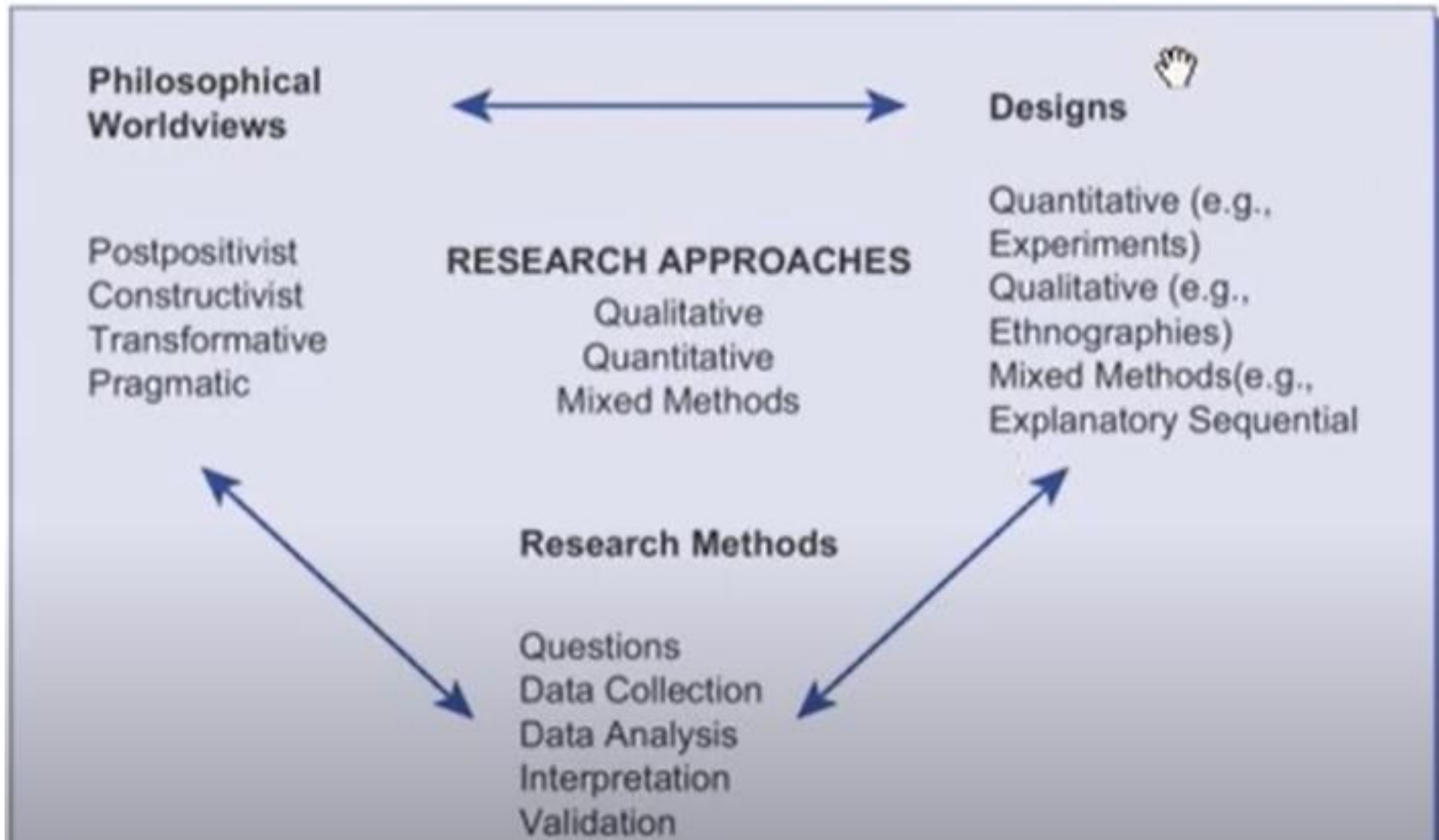


Key Impact Evaluation Challenges

1. How to measure the changes that result from an intervention
 - Measures
 - Proxy-measures
 - Indicators
2. How to attribute any changes to your intervention
 - Approaches
 - Methods

Glossary	
Measure	How you know an outcome you are hoping to make has occurred
Proxy	An indirect measure of an outcome which is correlated to that outcome when direct measures aren't available.
Indicators	Defines how you'll actually measure the change that has taken place
Approach	The distinct ways to think about, design, and conduct the evaluation
Method	A systematic way of collecting and using data and evidence

Figure 1.1 A Framework for Research—The Interconnection of Worldviews, Design, and Research Methods



Participatory Action Research

Focus:	The individual	The social	Both: a reflexive-dialectical view of individual-social relations and connections
Perspective:			
Objective	(1) <i>Practice as individual behaviour:</i> Quantitative, correlational-experimental methods. Psychometric and observational techniques, tests, interaction schedules.	(2) <i>Practice as social and systems behaviour:</i> Quantitative, correlational-experimental methods. Observational techniques, sociometrics, systems analysis.	
Subjective	(3) <i>Practice as intentional action:</i> Qualitative, interpretive methods. Clinical analysis, interview, questionnaire, diaries, journals, self-report, introspection	(4) <i>Practice as socially-structured, shaped by discourses and tradition:</i> Qualitative, interpretive, historical methods. Discourse analysis, document analysis.	
Both: a reflexive dialectical view of subjective-objective relations and connections	(5) <i>Practice as socially- and historically-constituted, and as reconstituted by human agency and social action by participants:</i> Critical methods. Critical participatory action research that reflexively combines multiple methods —.		

Quantitative	Qualitative	Mixed Methods
<ul style="list-style-type: none"> • Experimental designs • Nonexperimental designs, such as surveys 	<ul style="list-style-type: none"> • Narrative research • Phenomenology • Grounded theory • Ethnographies • Case study 	<ul style="list-style-type: none"> • Convergent • Explanatory sequential • Exploratory sequential • Transformative, embedded, or multiphase

In-depth Interviews

- **Example:** experiences of minority ethnic students drawing on 51 in-depth interviews
- **Themes include:**
 - different ways in which racism can affect students and the extent to which it is normalised
 - Coping strategies (including emotional detachment and desensitisation towards racist behaviours)
 - Implications for policy and practice

Wong, B; Copsey, M and ElMorally, R (2022). Silent or silenced? Minority ethnic students and the battle against racism
Cambridge Journal of Education VOL. 52, NO. 5, 651–666

- **Others?**

Uses: Explore complex subject matter; obtain detailed information or sensitive subjects; Views of busy, high-status respondents

Stages: Formative, Summative

Advantages

- Richest data, details, and new insights
- Opportunity to explore topics in depth
- The affective as well as cognitive aspects
- Interviewer can explain/clarify questions, increasing the likelihood of useful responses
- Allow for flexibility to individuals or circumstances

Disadvantages

- Expensive and time-consuming
- Need well-qualified, highly trained interviewers
- Recall error, selective perceptions, desire to please interviewer
- Flexibility mean inconsistencies across interviews
- Volume of information is large; may be difficult to transcribe and reduce data

Focus Groups

- **Example:** 4 Uni Connects (8 x post 16 and Year 10 x 9)
- **Themes included:**
 - Post-16/18 choices and perspectives
 - Role and benefits UC delivery in context
 - Implications of COVID-19 restrictions/changes
 - Insights on future interventions

NERUPI Uni Connect partnerships (2022) Collaborative research to explore experiences of outreach during the pandemic.

<https://www.nerupi.co.uk/members/resources/uni-connect-collaborative-research-experiences-of-outreach-in-the-pandemic>

- **Others?**

Uses: Perceptions of project outcomes and impacts; Identify and define problems in project implementation; Identify strengths, weaknesses, and recommendations; Assist with interpretation of quantitative findings; generate new ideas.

Stages: Formative, Summative

Advantages

- Interaction of respondents can stimulate richer response or new ideas.
- Group situations help to illuminate areas of consensus or conflicting opinions.
- Less time-consuming and costly than interviews

Disadvantages

- Non-sensitive subject matter
- The volume of issues covered cannot be extensive (strings of behaviours are less relevant)
- Enough is known to establish a meaningful topic guide.
- An acceptable number of target respondents can be assembled in one location.
- Experienced facilitators needed to be able to control and manage groups

Structured Observation

- **Example:** Wessex Inspiration Network
- **Themes:**
 - Quality assurance of experiences for those engaging in WP programmes
 - Feedback and career development, for those delivering programmes
 - Identify and promote staff strengths
 - The information was analysed with reference to CAST's (2018) Universal Design for Learning Guidelines
<https://www.nerupi.co.uk/members/resources/observation>

Uses: Learn about things the participants or staff may be unaware of or that they are unwilling or unable to discuss in an interview or focus group.

Stage: Formative, Summative.

Advantages

- Information about behaviour of individuals and groups
- Permit evaluator to enter into and understand situation/context
- Opportunities for identifying unanticipated outcomes
- Natural, unstructured, and flexible setting

Disadvantages

- Expensive and time consuming
- Need well-qualified, highly trained observers; may need to be content experts
- May affect behaviour of participants
- Selective perception of observer may distort
- Investigator has little control over situation
- Behaviour(s) observed may be atypical

Creative methods

- **Examples:**
- Digital story telling Sheffield Hallam University
<https://www.nerupi.co.uk/assets/files/Alan-Donnelly-nerupi-convention-presentation.pdf>
- Concept mapping Sheffield Hallam University
<https://www.nerupi.co.uk/members/resources/more-on-focus-groups/realist-evaluation-2>
- Photo-elicitation (estranged students) University of Lincoln
<https://www.nerupi.co.uk/members/resources/practice-examples-photo-elicitation>
- **Others?**

Uses: focus on encouraging people to express their own thoughts and feelings freely; Assist with interpretation of other findings; generate new insights and ideas.

Stages: Formative, Summative

Advantages

- Contributions of participants less restricted
- Can capture feelings that may not have been articulated in words
- Inclusive of a wider range of perspectives.
- Can help to embed evaluation, enhance activities and facilitate reflection
- Some methods can be used longitudinally

Disadvantages

- Can be challenges in getting everyone involved
- Challenges in telling the whole story
Interpretation of the information can be challenging
- Hard to aggregate the results
- Insights into learner journeys not a causal relationship between the intervention and any changes observed

How much primary research?

1. Identify the problem.
2. Identify the research question.
3. Focus in on the specific study objectives.
4. Identify the population of interest.
5. Appropriate data collection methods (and for each of those, identify a sampling approach and develop a recruitment strategy).

Use the literature to think strategically about what you ultimately want to inform

Purpose -> Goal -> Outcome

How much primary research?

- Quantitative studies – sample size determined by the desired effect size and confidence interval in a chosen statistical test
 - Random (probability) and non-probability sampling
- Qualitative studies – principle of ‘Saturation’
 - Interviews: Minimum 8-12 interviews assuming minimum variability and no control group
 - Focus groups: 2-3 groups of c6-8 participants
 - Judgement/purposeful sampling, theoretical sampling and convenience sampling, snowball sampling
- Comparative studies (e.g. differences between men/women) will require larger samples

Saunders, B., Sim, J., Kingstone, T. et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant* 52, 1893–1907 (2018). <https://doi.org/10.1007/s11135-017-0574-8>

Chapter on ***Designing and Selecting Samples*** in Ritchie et al. (2013) *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, SAGE. <https://books.google.co.uk/books?id=EQSIAwAAQBAJ>

Group work

- Which types of primary research add most value in your context?
- What will you continue with and why?
- Will any new types of primary research be needed for new projects and activities?

- **Reliability**

- Whether a particular technique, applied repeatedly to the same object, yields the same results.

- **Validity**

- The extent which a measurement adequately reflects the “real” meaning of the concept under consideration.

- **Credibility**

- Type of impact evaluation
- Research design
- Weight of evidence
- Triangulation of sources

Copestake, J., 2014. Credible impact evaluation in complex contexts: Confirmatory and exploratory approaches. *Evaluation* (London, England. 1995) [Online], 20(4), pp.412–427. Available from: <https://doi.org/10.1177/1356389014550559>.

Characteristics of 'good' indicators

- Fully defined so it is clear what it is that is being measured, when, how, with what frequency etc;
- Actually measures what it intends to measure or is reasonably indicative of it ('validity')
- Can be collected consistently by different people and at different times ('reliability')
- Affordable and feasible to collect the data regularly and with high quality.

SMART & SPICED	
SMART INDICATORS	SPICED INDICATORS
Specific (to the change being measured)	Subjective
Measurable (& unambiguous)	Participatory
Attainable (and sensitive)	Interpreted (& communicable)
Relevant (and easy to collect)	Cross-checked
Time bound (with dates)	Empowering
	Diverse and disaggregated

Spotting potential for bias

Measures with strong reliability and internal validity are best.

- The authors suggest eschewing attitudinal measures in favour of those based on knowledge or behaviours – e.g. asking about the number of university websites visited rather than a possible future intention to apply.
- Future research may be able to reveal which of such 'proxy' measures are most strongly correlated with future behaviours.

Five principles:

1. Articulation of a clear theory of change
2. Criticality about causality
3. Criticality about measurability
4. Appropriate timescales
5. Focus on disadvantage

[Neil Harrison & Richard Waller \(2017\) Evaluating outreach activities: overcoming challenges through a realist 'small steps' approach, Perspectives: Policy and Practice in Higher Education, 21:2-3, 81-87, DOI: 10.1080/13603108.2016.1256353](https://www.tandfonline.com/doi/full/10.1080/13603108.2016.1256353)
<https://www.tandfonline.com/doi/full/10.1080/13603108.2016.1256353>

- **Randomisation**
 - Assign the treatment (or independent variable) in your study to a sufficiently large number of subjects, which allows you to control for all potential confounding variables.
- **Restriction**
 - Restrict the sample to subjects that have the same values of potential confounding variables.
- **Matching**
 - Match respondents with a counterpart in a comparison group (same values on any potential confounding variables, and only differ in the independent variable)
- **Statistical control**
 - Include potential confounders as variables in a regression model.

Ethical approval considerations

- Research design needs to fit with the research questions
- Needs to be clear why you need the information/data from each method you propose
- Scope of the research is clear and bounded (or clear on how flexible it will be)
- Provide target ranges for each method
- Embedded procedures for informed consent, confidentiality, data security
- Exit strategies for sampling requiring recruitment
- Opportunities to reiterate consent, procedures for withdrawing consent
- If possible, opportunities for checking understanding (transcripts etc)
- Consider your position as an ethical researcher

**Useful guides and tools (e.g. example consent forms:
<https://taso.org.uk/evidence/research-ethics-guidance/>**

Ethics and power in research

– discussion if time?

- In our relationships with participants, are researchers the most powerful? Should they be?
- Can/should methods and methodologies be used to disrupt typical hierarchical power relations?
- How do university and institutional ethics committees influence/shape power over us as researchers? Are there specific ethical parameters which may stifle approaches, such as participatory ones?
- How present are access and participation researchers and issues in institutional ethics committees and processes?

- Research Methods guides

<https://www.nerupi.co.uk/members/resources>

- Evaluation purpose template

<https://www.nerupi.co.uk/members/resources/evaluation-purpose-statements-template>

- Analysing data

<https://www.nerupi.co.uk/members/toolkit/evaluation/analysing-data>

Five basic approaches to qualitative research*

- **Narrative research** - Focuses on stories
 - Impact lessons, cultural norms or central narratives. Chronologically ordered account of an event/series of events and the meaning attributed to them. Contexts underlying the story.
- **Phenomenology** - Focuses on lived experience
 - Understand the essence of a specific phenomenon. For example, how do cultural practices affect to the individual's perceptions, behaviour and experiences?
- **Ethnography** - Holistic understanding of a bounded cultural group
 - Shared beliefs, values, behaviours, etc. (quantitative and qualitative approaches).
- **Case studies** - Bounded systems or a cases through multiple sources
 - Description of key themes. Triangulation or different ways of looking at the same problem
- **Grounded theory** - Inductive theory generation related to a specific phenomenon
 - Explain the relationships between concepts. Analysis is done alongside data collection and often includes additional participants who can help address the evolving research questions, using comparisons.

*Creswell, J (2006) **Qualitative Inquiry and Research Design**,
https://www.sagepub.com/sites/default/files/upm-binaries/13421_Chapter4.pdf