

ECGE7001P

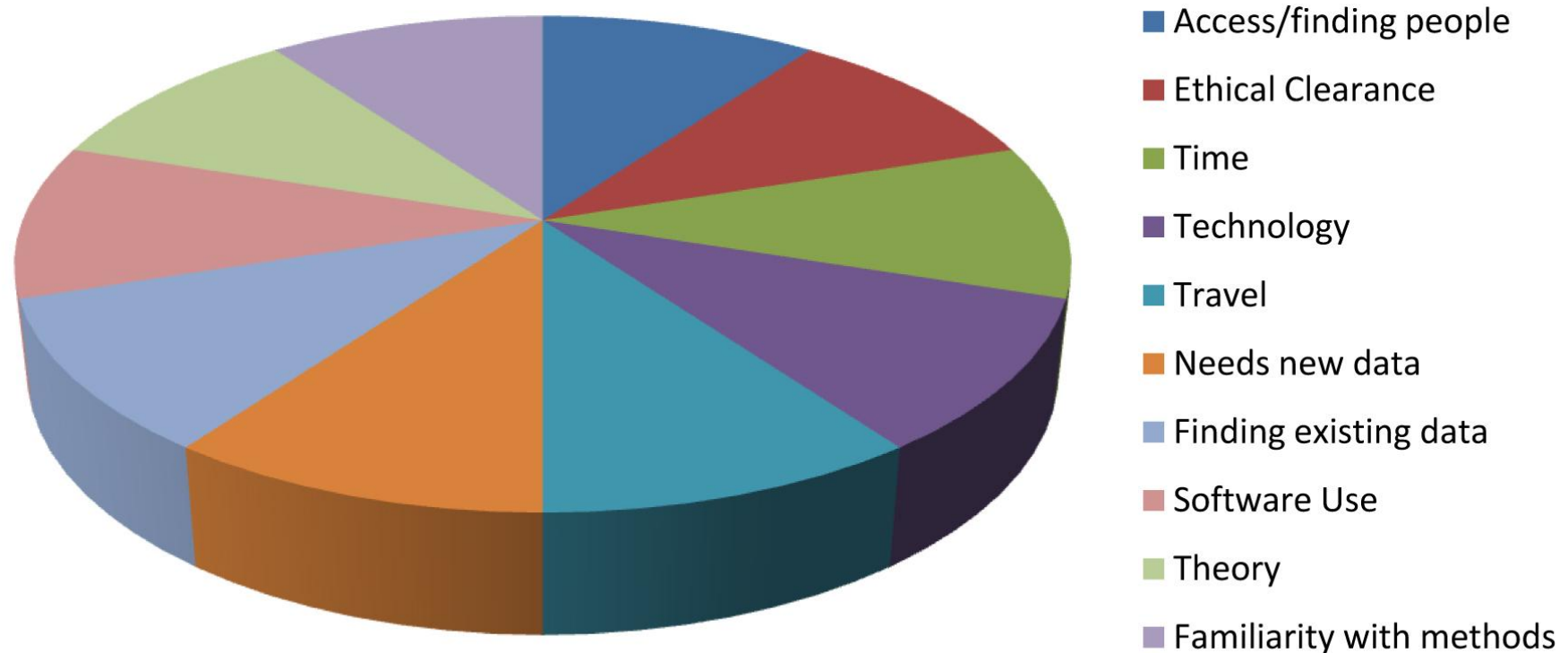
Session 3 - Research Tools
(Part 1)

Methodology

- Methodology – the study of the method used
- Therefore, your **methodology** section needs to present a discussion of:
 - Which methods you will use
 - Why you will use them
- This forms the basis of your **research design** – so you need to be explicit about how you are using particular methods to answer your research questions.

(Thomas, 2017)

Practical Issues Which Can Inform Methodology



Thomas, 2017

Epistemology

i.e. the way in which you choose to investigate the world

Two main schools are **positivism** and **social constructionism**:

- **Positivists** believe that the best way to investigate the world is through objective methods, such as observations.
- **Social constructionists** believe that reality does not exist by itself. Instead, it is constructed and given meaning by people. Their focus is therefore on feelings, beliefs and thoughts, and how people communicate these.
- Which one are you and how might this impact upon your research design?

Choosing your approach

- Your approach may be influenced by your colleagues' views, your organisation's approach, your supervisor's beliefs, and your own experience
- There is no right or wrong answer to choosing your research methods
- Whatever approach you choose for your research, you need to consider five questions:

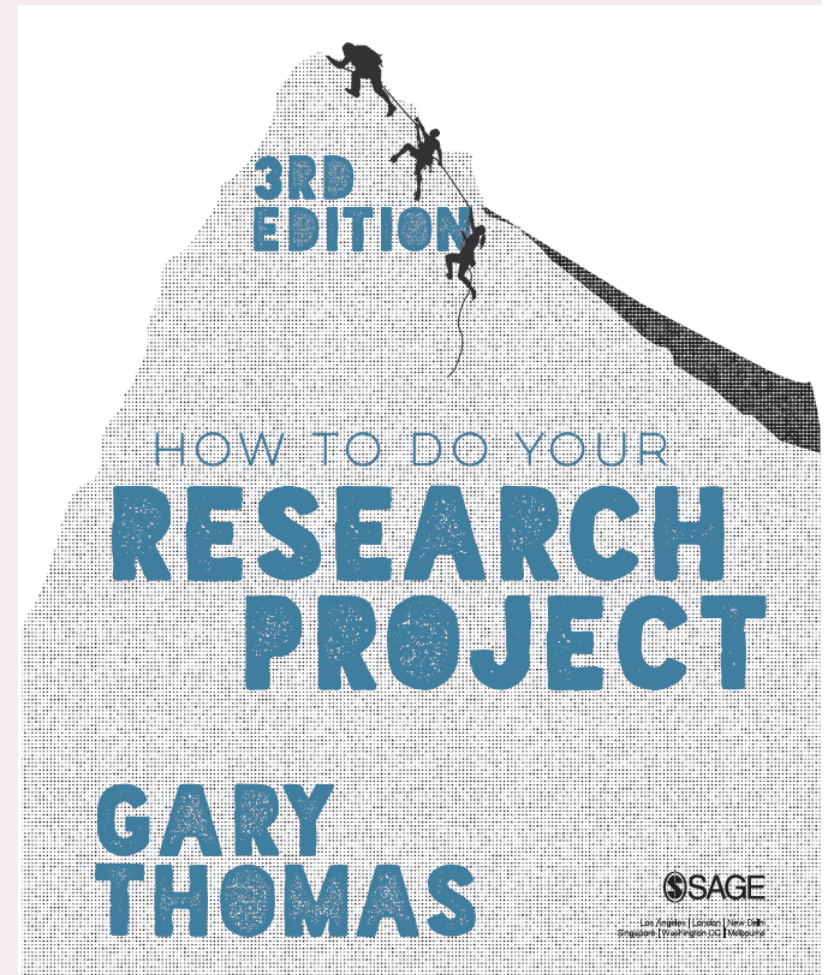
Choosing your approach

- What is the **unit of analysis**? For example, country, school or individual.
- Are you relying on **universal theory or local knowledge**? i.e. will your results be generalisable, and produce universally applicable results, or are there local factors that will affect your results?
- Will **theory or data come first**? Should you read the literature first, and then develop your theory, or will you gather your data and develop your theory from that?
- Will your study be **cross-sectional or longitudinal**? Are you looking at one point in time, or changes over time?
- Will you **verify or falsify a theory**? You cannot conclusively prove any theory; the best that you can do is find nothing that disproves it. It is therefore easier to formulate a theory that you can try to disprove, because you only need one 'wrong' answer to do so.

Chapter 6

Methodology Part 2:
The Design Frame

The following screens are a resource from
Thomas, 2017 (see Instructor Resources)



Design frames

- Provides a superstructure for the research project and connects purposes with questions with the ways in which data can be collected
- Doesn't prescribe how the data will be collected
- Seven common frames in small-scale research:
 - Action research
 - Case study
 - Comparative research
 - Ethnography
 - Evaluation
 - Experiment
 - Longitudinal, cross-sectional studies and survey

Action research

- Undertaken by practitioners (e.g. teachers, social workers, nurses or doctors) for the purpose of helping to develop their practice
- Central aim is *change* and the emphasis is on problem-solving in whatever way seems most appropriate
- Involves a commitment to change and to action based on reflection
- Involves moving forward, always building on what you are discovering, using the process of planning, reflection and re-planning

Case study

- In-depth research into one case or a small set of cases
- The data you collect can be from different facets of the question you are examining
- The case is not simply a story: it has to illuminate some theoretical point; it has to be a case *of* something
- Comprised of a subject and analytical frame
- Will need to consider single vs multiple, boundary, shape, and type of case(s)

Ethnography

- Studying a situation from within – becoming part of the situation to understand it like the other ‘players’
- Record findings through field notes and diaries
- Positioning yourself as an instrument of investigation
- Small-scale ethnography research won’t involve time for full immersion, and you’ll likely be familiar with or connected to the environment you’re studying

Ethnomethodology

- **Dramaturgy and narrative research:** telling the story as you see it unfolding; the raw materials have been provided by the situation but you are the one who sees how things fit together
- **Autoethnography:** an ethnography about the person doing the research
- **Evaluation research:** assessing how effective a programme of activity has been

Experiments

- To experiment is to:
 - Demonstrate cause and effect
 - Understand the extent to which we have to control the conditions in the situation of interest to demonstrate that cause–effect relationship
- **Randomised Control Trials:** minimise the possibility of allocation bias to the different groups (experiment and control)
- **Confounding Variables:** other uncontrolled variables that could affect the outcome of the experiment
- What can go wrong?
 - **Type I error:** you accept your hypothesis as true, but in fact it is false
 - **Type II error:** you reject your hypothesis as false, but in fact it is true

Longitudinal studies, cross-sectional studies, and surveys

- Make use of data relating to large numbers of individuals or groups
- Do not attempt to manipulate any variables
- **Longitudinal studies:** studying a group of individuals/cases *over an extended period*, regularly examining them for the effect of time on the variable or variables of interest
- **Cross-sectional studies:** group or groups are studied at the same time – as a snapshot
- **Surveys:** not a design frame, but involves collecting data from a varied number of respondents

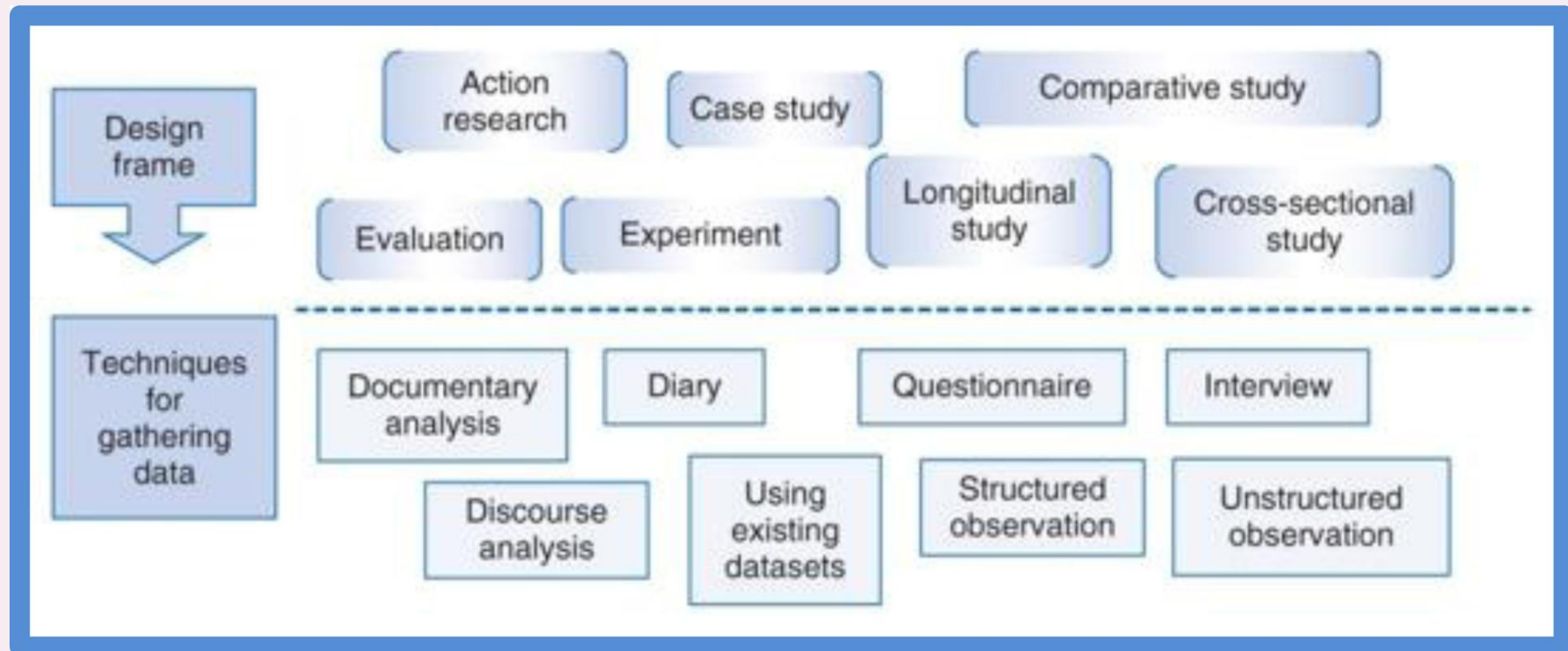
Comparative study

- Any comparison, but most frequently cross-national, cross-societal and/or cross-cultural comparison
- Examines
 - Contrasting patterns of development across different societies
 - How specific or how general forms of social and institutional structures are between different societies – how they are the same and how they are different
 - Cultural determinants of difference across societies
- Be aware of
 - Equivalence of comparative situations
 - Equivalence of measuring instruments
 - Language
 - Integrity of regions being compared

Can I mix and match?

- Yes!
 - (But...)
- **Mixed methods design**

Design Impacts on Gathering Data



Thomas, 2017

Design issues

- **Sampling**
- **Variables**
- **Reliability**
- **Validity**
- Experimenter effects
- Generalisation and generalisability
- Triangulation

Types of Research

- **Quantitative research** refers to research using numbers, and **qualitative research** refers to that which does not use numbers;
- Can complement each other rather than be in opposition;
- Start with your research question and determine different ways to answer it.

Qualitative Research

- Qualitative research is any which does not involve numbers or numerical data;
- It often involves words or language, but may also use pictures or photographs and observations;
- Tends to start with a broad question rather than a specific hypothesis;
- Almost any phenomenon can be examined in a qualitative way;

Qualitative Research

- Often the preferred method of investigation in the UK and the rest of Europe;
- Don't need large sample sizes (in comparison to quantitative research)
- Qualitative analysis results in rich data that gives an in-depth picture and it is particularly useful for exploring **how** and **why** things have happened.

Pitfalls?

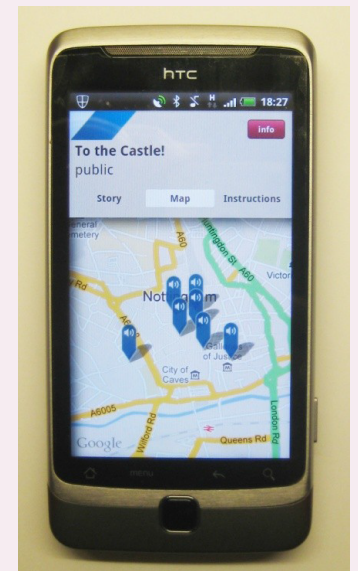
- If respondents do not see a value for them in the research, they may provide inaccurate or false information.
- Ethics - there may be particular difficulties with qualitative research because the researcher may be party to confidential information.
- It is generally harder for qualitative researchers to remain apart from their work.

Sources of qualitative data

- Interviews (structured, semi-structured or unstructured)
- Focus groups
- Questionnaires or surveys
- Secondary data, including diaries, self-reporting, written accounts of past events/archive data and company reports;
- Direct observations – may also be recorded (video/audio)

Example of qualitative data research*

- Describing and comparing two types of audio guides: person-led and technology-led
- Data sources: questionnaires, researcher observations, and small focus groups



* Taken from: FitzGerald, Elizabeth; Taylor, Claire and Craven, Michael (2013). To the Castle! A comparison of two audio guides to enable public discovery of historical events. Personal and Ubiquitous Computing, 17(4) pp. 749–760. <http://oro.open.ac.uk/35077/>

Data analysis and findings

- Comparison of the two different walks
 - Differences/similarities of the walks
 - Issues surrounding participant engagement
- Thematic analysis
 - Mode of delivery
 - Number of participants and social interactions
 - Geographical affordances of places and locations
 - User experience
 - Opportunities for learning
 - Other factors
- Findings, lessons learned, recommendations

What qualitative researchers worry about

- Have I coded my data correctly?
- Have I managed to capture the situation in a realistic manner?
- Have I described the context in sufficient detail?
- Have I managed to see the world through the eyes of my participants?
- Is my approach flexible and able to change?

What's wrong with qualitative research?

- It can be very subjective;
- It can't always be repeated;
- It can't always be generalisable;
- It can't always give you definite answers in the way that quantitative research can;
- It can be easier to carry out (or hide) 'bad' (poor quality) qualitative research than 'bad' quantitative research.

Analysing qualitative data

- Content analysis
- Grounded analysis
- Social network analysis (can also be quant)
- Discourse analysis
- Narrative analysis
- Conversation analysis

Tools along the way

DATA COLLECTION

Interviews

- A discussion with someone in which you try to get information from them
- Three sub-types:
 - Structured
 - Unstructured
 - Semi-Structured
- Involves establishing rapport
- Consider when to ask open-ended, closed, and probing questions
- Record data in transcripts

Areas to explore with interviewees



Semi-structured Interviews

- Positive points?
- Negative points?

Semi-structured Interviews

Strengths

- Positive rapport between interviewer and interviewee
- People are able to talk about something in detail and depth
- Complex questions and issues can be discussed / clarified
- Easy to record

Limitations

- Depends on the skill of the interviewer
- Interviewer may give out unconscious signals
- Time Consuming
- Depth of information may be difficult to analyse
- Validity

Issues with validity

- The researcher has no real way of knowing if the respondent is lying.
- The respondent may not consciously lie but may have imperfect recall.
- An interview can sometimes be a “second chance” to do something; having been given the time to reflect on something they did, the respondent tries to make sense of their behaviour by rationalising their actions. Their explanation for their behaviour, with hindsight, may be very different from what they actually felt at the time.

Discussion Points

- Reliability
- Validity
- Representative sample
- Generalisation

- the application of research results to cases or situations beyond those examined in the study

Generalisation

- the degree to which an assessment tool produces stable and consistent results.

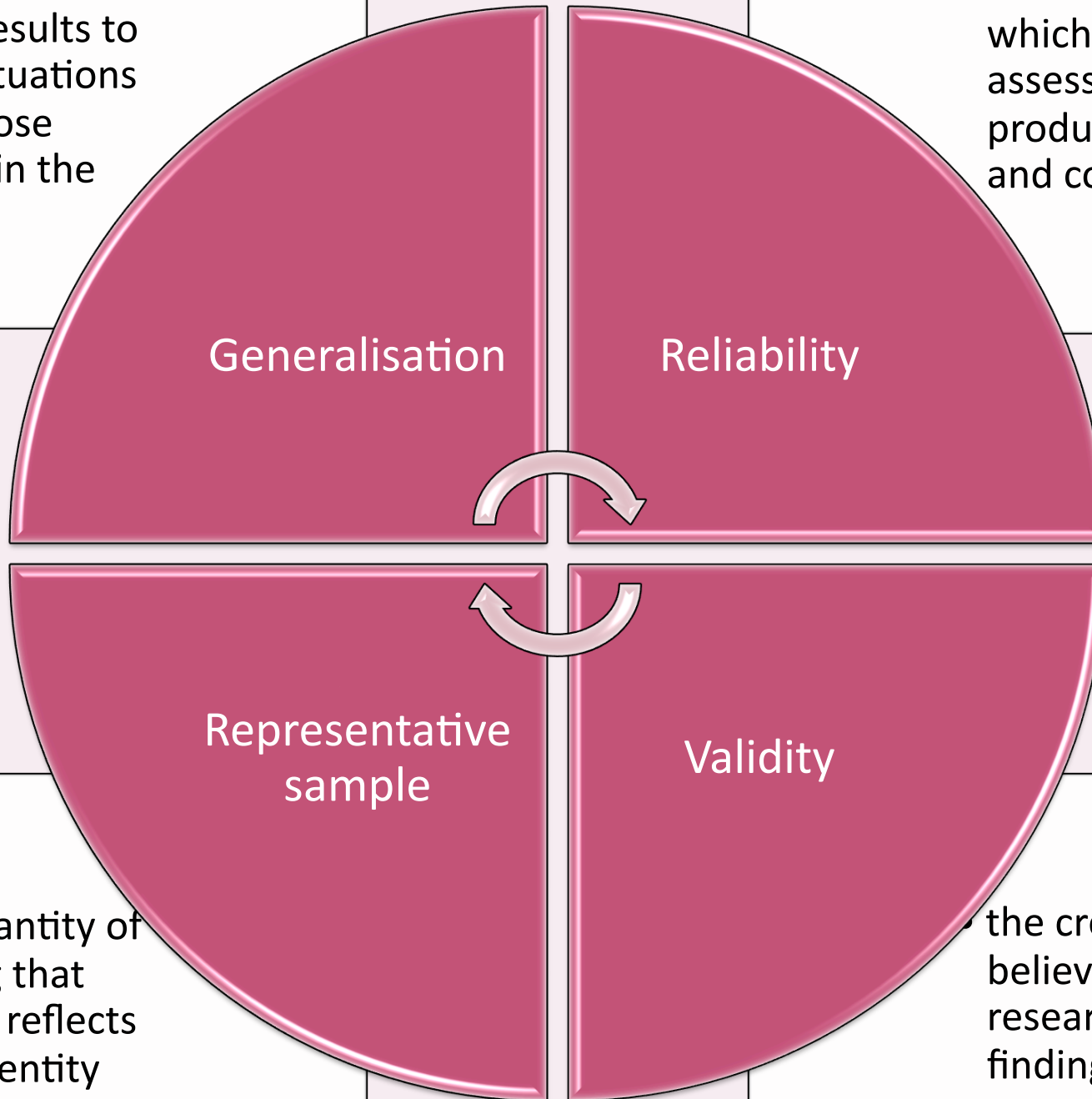
Reliability

Representative sample

- a small quantity of something that accurately reflects the larger entity

Validity

- the credibility or believability of the research. Are the findings genuine?



Bibliography

- Thomas, G. (2017) *How to do your Research Project*, London: Sage.
- Cohen, L., Manion, L., & Morrison, K. (2011) *Research Methods in Education*, (7th ed.) London: Routledge.