Theoretical perspectives in research

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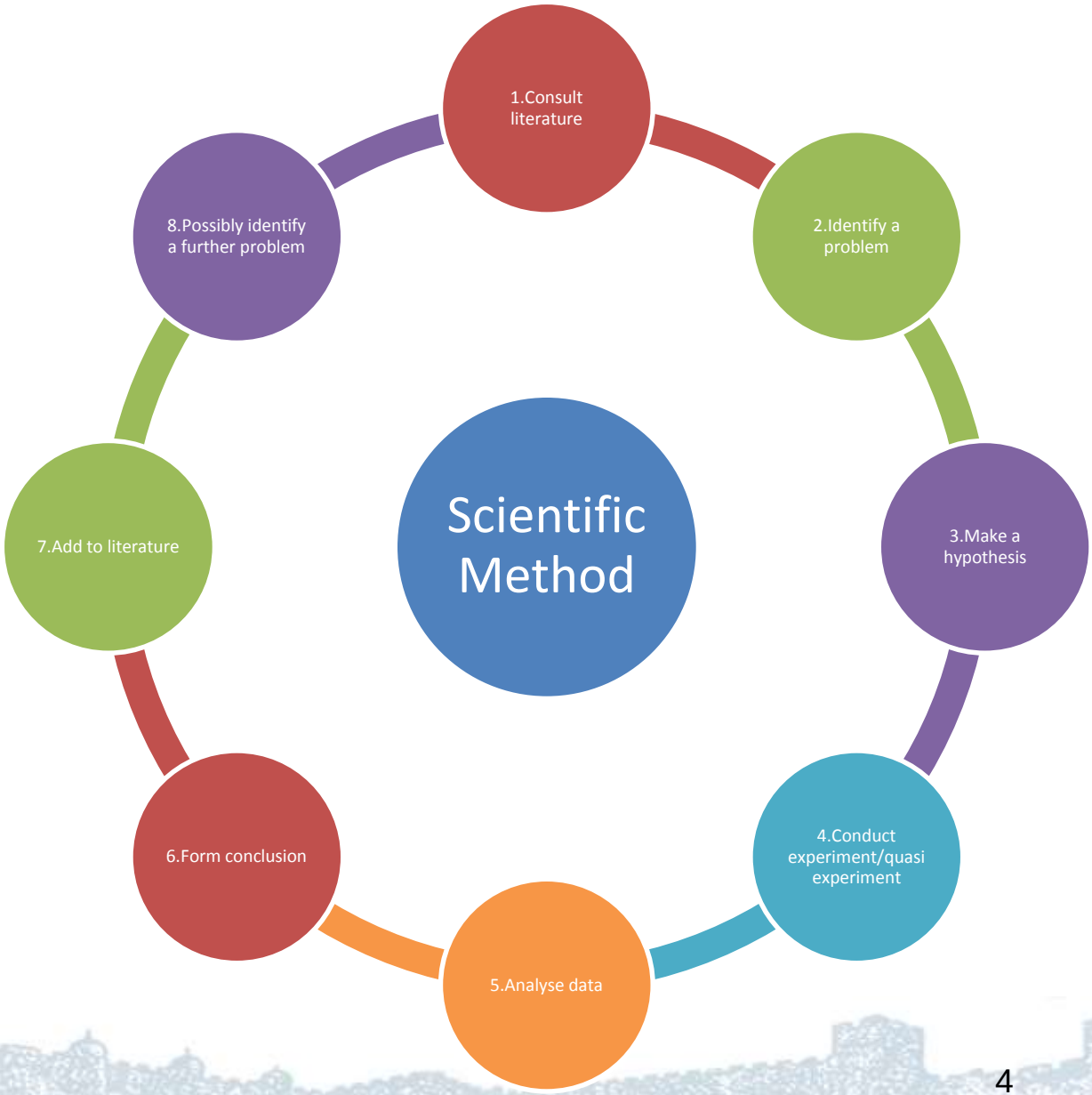
Overview of the lecture

1. Qualitative research largely draws from a different philosophical perspective.
2. It is important to understand the difference between the type of research conducted in the natural sciences (positivist) and research conducted on the social world – anti-positivist
3. Most people are aware of clinical research and the scientific method but this is not suited to research seeking understanding or complexity.
4. Explain the different theoretical perspectives of research.
5. Present examples of research questions and studies using each perspective

Clinical research (positivism)

- Medical staff and natural scientists will be familiar with the scientific method and *positivism*.
- Clinical research has adopted the *scientific method* from the natural sciences.
- In the past, methods used to study the natural world were considered appropriate and desirable to study the social world.
- The approach used to conduct research in the natural world is sometimes considered suitable for research about the social world, often inappropriately.


Scientific Method
1.Consult literature
2.Identify a problem
3.Make a hypothesis
4.Conduct experiment/quasi experiment
5.Analyse data
6.Form conclusion
7.Add to literature
8.Possibly identify a further problem

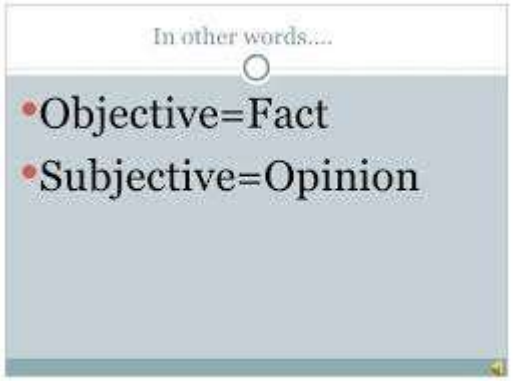
The appropriateness of the natural science model for social sciences

- From the 1970s, there was more philosophical debate on the issue of whether the scientific method was appropriate for the study of people.
- Arguments focused on ***people*** in education and the social sciences, and ***objects*** in the natural science.
- Methods used by social scientist, e.g. participant observation were deemed less scientific, weak and of lower status.
- The terms ‘qualitative’ and ‘quantitative’ signified more than different methods of collecting data, they indicated ***different assumptions about research in the social world*****.**

Assumptions about the social world

There are two concepts of social reality:

objectivism and subjectivism.



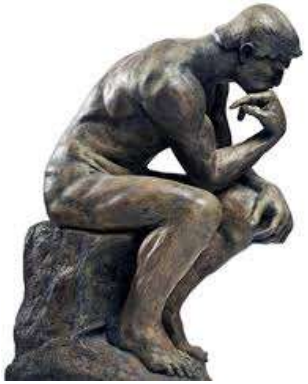
Objectivism

assumes that social phenomena exist independently of social actors e.g. racism exists even if we do not experience it.

Subjectivism

asserts that social phenomena are subjective, individual and changing e.g. experiences of sexism from a man or women living in a small village compared to a city.

Philosophical assumptions about reality and access to it



Ontology is the study of being, and concerned with the nature of existence and the **structure of reality.**

Ontology asks questions about: ***what can be known about reality*?**

In the social world is there a '*real*' single reality or are there multiple realties dependent on whose view is taken?

Ontological assumptions are concerned with the social phenomena being studied and *if what is being studied is assumed to have an objective reality or not.*

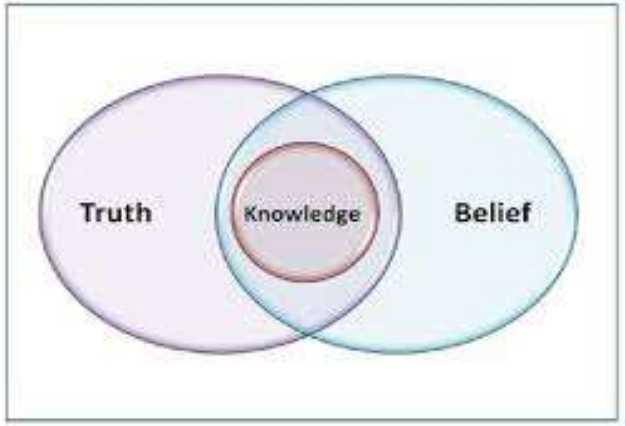
Nominalist-Realist debate

These philosophical questions come from the nominalist-realist debate.

- **Nominalism** considers the social world to be **subjective** and dependent on individual cognitions (e.g. thoughts).

- **Realism** maintains that objects have an independent existence outside individual cognitions and access to the social world can be **object.**

Epistemology



- **Epistemology** is concerned with the theory of knowledge, its origins, nature and the limits of knowledge.
- Epistemological assumptions are concerns with the bases of knowledge and how knowledge is acquired, its form and nature.
- Where the researcher places themselves in this debates influences how research and knowledge are identified.
- The answer to the epistemological question is dependent on the answer to the ontological question.

Ontology and epistemology are related

If **reality is assumed to be *real*** (independent of cognitions) Then what can be known about reality is independent of the relationship between the researcher and the subject of research and **knowledge** can be said to be **objective**.

If reality is assumed to be *socially constructed* and there are **multiple realties** then there can be no singular *real* version of reality, so the researcher can only access a **subjective** version of reality and there are many other versions of reality.

Theoretic perspective

- Theoretical perspectives are philosophical stances that lie behind the research methodology.
- Each perspective has consequences for the research that follows in terms of procedure and interpretation of findings.
- It suggests how the research should be read and in which framework it sits.
- They influence how the study is conducted, the researcher's role and the type of knowledge that is produced.

Clinical research is mainly *positivist*

- Focus is mainly explaining the natural world in terms of **cause and effect.**
- Often aim to collect **'facts'.**
- Often aims to be **predictive**.
- Involves testing a **hypothesis** to test a theory.
- Design follows the **scientific method** to ensure bias does not affect the data.

The positivist perspective

- Assumes that there is a **reality** independent of our cognitions.
- Careful research design can **access** it.
- Research design aims to **remove research bias.**
- Aims to identify **relationships between variables** and where possible make predictive statements about a wider population than the one studied.
- Aim to identify **rules and laws**, often **cause and effect.**
- Originates from research in **natural sciences.**

Positivism: Knowledge, values and ethics

- Knowledge is built up like building blocks, by adding new knowledge to old.
- Positivism claims to be value-free and objective if rigour is applied.
- Positivists view values as confounding variables that need to be controlled in the study.
- The methodology is designed to isolate and remove subjectivity and bias.
- Ethics is seen as something that would be applied to the research, by an external research ethics body.

The positivist researcher

- The researcher is often in the role of ‘expert’.
- The researcher takes on the role of independent observer, reporting study findings objectively.
- Positivists maintain that research is a specialist activity, carried out by qualified ‘scientists’.
- The researcher is trained in quantitative methods, research design and measurement.
- The aim is to be objective and remove researcher bias.

Criticisms from other perspectives

- Assumes it is the only valid form of knowledge and that it is objective and accurate.
- Assumes positive research has higher status, often reflected in journal and research funding bias.
- Anti-positivists argue that the type of questions answered are **limited and lack depth**.
- Positivism has acquired negative connotations signifying criticism of the philosophy and associated methods e.g. RCT.

A positivist study on professionalism

Aim to identify the **constructs** and **measure** professionalism.

May aim to **predict** who will be unprofessional.

ACTIVITY
ASSESS PROFESSIONAL BEHAVIOR
USING P-MEX

Assumes

- professionalism is a ***real*** phenomenon, and has a single reality.
- professionalism can be **objectivity** measured, researcher bias can be removed.
- The assumption is that people respond predictably.
- quantitative methods will identify rules or trends.

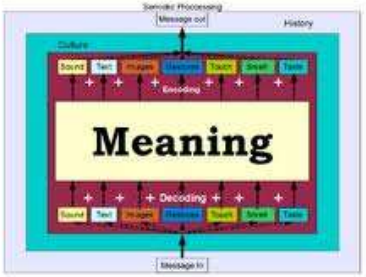
Qualitative research draws from a range of theoretical perspectives

Qualitative research has absorbed a range of competing views of the social world from the positivist paradigm as well as from the new paradigms which include:

- **constructivism,**
- **critical theory and**
- **participatory action research.**

The perspectives differ in the assumptions they make about social reality and researcher access to it.

Constructivist perspective



- Maintain that access to the social world is **subjective** and that there are **multiple views** of reality.
- Constructivist research is interested in **accessing these individual views.**
- **The influence of the human researcher** is acknowledge, and cannot be made neutral.
- Instead the researcher is used in the **co-creation of new knowledge** that is constructed from the meaning-making between the researcher and the data.
- The ontology of constructivism is **relativism** and research access to reality is **subjective**

Constructivism: knowledge, values and ethics

- Knowledge consists of constructions about which there is relative consensus.
- Values play a central role in creating and shaping the research outcomes.
- Constructivism views the role of researcher as the producer and facilitator of the research.
- The role of the researcher is central to the research process.
- The role of ethics, like values, is central to constructivism.

Constructivist researcher

- The researchers' role is to recognise their own constructs and values.
- Informs the study participants fully about the research prior to taking consent.
- Works towards uncovering the constructs of the participants and towards improving constructs.
- The methodology involves close personal interactions and as a result may raise some difficulties with confidentiality and anonymity.

A constructivist study of professionalism

- The aim might be to identify what a group of doctors perceive as professional behaviour.
- The methods are mainly qualitative.
- The analysis involves identifying a **new construct** of professionalism and greater understanding.
- The researcher would be aware that their own **subjectivity**, and how they influence the research.
- The researcher creates a **new construct** of professionalism from the **multiple views** adding her interpretation.

Critical theory

- Critical theorists aim to bring about empowerment or justice for a weaker group, and use research to achieve this.
- Concerned with critiquing the social world and bringing about change.
- Reality is assumed exist, but it has been shaped by cultural, political and economic factors so reality 'has set' over time.
- The ontology is historical realism, the epistemology is transactional and subjective.

Critical theory: knowledge, values and ethics

- Knowledge is made up of historical or structural insights that change with time.
- Transformations occur following informed insight.
- Values have a central role, excluding values would go against the interests of any minority or powerless group who were part of the study.
- The aim is to give the weak and powerless groups a platform and let their voice be heard.
- Ethics is more internal than external to the research. study.

The critical theorist researcher

- The researcher takes on the role of facilitator.
- The aim is to facilitate change in the study group by providing insight.
- The researcher is educated about the limitations of positivism.
- Need to understand the role that social issues have in the research context.
- Uphold the values of empowerment and altruism.
- Use qualitative and quantitative methods.

Critical theorist: professionalism study

- May start with those who are perceived to be less professional.
- May argue that the dominant group has defined the concept of professionalism.

- The aim might be to highlight unfair treatment, or challenge the system that is against them.
- The research highlights inequalities which can then be used to influence a change in policy.
- By highlighting potential inequalities in the system, the research might seek to empower and bring about justice for a weaker group.

Participatory action research

- Involves practitioners as both subjects and co-researchers.
- Research has greater validity if participates are involved.
- Reduces gap between publication and implementation of findings.
- Involves research participants in the research process working alongside the researchers at all stages.
- Outcomes are more likely to be implemented by the study participants.
- What emerges as reality is the result of an interaction

Knowledge, values and ethics

- Knowledge is the result of collaboration and is built up from this collaborative relationship.
- Participatory action research emphasises the importance of a ‘living knowledge’ that is implemented.
- Research subjects have a right to be engaged in research about them.
- The roles of values and ethics are embedded into the study.
- The subjects are also the researchers and the researchers also the subjects.

The participatory action researcher

- The role is as a collaborator engaged with the practitioners.
- They can act as research trainer to the practitioners to facilitate the research process.

- The novice researcher needs to acquire facilitator skills to work alongside their co-researchers (practitioners).
- The researcher needs to acknowledge the knowledge of the practitioners in the partnership.
- Researchers need to be trained in both qualitative and quantitative research methods.

A study on professionalism (PAR)

- The aim might work with a group of doctors to improve a particular problem associated with professionalism.
- The doctors would help to identify the problem and work with the researcher.
- The solution might be personal to the group, who keep working with the researcher until a satisfactory solution has been agreed and implemented.
- The researcher is also a facilitator, supporting the study participants to find a solution and implement it.

The creation of different types of knowledge

- Each perspective contributes a different type of ‘knowing’ and answers different questions.
- Having an understanding of what each perspective is aiming to achieve can enhance understanding and respective for different types of research.

Conclusion

- Qualitative (anti-positivist) research assumes there are multiple realities and access to it is subjective.
- Qualitative research does not seek to control data like in an experiment, or remove the influence of the researcher, but to acknowledge it.
- The role of the researcher, ethics and values are internal to the research.
- Questions asked are often complex, and cannot be reduced to one or two variables.
- The focus is on understanding, empowerment or facilitation rather than on measurement, prediction or cause and effect.

Thank you
Questions?

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Interviews

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Overview of the session

- Why use interviews
- Types of interviews
- Advantages and Disadvantages of using interviews
- Tips
- Example

Why use Interviews?

Interviews are a popular way in qualitative research of collecting data - within this method there are different types of interviews and different ways of doing them which we will explore

.

But why use an interview?

Provides the researcher with:

- Individual data – about personal experiences
- Information which is in depth and rich
- Allows you to explore the interviewees perspective.

Types of Interviews

There are three main types of interviews:

1. **Structured**
2. **Semi-Structured**
3. **Unstructured**

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Structured Interviews –

- Closed ended questions that require yes/no answers.
- Standard schedule of questions is used – same questions and wording in the same order for every interview.
- Should be administered by a trained researcher who can help clear up any misunderstandings in question wording
- Mark answers directly on to the interview schedule
- Pre-coded questions for ease of analysis

Semi-Structured Interviews

- List of open ended questions with probes. Gives you the ability to ask more complex questions, ask about personal histories, perspectives on an issue or about their own experience.
- Interviewee may ask for clarification or the question to be re-worded.
- Interviewee will be able to provide prompts but still follow structure and limit deviation from the overall structure and researchers' agenda.
- The use if semi-structured interviews is widely used in Medical Education
- They usually last 45mins. You usually audio record your interview with the interviewees permission and transcribe it ready to analyse it.

Tresolini CP & Shugars DA. An integrated health care model in medical education: interviews with faculty and administrators. Academic Medicine. 1994; 69(3)

Rothwell C, Morrow G, Burford B, Illing J. Ways in which healthcare organisations can support overseas-qualified doctors in the UK. International Journal of Medical Education. 2013; 4:75-82. ISSN:2042-6372 DOI:10.5116/ijme.515a.2231 http://www.ijme.net/archive/4/support-for-overseas-qualified-doctors/

Example of semi-structured interview questions

Example: Research question:

What are the enablers and barriers for women in Japan to progress to senior positions?

Interview questions:

1. Can you tell me about your early career plans?

(*Probe for details about views on doing clinical research*)

2. What do you think influenced your choice of career?

(*Probe for barriers that hindered progression and enablers that supported development*)

3. Was there anything or one that supported your career development? (probe for examples, enablers)

4. Were there any times that you felt that you were hindered in your career development? (probe for examples, barriers)

Unstructured

- Still have a list of areas or topics you want to discuss and a list of probes. Questions may be asked in different ways depending upon the way the conversation is going e.g. narrative research.
- Narrative Research where key informants tell their story. The researcher then seeks meaning within the context of the story.
- Narrative research originates from the ancient art of story telling as a method of communication and interpretation of human experience *(Bleakley, 2005)*
- Recent examples in medical education have been used to teach medical students more about communication skills and empathy *(Pullman et al, 2005)*

Bleakley (2005) Stories as data, data as stories: making sense of narrative inquiry in clinical education. Medical Education.**39:**534-40.

Pullman et al (2005) Narrative means to humanistic ends. *Teaching & Learning in Medicine* **17:**279-84

Ways of conducting interviews

Face to face

- Adopt a positive tone, and nod no matter what the reply to a question. (not sure culturally appropriate?)
- Be non directive in questioning
- Usually more unstructured like a conversation.

Ways of conducting Interviews

Telephone

Increasingly popular quick and easier and cheaper.

We have used them often especially good for follow up interviews or geographically spread participants. E.g. NCAS, ESRC, GMC projects

Better if relatively short interviews and more structured in nature.

Sturges and Hanrahan found no difference in response rate or quality of data when comparing face to face and telephone interviews.

Sturges JE & Hanrahan KJ. Comparing telephone and face-to-face qualitative interviewing. Qualitative Research vol. 4(1):107-118)

Morrow, G., Burford, B., Carter, M., Illing, J. (2014). Have restricted working hours reduced junior doctors' experience of fatigue? A focus group and telephone interview study. *BMJ Open*; 4:e004222.

Advantages

- Interviews provide you with in depth data and allows you to ask about sensitive or personal issues
- Telephone interviews logistically easier if working with doctors or shift work, across widespread geographical locations
- Research to suggest that telephone and face to face provides same info e.g. if sensitive info people prefer to discuss over the phone. (Sturges JE & Hanrahan KJ)
- Telephone interviews easier to make notes whereas face to face difficult to take notes and manage the interview at the same time.

Sturges JE & Hanrahan KJ. Comparing telephone and face-to-face qualitative interviewing. Qualitative Research vol. 4(1):107-118)

Disadvantages

- Telephone interview – you can't pick up on the environment, body language, etc
- More difficult to build up a rapport over the telephone
- Structured – constraining (having to answer to fit in with a predetermined category), artificial, high degree of reactivity
- Information is filtered through the memory of the participant and is influenced by the social context of the interview (Reeves et al (2006)

Reeves S, Lewin S and Zwarenstein M (2006) Using qualitative interviews within medical education research: why we must raise the 'quality bar'. Medical Education. 40:291-2.

Tips…

- Group questions into sections makes it easier for you and them – flow
- Clear concise questions
- Open ended questions
- Don't ask two questions in one
- Pilot questions as you would in questionnaire (conduct a mock interview using your interview guide to see how it flows, responses to questions, do they make sense – you know what you mean but is it clear. Need to pilot with the population you are going to interview.
- Better to put demographic questions at the end of an interview e.g. age, marital status, health status, financial status, etc.. uninteresting to respondent, could be sensitive, and better to engage the respondent as quickly as possible.

Tips continued…

- Structure and ordering of questions is very important – think about what is essential to ask – maybe better to know age and income brackets rather than exact.
- Avoid leading questions e.g. What barriers to the assessment process have you encountered? Compare this with What have your experiences with the assessment process been like?
- Think about the power dynamics – if you are a tutor and you are interviewing students you tutor they are not going to be candid with you.
- Think about matching interviewee characteristics with interviewer e.g. gender, age, social class. This can greatly affect an interviewees perception.
- Environment where you are conducting the interview –e.g. is quiet, enough room, interviewee isn't going to be distracted or interrupted although you don't always have control over this.
- Think about what you are wearing and impression you are giving

Practice point

Think of some open ended questions to find out
what their motivator is for doing this course/why they signed up to it?

Interview the person sitting next to you

Additional reading

Dicicco-Bloom B and Crabtree BF (2006) The qualitative research interview. Medical Education 40:314-21

Focus Groups

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Overview of the session

- Why use focus groups
- Running a focus group
- Structure and Dynamics of focus groups
- Advantages and disadvantages
- Examples of focus groups and techniques

Why use Focus Groups

- Enables in-depth discussions about experiences and views in a group setting.
- Gain views of several people at one time
- Not good for personal sensitive issues. These are better explored via an individual interview.
- Good way of finding out about the norms of a culture of a group you are studying or an overview of issues.
- Facilitates a discussion and allows ideas to be shared, debated discussed.
- Good to be used for asking opinion and experiences of a course or type of assessment for example.

Running a focus groups

- Use open ended questions as in the semi-structured interview
- Usually made up of between 5 and 12.
- Audio recorded with participants permission
- Use of different mediums to capture data - not just talking (this offers other people or less dominant people to put their views forward too e.g. use of post its or pictures
- Two facilitators

Structure & Dynamics of a focus group

Structure

- Opening/introduction questions on topic
- Closing questions e.g. does anyone have any other points to make … of all the things we have discussed today for you what is the most important thing that was said…?

Group dynamics e.g. dominant personality, respect within the group, listen to what people saying (need to record)

Power dynamics e.g. dominant in their role/seniority to other members

Advantages

- Provide a dynamic and interaction between group members – this can stimulate conversation and different opinions
- Gain breadth of views from a number of people at one time.
- Time saving
- Money saving
- Video conference can be good for international participation or geographically spread participants

Disadvantages

- Power dynamics one member may be over dominant or talk too much which can upset the other members of the group.
- Not good for use with sensitive, personal issues

Techniques used in focus groups:

Nominal Group Technique (NGT)

You have a series of statements about a topic you ask individuals what they think of each of the statements then as a group you rank those ideas.

Each participants given a sheet of paper with the question on. They are asked to write down all their answers/ideas to the question e.g. what is your motivation/reason for coming to this course? Do not discuss with other participants.

NGT continued…

Participants are asked to share their ideas and the facilitator writes them down on flip chart paper. Participants can ask for explanation or further details of ideas. (it is important not to spend too long on one explanation and keep the discussion moving on. It is also important not to let the criticism and judgement into the discussion).

The final stage is the voting and ranking of ideas. Prioritize the ideas in relation to the original question.

Advantages – lets everyone have a turn, come to some consensus at end of group.

Disadvantages – conformity, only lets you look at one issue or question.

Post it notes

Participants write down their thoughts to a question on post its and discussion is centred around what is on the post it notes.

Flip charts

Similar idea to post its – either you could ask participants to write ideas on the flip chart themselves or the facilitator could. Could have just one flip chart (facilitator) or a series round the room.

Or use post it notes on flip charts

Royal College of General Practitioners Project (RCGP)

Revalidation of sessional GPs.

GPs in UK have to collect evidence to prove that they are fit to work as a doctor.

- We asked participants about the feasibility of collecting the information and to think individually of issues positive and negative and write their ideas on post it notes.
- Post its grouped by facilitator and put up on flip chart paper and discussed as group

Jelley D, Morrow G, Kergon C (Rothwell), Illing J et al. Revalidation processes for sessional GPs – a feasibility study to pilot current proposals' Final Report to the Royal College of General Practitioners (May, 2010). Another example HCPC focus groups http://www.rcgp.org.uk/_revalidation/revalidation_guide.aspx

Health Care Professions Council Project

- A project looking at views professionalism from healthcare professionals

- Four questions on flip chart paper put up around the room e.g. ‘In relation to a paramedic what does the term ‘professionalism’ mean to you? Participants were asked individually to write on post it notes their thoughts. Then collated aby facilitator and discussed as a group.

Burford B, Morrow G, Rothwell C, Carter M, Illing J. Professionalism education should reflect reality: Findings from three health professions Medical Education. 2014; 48(4):361–374. http://onlinelibrary.wiley.com/doi/10.1111/medu.12368/abstract

Focus group topic guide

Research question:

What are the barriers of doing clinical research for women in Japan?

(Probe for information about gender differences and how they are experienced)

Are there different expectations for men and women at work?

Do family commitments influence what type of work can be done?

Can women and men work part time?

Does anything support your development at work?
(Probe for difference and consensus of opinion)

Are certain people invited to do clinical research?

(Probe for information on who is invited, who is supported or favoured, Who is excluded?

Tips…

- Set some group rules at the beginning e.g. everything is confidential and stays with participants, if you do not want anything recorded ask for tape to be off, don't use real names/identifiable information, respectful of what is being said by others.

- Easier to follow onto the end of something already takes place

- Provide food and refreshments

- Good practice to have 2 facilitators.

Tips continued…

Ask following questions at the end of focus group:

- Of all the things we have discussed which do you think is the most important?(this helps with knowing what is important to the participants)

- Reiterate what the purpose of the study is i.e. the purpose of the study is to…. Have we missed anything?(to help ensure topic adequately covered)

- We are doing several focus groups this is one of the first do you have any advice feedback (helps with any procedural or logistic complications)

(Krueger and Casey Focus Groups 4th Ed book)

Additional Focus group methodology reading

1. Barbour RS and Barbour RS (2005) Making Sense of Focus Groups. Medical Education. 39:742-50
2. Krueger RA and Casey MA Focus Groups A Practical Guide for Applied Research. 4th Ed. SAGE Publications. Los Angeles, London, New Delhi, Singapore, Washington DC.
3. Maa A and McCullough LB (2006) Medical Education in the public versus private setting: a qualitative study of medical students' attitudes. Medical Teacher. 28:351-5.

Use of Qualitative Questions in Surveys

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Qualitative questions in surveys

Open-ended questions which require ‘free-text’ responses

Examples:

- Please describe your reasons for choosing to study medicine at Teikyo University
- Why did you decide to train as a doctor?

Advantages of surveys (Bryman, 2008)

Compared to other qualitative approaches (interviews, focus groups), surveys are:

- Cheaper to administer (no costs for interviewer time, transcription, extensive coding and analysis)
- Quicker to administer
- Avoid interviewer effects (e.g. social desirability bias, interviewer variability)
- Convenient for respondents

Bryman A. (2008). Social Research Methods (3rd edition). Oxford University Press

Disadvantages of surveys

(Bryman, 2008)

- Unable to help explain the questions
- Unable to probe answers to obtain more detailed information
- Unable to ask lots of questions (survey fatigue, risk of low response rate)
- Lower response rate than interview studies
- Greater risk of missing data
- Not appropriate for some respondents (e.g. low literacy)

Bryman A. (2008). Social Research Methods (3rd edition). Oxford University Press

Benefits of using 'free text' questions in surveys

- Using qualitative ('free text') questions in surveys is one method to obtain qualitative data faster and cheaper
  - BUT it takes longer to analyse the qualitative responses
- You can provide richer qualitative findings to support your quantitative results - quotes and personal narratives can be powerful
- If most answers in a survey are 'closed' (responses are restricted to a range of specified options), free text questions allow respondents to provide additional information and to explain their answers.

Designing qualitative questions for surveys

- Ensure questions are clear and unambiguous
  - You will not be able to clarify meaning

- Ask open questions
  - Avoid questions with a ‘yes’ or ‘no’ answer

Example: Obtaining more detailed data

Please describe any impact of workplace bullying on patient care

"I have performed **serious prescription errors** due to bullying…It affected my performance badly and affected patient care."

"Myself and other juniors would **delay making a referral** to other specialties for **fear of ridicule or aggression**"

"Certain consultants undermined junior members of the team, belittling their efforts, were sarcastic and **made junior staff feel worthless**... **Minimal teaching but maximal criticism**"

Example: 'Other' option

Why did you not report bullying?

I am worried it will affect my career □[1]

Management will not take action □[2]

I do not want to be a trouble-maker □[3]

Things may get worse □[4]

The bully is more senior than me □[5]

I do not know how to report it □[6]

Other (please specify)_____

_____

_____

Example: 'Any other comments'

Do you have any additional comments on workplace bullying at this hospital?

"Bullying of junior doctors is a result of top-down culture…if the executive team demonstrate poor leadership this can lead to a bullying culture throughout the organisation"

Feedback on the survey

Use free text questions to ask for feedback on the survey design (particularly useful for pilot surveys):

Please provide feedback on the survey (e.g. Which questions were unclear (if any)? What issues have not been covered?)

Analysis

- Code responses
  - Categorize data
- Thematic analysis
- Link to quantitative findings from the survey

Summary

Using qualitative questions in surveys can provide a faster, cheaper way of obtaining some qualitative data

Can obtain more detailed data

Respondents can provide alternative answers, unanticipated responses, explain their data, or provide feedback on the survey

Activity

1. Think of a research topic you are interested in

2. Write down 3 examples of free text questions you could include in a survey on that research topic

Mixed Methods Research

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Outline

- What is mixed methods research?
- Arguments against a mixed methods approach
- Why use mixed methods?
- Mixed methods designs
- Mixed methods data analysis
- Combining results
- Examples

What is mixed methods research?

"Conducting mixed methods research involves collecting, analyzing, and interpreting quantitative and qualitative data in a single study or in a series of studies that investigate the same underlying phenomenon."

Onwuegbuzie & Leech (2006)

Given the advantages and criticisms of quantitative and qualitative methods, would a combination of both capitalise on strengths and overcome weaknesses?

Argument against the use of mixed methods (Bryman, 2008)

- Research methods are rooted in different (and incompatible) approaches to research
- Qualitative and quantitative methods represent different 'paradigms' (which are incompatible)
- These influence how you collect, analyse and interpret data (e.g. Participant observation implies a constructivist/interpretivist approach, not a positivist one)

BUT

- Research methods can be used flexibly
- Quantitative methods may not always be positivist; qualitative methods may not always be constructivist
- Qualitative and quantitative research may not be 'paradigms'

Combining Quantitative and Qualitative Methods (Yardley & Bishop, 2009)

Quantitative methods = higher 'internal validity'

- Use of controlled environments and precise, reliable, replicable measures
- Aim: isolate effects to make causal inferences
- BUT may have lower 'external validity'…can you generalise to complex, real-world situations?

Qualitative methods = higher 'external validity'

- Examine phenomena in context: explore meanings, processes, relationships, and factors that may not have been anticipated/controlled for in quantitative studies
- E.g. How and why a medical education intervention works or does not work

Pragmatic approach: Use the best method(s) available to answer the research question!

Why use mixed methods? Green et al. (1989)

Triangulation: To seek convergence or corroboration of results across quantitative and qualitative methods

Complementarity: To seek elaboration or clarification of the results from one method with results of the other method

Development: To inform later phases of the research using the results of prior methods

Initiation: To seek new perspectives or contradictions that lead to reframing of the research question

Expansion: To extend the breadth and depth of the research by using different methods (e.g. qualitative to understand process and quantitative to investigate outcomes)

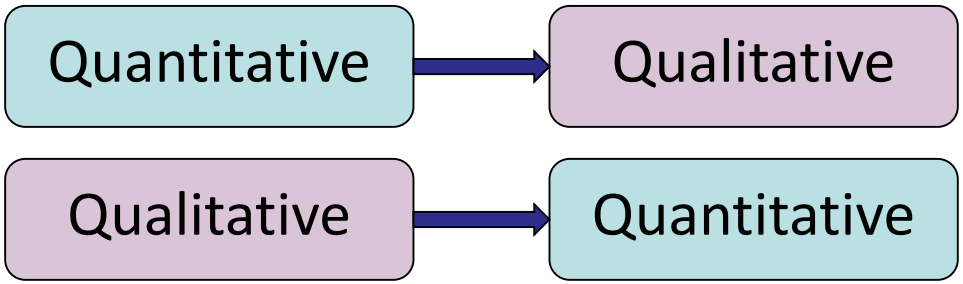
See Bryman (2006) and Illing (2007) for additional purposes

Mixed Methods Designs

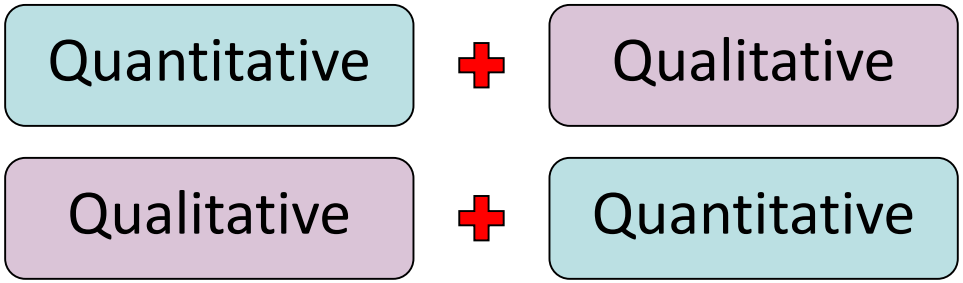
(Tashakkori & Teddlie, 1998)

Equivalent status designs

Sequential:



Parallel / Simultaneous:

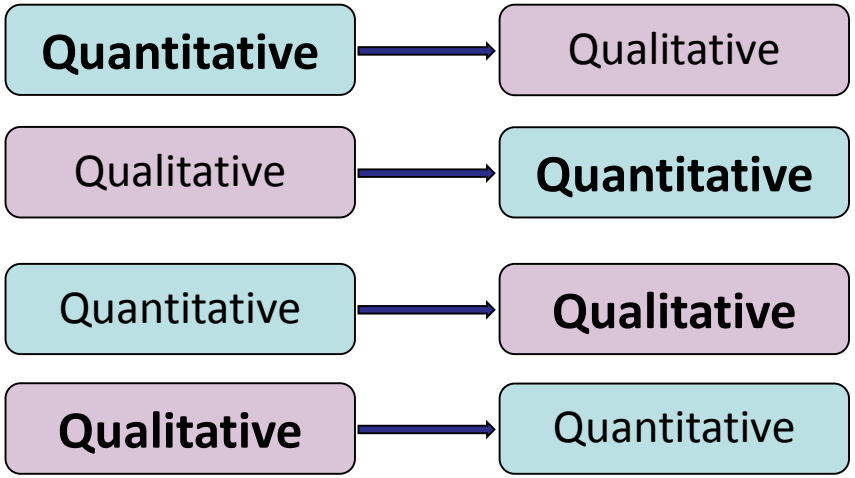


Mixed Methods Designs

(Tashakkori & Teddlie, 1998)

Dominant / Less-dominant designs

Sequential:



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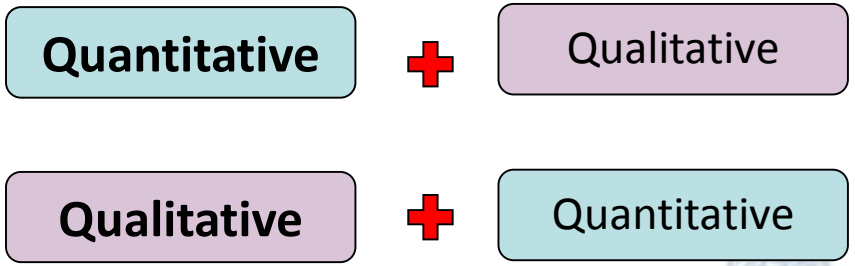


Mixed Methods Designs

(Tashakkori & Teddlie, 1998)

Example: Design with multi-level use of approaches

Level 3 – Organisation:

Quantitative data on patient outcomes and staff sickness absence, and qualitative case studies

Level 2 – Heads of Departments:

Qualitative interviews with Heads of Departments

Level 1 – Individual doctors:

Quantitative survey of junior doctors

Mixed Methods Data Analysis

(Onwuegbuzie & Teddlie, 2003)

1. **Data reduction**: Reduce quantitative data (e.g. descriptive statistics, exploratory factor analysis) and qualitative data (e.g. framework analysis)

2. **Data display**: Reduce quantitative data (e.g. tables, graphs) and qualitative data (e.g. matrices, lists of codes) into simplified representations

Mixed Methods Data Analysis

(Onwuegbuzie & Teddlie, 2003)

OPTIONAL ADDITIONAL STAGES

3. **Data transformation**: Quantify qualitative data (e.g. convert statements into numerical data) and 'qualitize' quantitative data (e.g. exploratory factor analysis on themes to determine hierarchical structure of themes)
4. **Data correlation**: Check for correspondence between qualitative and quantitative data
5. **Data consolidation**: Combine qualitative and quantitative data to create new variables
6. **Data comparison**: Compare qualitative and quantitative data
7. **Data integration**: Qualitative and quantitative data are integrated into a coherent 'whole' (or a qualitative 'whole' and a quantitative 'whole') to derive conclusions

Combining Results

Timeframes: Conduct qualitative or quantitative method first, or concurrently?

- Which is most beneficial to answer the research question?
- E.g. Will qualitative findings inform the design of a quantitative study, or will qualitative methods explain findings from a quantitative study?

Does one method have dominance/priority?

- In your research field, does one method have greater credibility?
- Is one research question (and related method) dominant in the study?

Inconsistent results

- Requires further investigation and data analysis – are there patterns or sub-groups that were not initially considered?
- Possible that a more complex, nuanced explanation is available

Example: Workplace bullying in healthcare

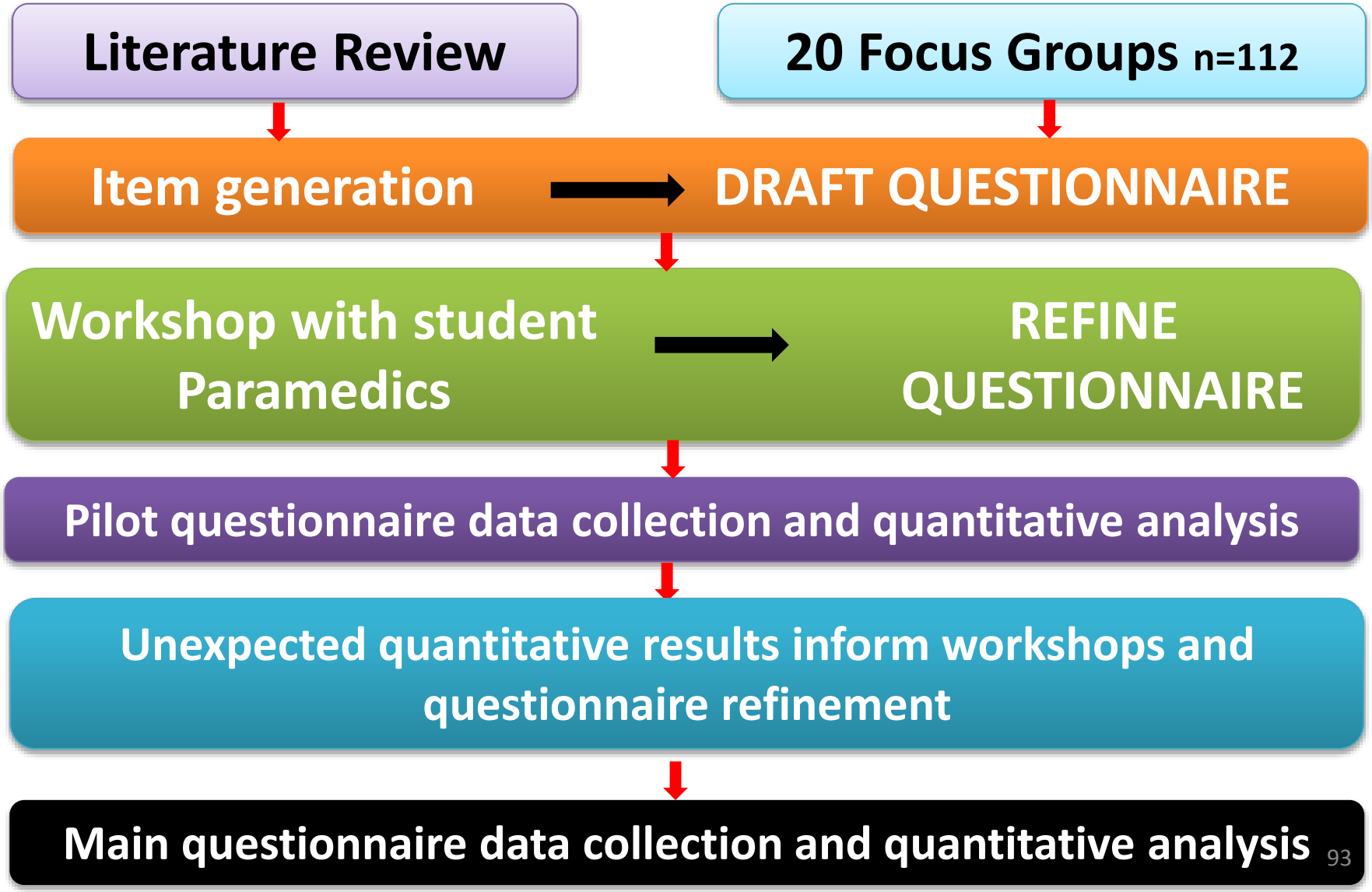
Questionnaire (n=2950, 7 healthcare organisations)
Negative behaviours, overall bullying, barriers to reporting bullying, sources of bullying, psychological wellbeing, intention to leave job, sickness absence

Telephone interviews (n=43, 7 Trusts)
In-depth experiences of bullying, impact, barriers to reporting

- Data from interviews supported quantitative results and added additional findings
  - Interviews also identified workload pressures and organisational culture as factors contributing to workplace bullying

Carter, Thompson, Crampton, Morrow, Burford, Gray & Illing (2013, BMJ Open)

Example: Developing a questionnaire to measure professionalism in paramedics



Example: Are UK medical graduates prepared for practice? (Illing et al. 2008)

Quantitative methods:
Cohort survey on preparedness for practice, assessment data on prescribing skills, workplace-based assessment

Qualitative methods:
Interviews with medical graduates before starting work and after 4 and 12 months in post
Interviews with undergrad tutors, educational supervisors and members of clinical team including nurses and pharmacists.

Findings: Are UK medical graduates prepared for practice? (Morrow et al. 2012)

Quantitative methods: provide information on numbers, validated test and trends

- Cohort survey: graduates reported they were prepared for some tasks (e.g. communication) but not for others (e.g. **prescribing)**
- Assessment data on prescribing skills: lacked preparedness for **prescribing**

- Workplace-based assessment: junior doctors opted to get tested in the practical skills in which they had more confidence (e.g. venepuncture/ cannulation)

Findings: Are UK medical graduates prepared for practice? (Rothwell et al. 2012)

Qualitative methods

- Interviews with graduates highlighted immediate concerns: e.g. **prescribing**
- Interviews with clinical staff: **pharmacists highlighted prescribing** as they corrected errors but **some of the clinical team had not identified this as a concern**

Comment

The different data sets help to support the pattern of findings, particularly in relation to prescribing but the pharmacists were the key people to ask about this.

Summary

- Mixed methods research is a flexible approach that enables researchers to select the best method(s) to answer the research question(s)
- Using mixed methods can strengthen the research, capitalizing on the strengths of different methods and offsetting weaknesses
- Need to consider how you will combine methods and integrate results

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Selecting an appropriate qualitative approach from research questions

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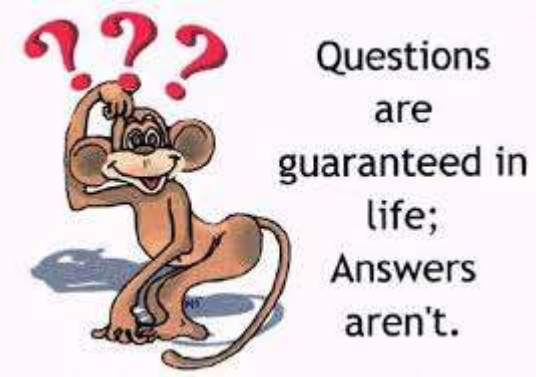
Questions that qualitative research can answer



- Qualitative research ask questions that seek understanding and meaning, sometimes in complex situations and often where little is already known about the subject already.

- Research questions tend to be explorative, seeking to identify and understand more about a subject.

- Questions often they start with **how** and **what**

What kinds of research are appropriate for qualitative research?

Research questions which investigate:

- Subjective, human experiences
- Describe or observe complex processes
- Holistic, naturalistic approach
- Understanding of social context

Does your research question require a qualitative study?

	Qualitative	Quantitative
Aim	Exploring participants meaning and understanding	Causal links, hypothesis, control
Approach	Broad focus, mainly process orientated, context bound	Narrow focus, product/outcome orientated, context free
Data Collection	Non-standardised, flexible, textual analysis, observation	Standardised, focused on numbers/statistics
Outcome/variable of interest	Description, story, unquantifiable	Measurement
Generalisability	Transferability	Statistical generalisability

Grounded Theory: attempting to develop theory from the data

- This approach is suitable when attempting to develop theory that explains the data

- The analysis occurs primarily through collecting **interview data,** making multiple visits to the field (theoretical sampling), attempting to develop and interrelate categories of information via constant comparison, and writing a substantive or context-specific theory (Strauss & Corbin, 1990).

Ethnography: understanding the culture and explaining the observed behaviours.

- Traditionally the approach is was used to understand different cultures.
- The study of culture or group based primarily on **observations**.
- Uses **long-term observation** in the study setting e.g. the hospital ward or operating theatre.

- Data collection can form **observational notes and interviews.**
- Analysis is focused on understanding the culture and explaining the observed behaviours**.**

Case studies: provides an in-depth study of a 'bounded system(s)'

- Case studies are investigations of "bounded systems" with a focus on the case. Provides an in-depth study of a "system," based on a diverse array of data.
- The researcher places this system within its larger "context".
- Suitable for a study about one group
  e.g. a hospital, medical school or team.

- Can have several case studies and compare them.
- Can use a range of data **e.g. interviews, focus groups, observation and include quantitative data.**

Narrative: describes experiences using a story telling approach

- This approach is suited to researching experiences through time, such as chronic illness or career development.
- Narrative research originates from the ancient art of story telling as a method of communication and interpretation of human experience.
- Can be used to describe a single individual and his or her experiences as told to the researcher or as found in the documents.
- The researcher investigates one individual, often collecting data primarily through **interviews and documents** of many types (e.g., diaries).
- Methods, mainly interviews

Action Research: work with teams to implement findings

- The aim was to speed up the time from research completion to implementation of findings.
- Use action research to identify a potential solution, via research, which can then be implemented, then assessed (repeated in a cycle).
- Involves cycles of planning the research, conducting the study, and acting on or implementing the findings.
- Data collection can involve **a range of both qualitative and quantitative approaches (mixed methods)**

Phenomenology: understand, subjectively, how something is experienced.

- The approach is useful if the plan is to really **understand, subjectively, how something is experienced or lived.**

- Phenomenology is described as the study of the shared meaning of experience of a phenomenon for several individuals.

- The researcher reduces data gathered as **lengthy interviews** describing the shared experiences of several informants to a central meaning, or "essence" of the experience.

How to write a good qualitative research question

Write a statement that provides the intent of the study.

Criteria:

- Single sentence.
- Include the purpose of the study.
- Include the central phenomenon/issue.
- Use qualitative words e.g. explore, understand, discover.
- Note the participants.
- State the research site.

Scripts to help design qualitative central and sub-questions:

Begin with words such as “how” or “what”

- Tell the reader what you are attempting to “discover” “generate,” “explore,” “identify,” or “describe”
- Ask “what was the meaning to people of what happened?”
- Ask “what happened over time?” to explore the process

Eg

•“What does it mean to _____ (central phenomenon)?”

•“How would _____ (participants) describe (central phenomenon)?”

Sub-question script:

•“What _____ (aspect) does _____ (participant) engage in as a _____ (central phenomenon)?”

Thank you!

Questions?

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Other qualitative methods

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This session covers….

1. Types of data
2. Choosing data types
3. Ethnography
4. Recording data
5. Text and pictures

Data collection approaches

- Two approaches to qualitative data collection
  1. Generated data (e.g. interviews and focus groups)
  2. **Naturally occurring data** (e.g. observations, documentary analysis)

- Both involve going out in the 'field' to collect data

Naturally occurring data

- Sources of data
  - Naturally occurring situations (‘real life’)
  - Documents or texts (e.g. letters, personal diaries, e-mails, photographs, video)

- Observational approaches
  - Participant observation
  - Phenomenology
  - Ethnography
  - And more!

When to choose different data types

- **Interviews** – provide **individual data** about **personal experiences**.
  - e.g. interviews about early experiences of starting work as a junior doctor, highlight individual differences.

- **Focus groups** – enable in-depth **discussion** about experiences and views.
  - At one time gain a range of views on a topic to gain breadth of view.

When to choose different data types

- **Observation** – enables real life observation of behaviours and communication of people, typically in social structures e.g. Bourdieu's ethnographies on illness, care, and recovery in nursing homes

- **Textual analysis** – provides information about how something is experienced e.g. text in reflective diaries may show awareness of issues related to professionalism.

Ethnography

- **Originates from anthropology**
  Traditionally the approach is used to observe, interpret and seek to understand a foreign culture, typically an ancient tribe.
- **Now used in cultures closer to home**
  The study of medical school culture and the operating room
- **Involves long–term observation –**
  in the study setting e.g. the hospital ward or operating theatre.
- **Data collection –**
  observational notes and interviews.
- **Analysis is focused on understanding**
  The culture and explaining the observed Behaviours

Observation

- Observe what participants **do:** not what they think they do.
- The researcher observes and **makes notes about behaviours and communications.**
- **Can be recorded** but need consent from everyone.
- **Participant and non-participant observer:** the researcher will need to decide if they are completely a non-participant passive observer or whether they also have a role in the group as well as observer, hence are also participants.

Strengths and weaknesses of observation

- **Strengths:**
  - the observer sees everything that happens - not dependent on memory.
- **Weaknesses:**
  - the observer may change the behaviour of the group. This can be reduced by spending a longer period observing the group or not sharing the true focus of the study -?ethics.
  - The observers may miss or not pay attention to important issues.

Structuring observations and recordings

- **The setting.** Physical environment, kinds of behaviours promoted or prevented
- **The participants.** Describe who is there, how many people, and their roles. Who is allowed there?
- **Activities and interactions.** What is going on? Is there a definable sequence of activities? How do people relate to the activity and each other?

Structuring observations and recordings

- **Frequency and duration.** Is it recurring, if so, is it unique?

- **Subtle factors**. Informal and unplanned activities, symbolic meanings of words, non-verbal (eg dress), what does not happen but should?

Observations at a meeting

Observation notes	**Reflective notes**
Context: Senior team meeting	–researcher comments
Male professor invites comment on the search for a new head of school. He has clearly asked within the group (but not the female professor)	Group are silent, no one expresses interest in wanting the post
The six men comment on the problem and make suggestions, no one suggests a female head of school.	No-one suggests the female professor
The senior professors suggests looking outside the group for an applicant.	She is also silent Why is the female professor not asked?

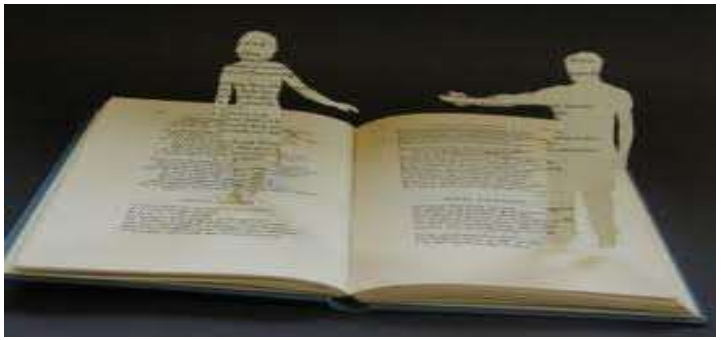
Analysing pictures

- Pictures ‘say a thousand words’ –
- Problem is **which** thousand words!

- Ways of analysing (Discourse Approaches)
  - Look for a story (Narrative Analysis)
  - Look for relationships (Emotional Analysis)
  - Look for things in proximity to other things (Spatial Analysis)
  - Look for location in time (Temporal Analysis)

- Also Critical analysis – what is **NOT** there?

Texts as data

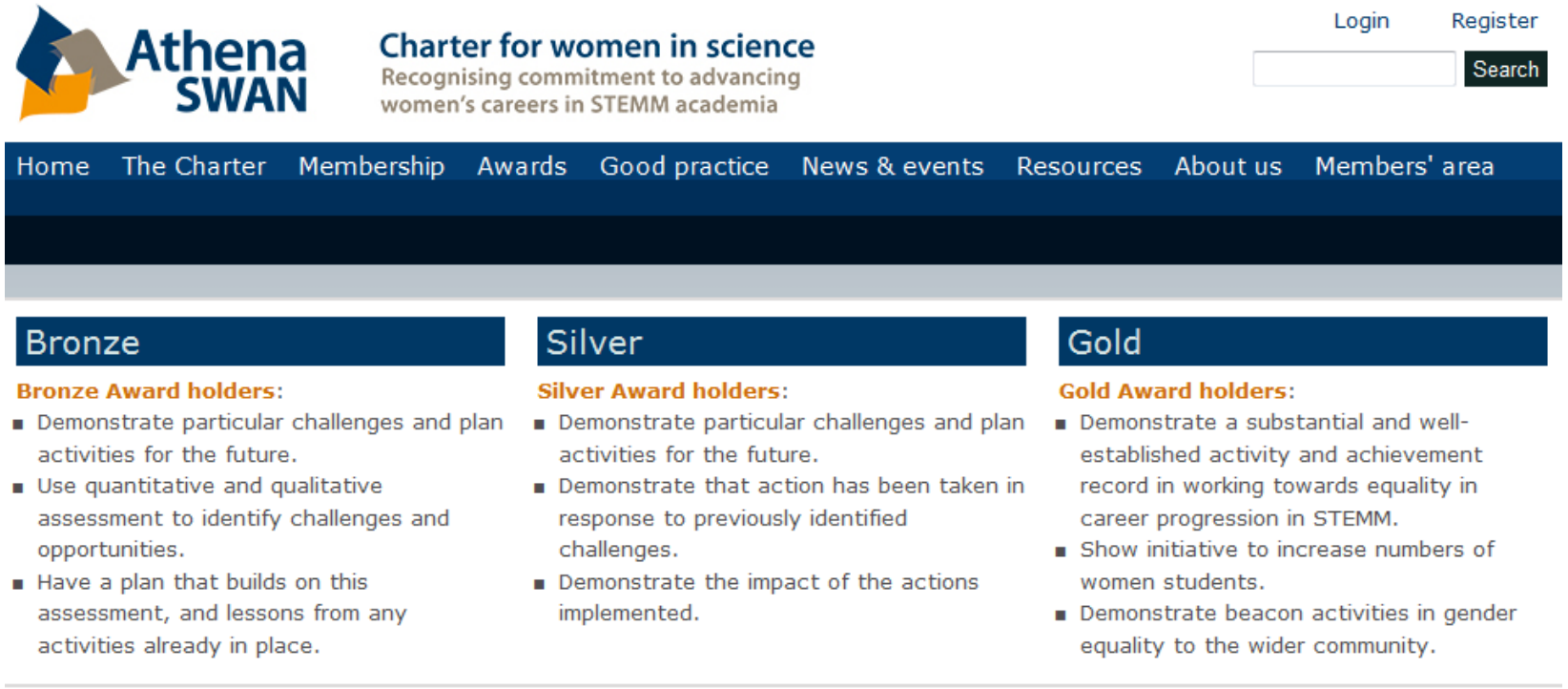


- **A range of texts** are available for analysis e.g. text used in examinations, staff appraisals and reflections reports, policy documents – can also include images and videos.

- **Strengths:** Many documents already exist
  - less need to create texts
  - not influenced by the research process

- **Weaknesses:** The texts do not allow probing for information that is not there.
  - It does not facilitate the testing of ideas by asking questions iteratively.

Textual analysis



Identify problem
Plan action

Show progress
Show improvement

Significant achievements

Summary

- Naturally occurring data sources are useful
- Observations help understand behaviours in natural settings, and help describe and explain cultures and systems, especially when you are not sure what you are looking for!
- Textual analysis can also reveal cultural values and identify differences in ‘rhetoric’ and ‘reality’
- Exploit the available sources around you!

THANK YOU

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Grounded Theory

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Overview of the session

- Grounded theory approach
- Theory generation
- Theoretical sampling
- Data saturation
- Constant comparison
- Data collection
- Coding and generation of a theory

Grounded Theory (GT)

- Grounded theory was developed by Strauss and Glaser in the 1960s[1].
- The aim was to develop a qualitative approach which would match the rigour of quantitative research.
- Originally GT drew from the post-positive theoretical perspective.
- By 1978 in Glaser and Strauss separated, as did their views on GT.
- Glaser kept to the original methodology
- Strauss & Corbin (1990) [2] developed a more constructivist approach.
- Later Charmaz(2006)[3] developed constructivist grounded theory

1 Glaser B and Strauss A (1967) *The Discovery of Grounded Theory: strategies for qualitative research.* Aldine Pub Co., Chicago, IL.

3 Straus A and Corbin J (1990) Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, SAGE CA.

2 Charmez K (2006) Constructing Grounded Theory. A Practical Guide Through Qualitative Analysis. Sage, London, California, New Delhi, Singapore

Constructivist Grounded Theory

"A set of well-developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict phenomena".

(Strauss and Corbin, 1990; p15)

Constructivist grounded theory puts more emphasis on understanding than explaining (Charmez, 2006)

"Constructivist Grounded Theory places priority on the phenomena of study and sees both data and analysis as created from shared experiences and relationships with participants and other sources of data . . .and also acknowledges that the resulting theory is an interpretation" (Charmez, 2006; p130).

Charmez K (2006) Constructing Grounded Theory. A Practical Guide Through Qualitative Analysis. Sage, London, California, New Delhi, Singapore

Theory generating

- The aim of Grounded Theory (GT) is to seek understanding.
- GT assumes you start a project without a hypothesis.
- During data collection and analysis themes and concepts emerge and can be tested with further data collection.
- GT attempts to explain the data and end with generating theory.
- This approach is inductive – starting with the data, but ending with theory.

Straus A and Corbin J (1990) Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, SAGE CA.

Theoretical sampling

- Instead of deciding on the sample in advance, the on-going analysis drives who to interview next. This is based on the theory being developed and tested. Also called purposive sampling.

- E.g. interviews might highlight that older doctors think young doctors are less professional as they go home on time.
- The researcher may then decide to ask young doctors about time keeping, and find the hospital insists they leave on time.
- The researcher may ask other young and old doctors about this, and then ask about the policy on working hours for junior doctors.
- The researcher follows a line of enquiry by testing out ideas with further selected interviewees.

Data saturation

- Data collection continues until no new information is identified, this is called data saturation.
- Depending on the topic, data saturation will occur after about 10-30 Interviews.
- E.g., after 15 interviews the researcher has identified six main themes about time keeping and professionalism. On interview 16, a new issue is mentioned and explored in interviews 17,18 & 19.
- After interview 17, no new information is identified. The last participants provide information already known, nothing new is added.

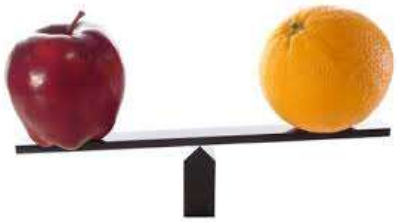
Collecting Data

- Date is collected using an **iterative approach.** Data is collected, data is analysed, and this informs your next stage of data collection.
- Ideas can be tested and developed as you collect data. In this way you are **constantly comparing** your findings.

- Date collection involves sampling **purposively** (deliberate selecting) and testing of further ideas.

Analysis: constant comparison

- Data analysis uses the **constant comparison** approach.
  This involves comparing one set of data to another,
  to test ideas, find similarity but also difference.



- With Grounded Theory, data collection
  and analysis is conducted in parallel.

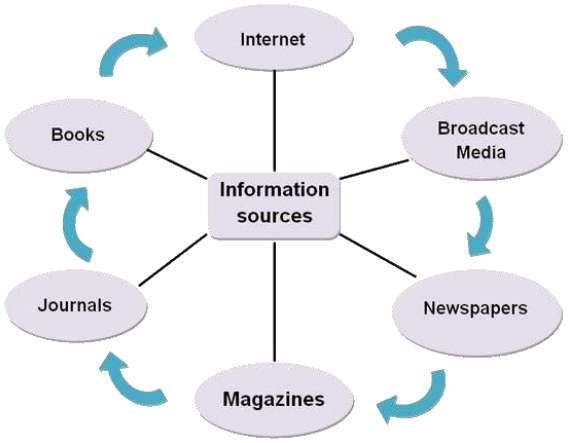
- E.g. after the first two interviews, the data is analysed. This approach involves identifying themes that can be explored in later interviews.

- Themes and concepts are identified and build up.

- The researcher looks for one core theme which explains the data

Collection of data

- Data is collected and analysis is on-going to inform further data collection.
- Uses purposeful sampling and selection of data (and their sources) for their ability to provide data to confirm, challenge or expand on an emerging theory.
- Data can include literature, quantitative and qualitative data.
- Data is constantly compared



Coding data

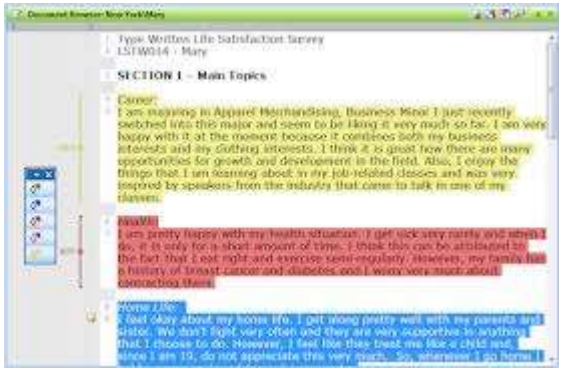
3 phases of coding:

1. Open Coding, to develop categories/themes
2. Axial Coding, to identify interconnecting categories/themes or sub-categories
3. Selective/theoretical coding, to build a story that connects the categories/themes and explains the data

The last stage aims to identify a core theme that explains all the data and develops a theory or model.

Straus and Corbin 1990

Open coding



- The researcher reads transcripts (typed up interviews) and field notes and identifies the significant information and codes it.

- The researcher will continuously look for information relevant to this category e.g. in the literature and later interviews until data saturation has been reached (no more new information is obtained).

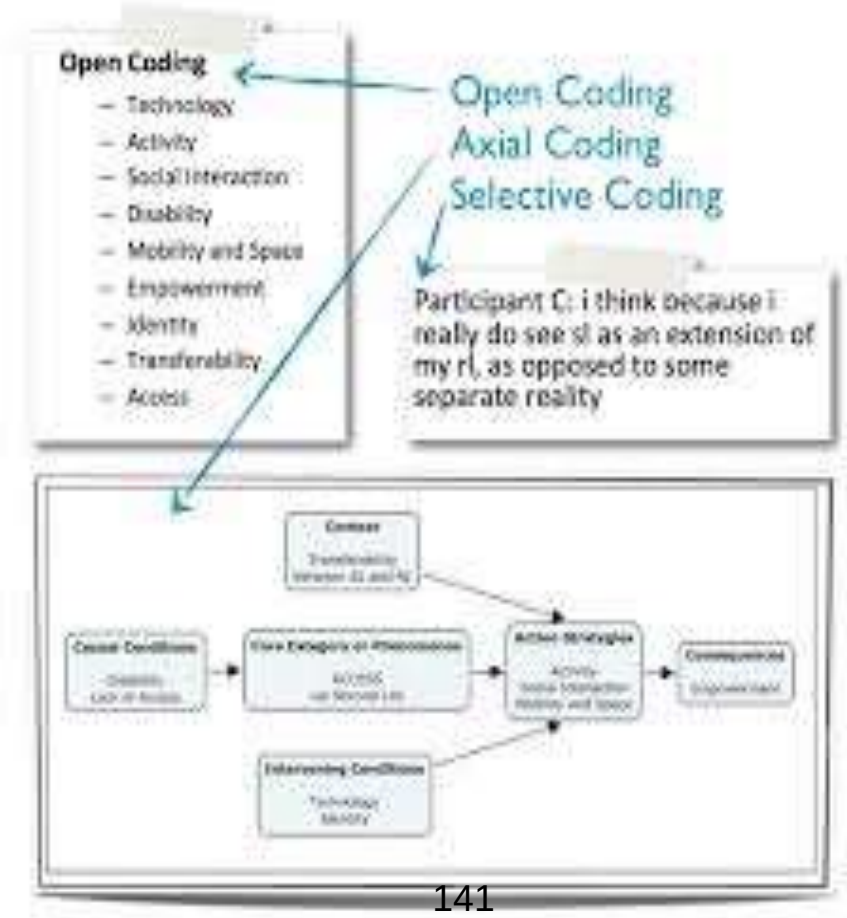
- Once a list of open categories has been identified the researcher identifies a **single category or code as their central phenomenon** of interest e.g. usually a topic the participants have discussed a lot.

Axial Coding

- The single category (central phenomenon) identified in open coding is then explored and investigated in more depth e.g. through further interviews and in the literature.

- This data is used to make sense of and explain the central theme in more depth e.g. causal links, and context.

- Axial coding compliments other approaches to data analysis.



Selective Coding

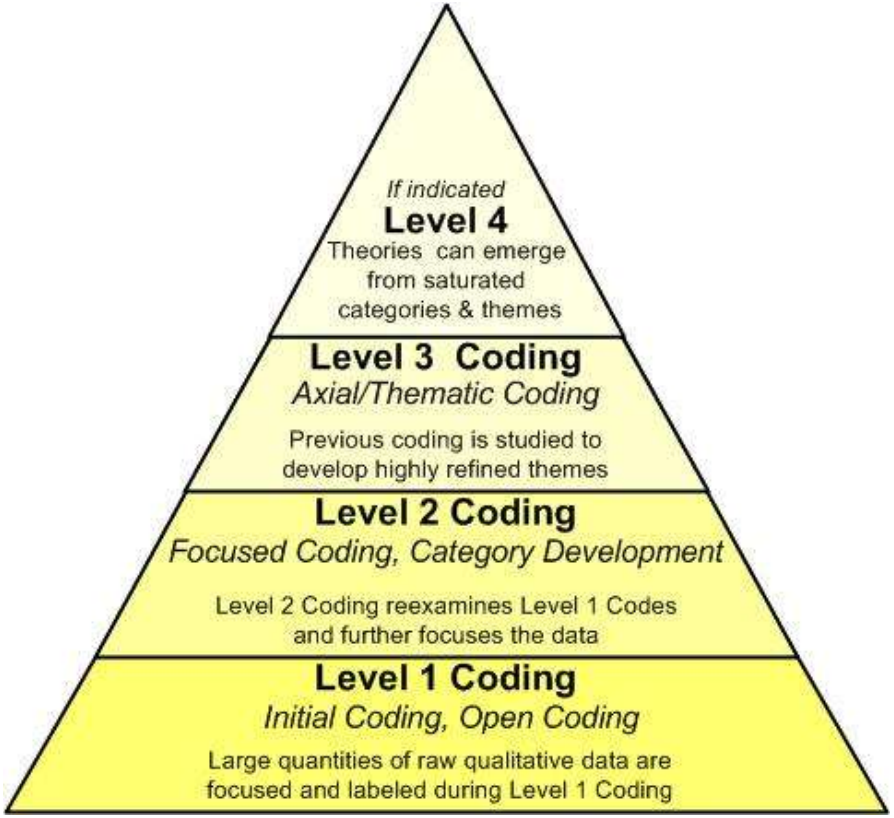
- Makes sense of the data that has been collected and the generation of a theory. Helps to explain the central phenomena (core theme) and put the findings into a wider context.

The final stage of analysis is interpretation

Finding the central meaning in the data.

- Without interpretation the research ends with themes.
- Interpretation is needed to explain and exploit the data.
- In Grounded Theory the goal is to identify a theoretical explanation of all the data.

Coding in summary



Conclusions

- Grounded Theory aimed to make qualitative research more robust.
- Theoretic sampling is used to decide who is included in the study, and test ideas which add to the analysis.
- Data collection stops when the themes identified in the data are saturated.
- Coding data has a range of stages: from open coding to selective.
- Analysis involves constantly comparing data to test and challenge the development of theory.
- It differs from other types of qualitative research as the goal is to generate theory.

Further Reading

Charmaz K: Grounded theory: objectivist and constructivist methods. In Strategies of Qualitative Inquiry. Edited by Denzin DK, Lincoln YS. Thousand. Oaks, CA: Sage; 2003:249–291.

The Sage Handbook of Grounded Theory. Edited by Bryant A, Charmaz K. Paperback 2010. Sage. LA, London, New Delhi, Singapore, Washington DC

Illing J, Morrow G, Rothwell C, Burford B, Baldauf B, Davies C, Peile E, Spencer J, Johnson N, Allen M, Morrison J. Perceptions of UK medical graduates' preparedness for practice: A multi-centre qualitative study reflecting the importance of learning on the job. BMC Medical Education 2013, 13:34.

Thank you!

Questions?

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Framework analysis

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This session covers…

1. What is framework analysis?
2. When and why is it useful?
3. Familiarisation with data
4. Coding
5. Analytical frameworks
6. Interpretation and abstraction

What is framework analysis?

- Unlike Grounded Theory, where you code from the data, in framework analysis, you have **pre-existing codes** (perhaps in the form of research questions) and you are looking to find evidence of them through analysing the data set.

- Framework analysis also allows codes and themes that you had not predicted to **emerge** from the data or **through analysis**

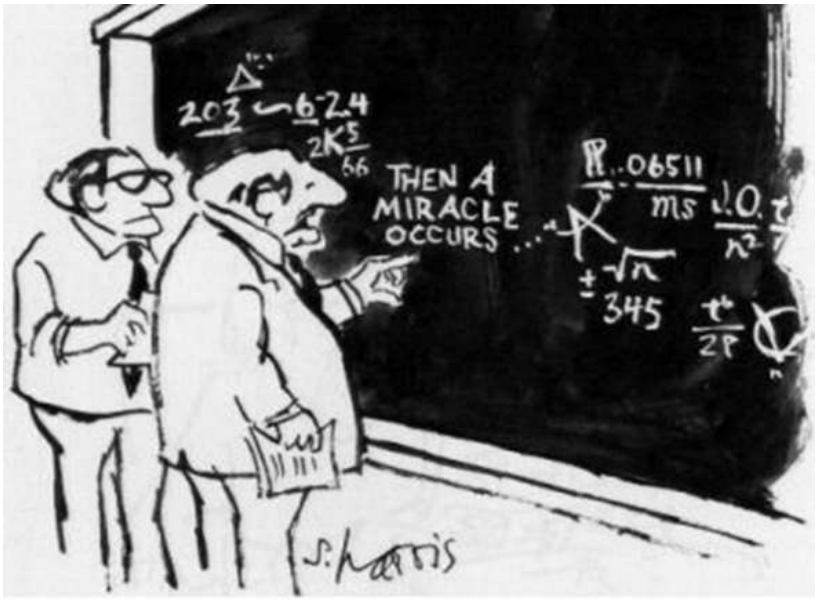
What is Framework analysis?

- Not concerned with generating theory, although the constant comparison approach can be consulted in content analysis
- Does not work well with highly heterogeneous data – data must cover similar topics
- Semi-structured interview data tend to work well for this reason
  - Ask the same/similar questions of all participants
  - Question topics may form codes later in analysis

Why Framework Analysis?

- Medical Education Research is an applied field
- The study may generate theory to be tested elsewhere but the primary aim is with description and interpretation of what is happening in a specific setting
- The end-point of framework analysis is often to provide recommendations for future practice; an increasingly popular method in policy research

Why Framework Analysis?



"I think you should be more explicit here in step two."

- Transparent process
- Can answer specific questions
- Existing knowledge in the field

Framework Analysis (Ritchie & Spencer, 1994)

- **Familiarisation** - transcribe, re-read, discuss
- **Identifying a framework** - *a priori* concepts (deductive), emergent (inductive), analytic (mixture)
- **Indexing** - go through all transcripts and code
- **Charting** - collate evidence under each theme, analyse transcripts thematically
- **Mapping and interpretation** - assimilate analysis to answer research questions

7 steps to highly effective framework analysis!

1. Transcription
2. Familiarisation with the interview
3. Coding
4. Developing a working analytical framework
5. Applying the analytical framework
6. Charting data into the framework matrix
7. Interpreting the data

(Richards, 2009)

Transcription and familiarisation

- Annotated transcripts are good, but full conventions are not necessary - it's the CONTENT you are interested in
- Have large margins for notes and codes
- Consider transcribing (some) yourself

- "checking" the transcript is a valuable exercise
  - Listen to audio recording with transcript in front of you
  - Note you first impressions, thoughts, overall tone
  - Use researcher notes or memos from the interview to refresh you
  - Sometimes useful to code the transcript – "the one where…."

Coding

- Line by line reading of transcript, labelling each “unit of meaningful text” with a descriptor
- Open codes could be:
  - Specific behaviours, incidents, values, emotions (eg sorrow, love, anger), barriers to action
  - Interview or focus group questions may suggest some themes which could be coded
  - Try to classify all the data – try to work independently to begin with then consult with other members of the research team

Coding

- Consider consulting patients, public, clinicians etc at this stage too to ensure one perspective does not dominate
- Ensure uncertain codes are interrogated by other coders
- Pay particular attention to “units of meaningful text” that do not “fit”

Coding

1. **Descriptive codes** – information about the participant such as age, gender, role, ward, size of ward etc)

2. **Topic codes** – what topics are being discussed?

   "this is about administering medicines"
   "this is about paperwork" etc

   List the topics that are important to your study, and what information you think you will need to help answer your research question

3. **Analytic codes** – comes from interpretation and reflection on meaning

Developing an analytical framework and applying it

- Process of summary and synthesis
- Comparing codes across:
  - Analysts
  - Transcripts

Developing an analytical framework and applying it (cont.)

- Code ill-fitting units as “other” and revisit
  - Change codes if necessary to create “fit”
    - You may use a theory to guide you
    - The analytical framework is never final until all transcripts are coded
    - Turn each code into a number for easy retrieval – you may choose to use software

Charting into a framework matrix

- Process of reducing the data
- **However** – make sure your data does not lose important contextual information
- Now all “Units of meaningful text” (coded text) are cut and paste into a matrix, populating it to provide a map of the data and its links

Charting into a framework matrix: an example

	Code A	Code B	Code C
P1			
P2			
P3			

Interpreting and abstracting data

- Using the systematically prepared data begin to look for themes and patterns across the data
- Begin to test ideas coming from the analysis to compare with theories and reports in the literature
- This tends to form the analytic codes: see hand out for example

Summary of Framework Analysis

Stages of a Framework approach (Ritchie and Spencer 2003)

- Familiarisation
- Theme identification
- Index transcripts
- Charting
- Mapping and interpretation

Useful references

Ritchie J, Spencer L. Qualitative data analysis for applied policy research. In Analysing Qualitative Data, pp. 173–194 [A Bryman and RG Burgess, editors]. London: Routledge. 1994.

Richards, L, Handling Qualitative data: a practical guide. Sage. 2009.

THANK YOU

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Designing a qualitative study

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Overview of lecture

- Research question
- Literature review
- Qualitative Approach
- Methods
- Sample
- Recruitment
- Data collection tools
- Analysis
- Ethics
- Risks
- Dissemination

Research Question

- Look at the literature.
- Talk it over with colleagues.

A good research question needs to:

- be feasible (time, resources, expertise)
- provide focus
- set boundaries
- check assumptions, define any terms
- be answerable!
- Qualitative research often starts with **what** or **how.**

Literature review

- Provides the research background.
- Tells a story about what has been done already and what is known.
- What are the gaps?

- Your study should be the obvious next thing to do!

How to do a literature review

- Search relevant databases (Medline, Embase etc., view journals, books, conference abstracts).
- Summarise main findings – only provide details if very relevant e.g. If findings are controversial or very few studies.
- Write literature review up using themes, only write in chronological order (if meaningful).
- Keep it succinct and relevant!

Conceptual framework

What theories, beliefs, and prior research findings will guide or inform your research?

Conceptual frameworks represent ways of thinking about a problem

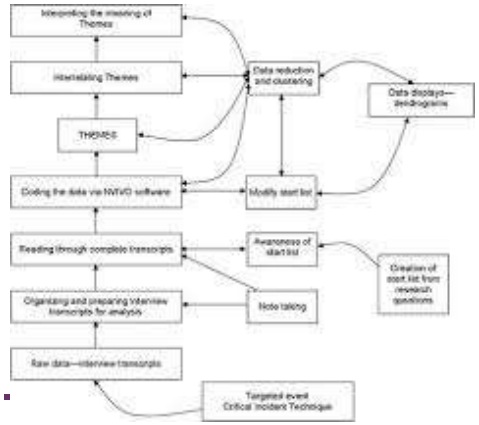
- **Theories** with well-organised principles and propositions that have been confirmed by observations or experiments
- **Models** derived from theories, observations or sets of concepts
- Evidence-based **best practices** derived from outcome and effectiveness studies.

(Bordage, 2009, Med Ed, p312-19)

Methods

- What will you actually do in conducting this study?
- What approaches and techniques will you use to collect and analyse your data?
- How can the data that you have, or that you could potentially collect, support or challenge your ideas about what's going on?
- Why should we believe your results?

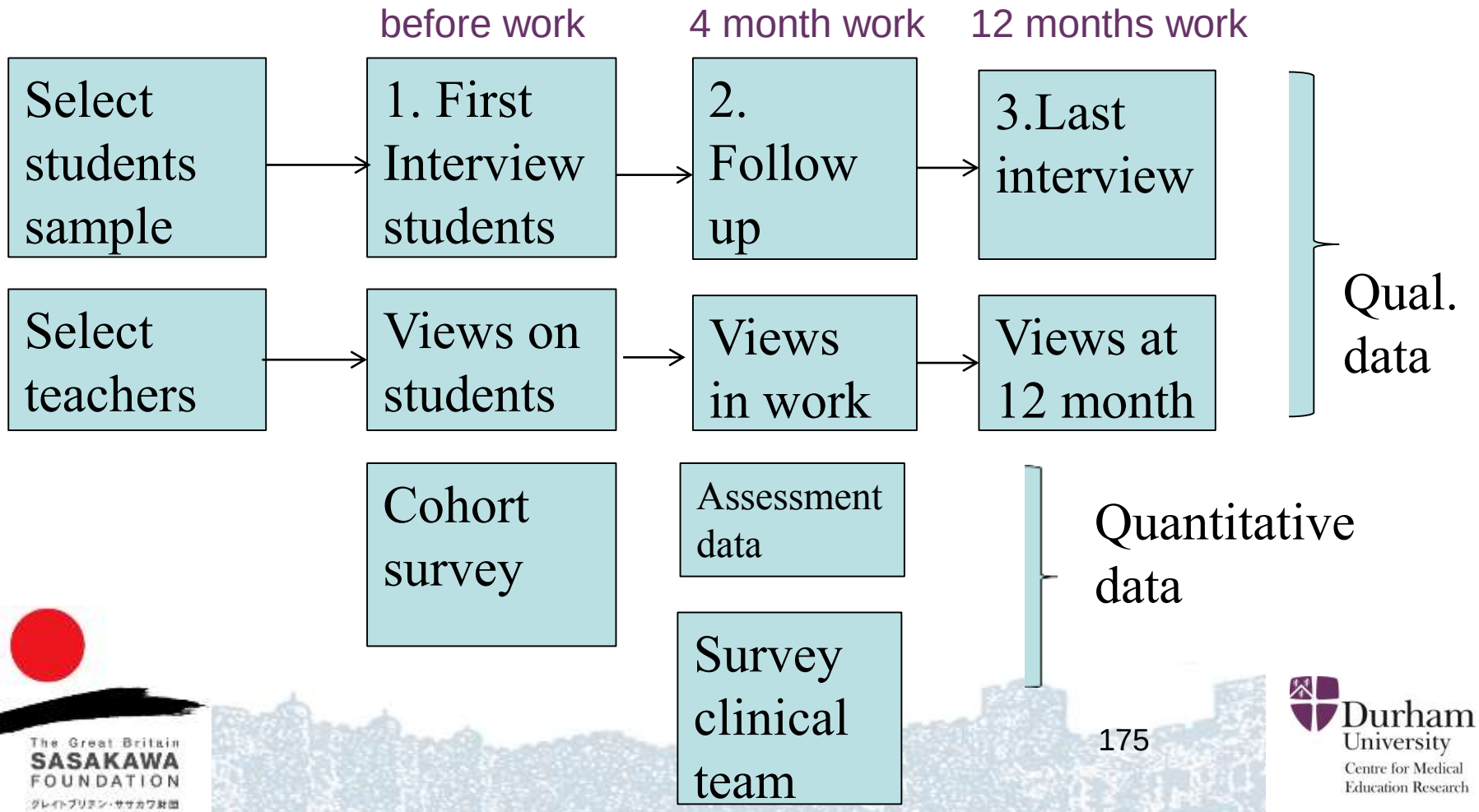
Design



- Prospective study (e.g. interview and follow ups).
- Retrospective study (what happened, experiences.
- Triangulation – different samples and/or different methods.
- What data do you need to collect? (e.g. student data, teacher data)
- Who needs to give you that data?(students, teachers).
- Do you need to collect data once or more often?(e.g. 3 times)
- Does the data need to be collected at specific times (yes, before the students start work, after 4 and 12 months in work).

Flow chart: data collection

Case study: repeated at site 1, 2 & 3



Grounded theory

Start with the issue (not the literature)

Research Question:

Are medical graduates prepared for practice?

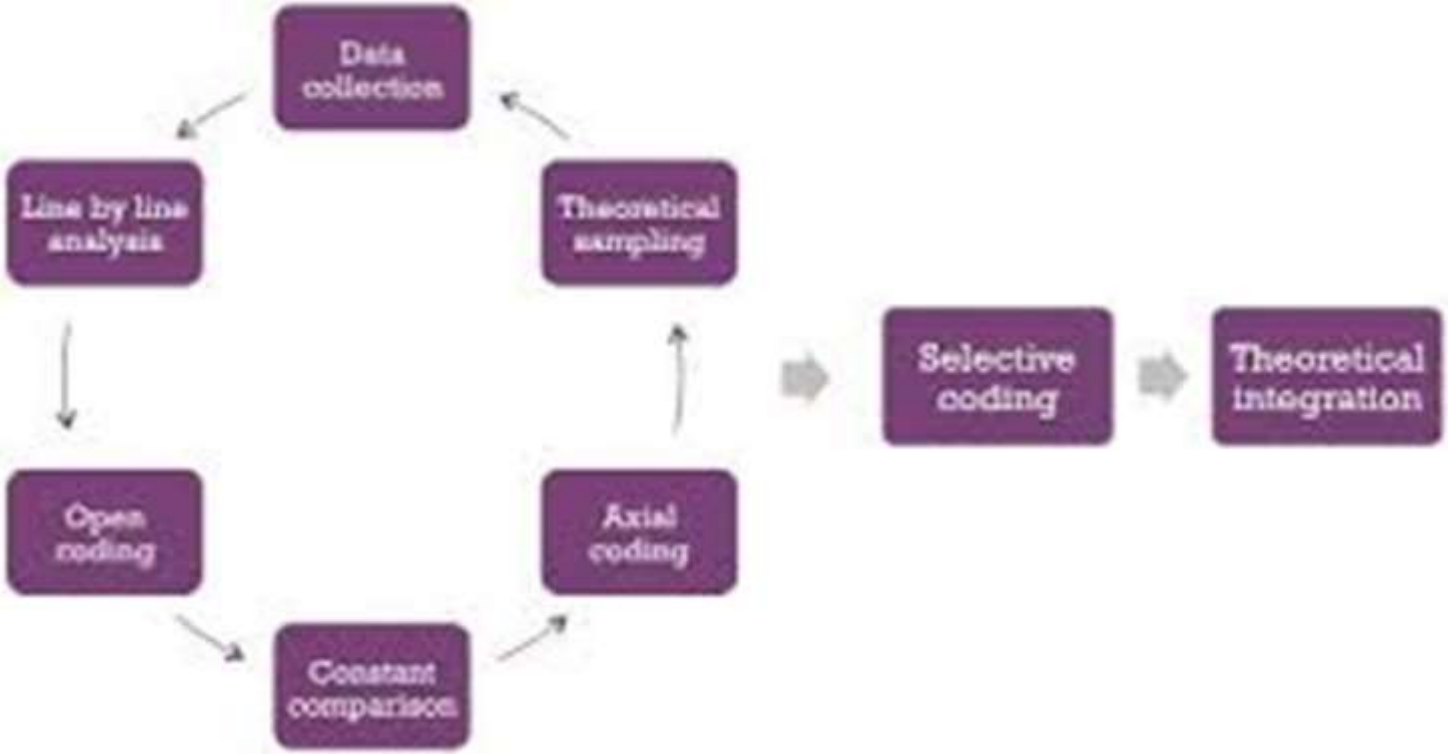
Devise an interview schedule with **open questions.**

- What was it like when you started your first job as a doctor?
- What were you prepared for?
- What were you not prepared for?

Analysis first few interviews, follow up new issues, **add questions.**

- Did you have enough knowledge about anatomy or not?

Flow chart of analysis



Sample

- Sample – who/what?
- Theoretical/purposive sampling (who do I need to approach next to explore this issue).
- Maximum variation (select widely e.g. gender, age, ethnicity, disability etc.).
- Convenience (who can I get).
- Cohort/group (approach total group).

Recruitment

How will you recruit your sample?

- List of all students/teachers, invite all?
- Select theoretically (invite who you need next).
- Volunteers (weakest).

- Invite via email, letter?
- Explain why the study is important.
- What will involvement mean? (e.g.one 30 minute interview).

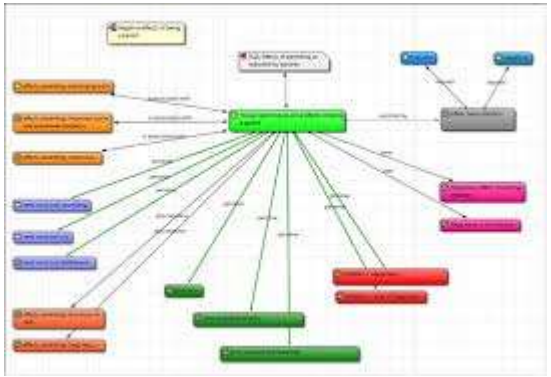
Data collection tools

- How best to collect your data?
- Interviews – face to face, by telephone.
- Focus groups – where?, numbers?
- Observation, where, when, how often?
- Documents, which, how much?

Analysis of qualitative data

Identify the theoretic perspective taken e.g. constructivist, post-positive.

Qualitative approach
e.g. Grounded Theory,
Framework Analysis, Phenomenology.



Identify themes

- Data saturation
- Interpretation (analytic) not just descriptive.

Look at other literature to support/challenge your findings.

Plan study milestones
Gantt chart of activities and time

Ethics

Do you require ethical review?

Obtain a letter of support or waiver.

Required for publication.

Informed consent – participants need to be informed.

Confidentiality –protecting identity of participants.

Anonymity – avoids collecting names etc. Increases potential for more critical comment.

Consider risks of taking part in the research.

Risks: consider what can go wrong

Consider what could go wrong and how to overcome the potential problem e.g.:

- Low response rates.
- Failure of methods to collect data.
- Staff illness.
- Dependency on others to support the project.

Dissemination

- Test early ideas a meetings and conferences.
- Test ideas with respondents.
- Presentations to people involved e.g. funders, patients.
- Publications in journals and books.

Conclusions

- Identify a clear research question.
- Include a theoretical/conceptual framework.
- Have a clear sampling strategy.
- Ensure the sampling was driven by theory rather than convenience.
- Ensure procedures for data analysis are clearly described and theoretically justified.
- Ensure themes a saturated.
- Ensure the analysis is not just descriptive.
- Ensure the data analysis relates back to the research question.

Thank you!

Questions?

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Sampling

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Overview of the session

- Why do we sample?
- Population
- Sampling Frame
- Selecting a sample
- Probability and non-probability sampling
- Types of sampling in qualitative research
- Error
- Activity

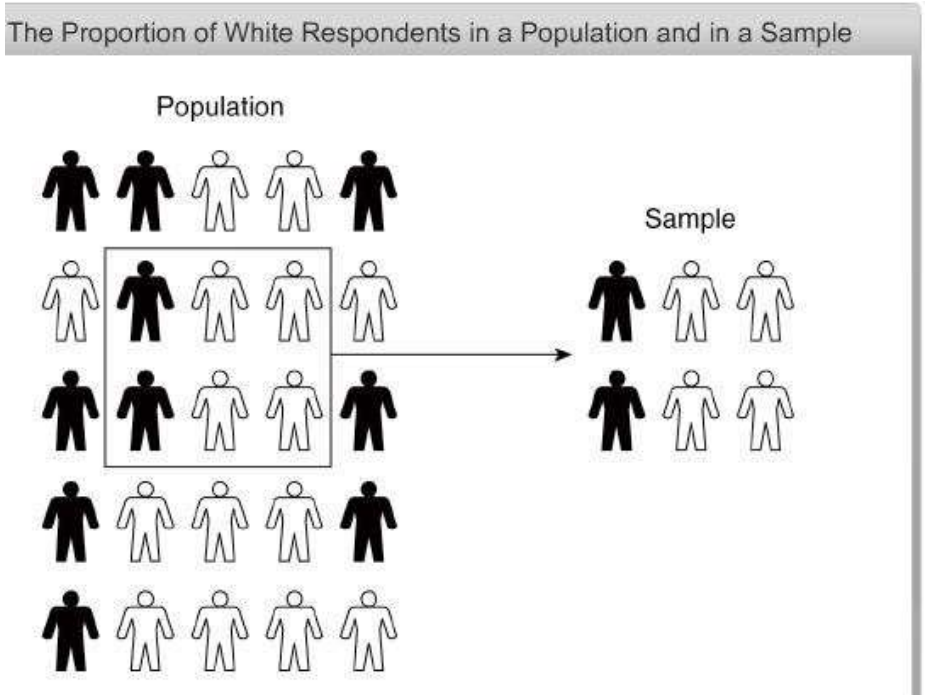
Why do we do it?

Sampling is very important in qualitative research. You don't just need to know how many people are in your sample but also who is in your sample, are you asking a representative group to answer your question to include everyone's views and opinions. Is the sample theoretically driven?

For example you don't want to be bias and just ask people you know are going to give you the answer you want or just one opinion.

Population

- Define the population to be sampled
- Population in research terms means a group you are interested in e.g. all of the doctors in one hospital.
- Sample is a subset of the population, i.e. achieving diversity within the population



https://learn.bu.edu/bbcswebdav/pid-826911-dt-content-rid-2073768_1/courses/13sprgmetcj702_ol/week03/metcj702_W03S02T02_sampling.html

Sampling Frame

A list of your population that you can use to draw your sample from (way you get access and find out who is in your population)

e.g. via Hospital Human Resources who will have a list of doctors in a hospital

e.g. Medical school year list

But …

You don't always have a sampling frame available

Selecting a sample
Important considerations

- It is important to consider your research question and objectives of the study as this will help you with choosing who and how many people to select for your population.

- When choosing a sample it is important to have a non biased sample, not too small and for it to be representative so that the conclusions are reliable

Response rate

- When recruiting participants response rates depend a lot upon the motivation for being part of the research.
  - If a researcher is doing research which will be beneficial for the participants colleagues/peers
    - e.g. other doctors or trainees then the response rate is likely to be higher as there is some professional reason for being part of the research and altruism. If the research is not related to them or it is e.g. market research then the response rate will be lower.

Questions to ask yourself when choosing a sample:

Who?

Can this sample provide data to answer my research question(s)?

Does the sample include all relevant participants in the research setting?

Why?

The choice of participants in your sample must be justified especially if you are not including all relevant groups)

Questions to ask yourself when choosing a sample:

How many?

Sizes tend to be smaller as you are getting in depth information. Based on past research findings, some say data saturation can be reached with up to 30 interviews (this all depends upon what you are asking and your sample). Not just about numbers of participants but what information they are giving you – saturation can be reached i.e. no new themes or data is coming out of the data collected from participants.

E.g. if you have carried out 15 interviews and no new themes are coming out then data saturation has been reached and your data collection can stop.

Baker SE, Edwards R National Centre for Research Methods Review Paper. *How many qualitative interviews is enough?* http://eprints.ncrm.ac.uk/2273/4/how_many_interviews.pdf accessed June 2014) pp9

Probability and Non-Probability sampling

Probability sampling

Sample selected using random selection method. This ensures all members in the population have a chance of being included in the sample – more representative and therefore less sampling error. More likely to be used in a survey or testing a hypothesis.

Non-probability sampling (usually used in qualitative research)

Sample which has not been selected using a random method i.e. some people within the population you are studying are more likely to be selected than others. Where a researcher is interested in understanding the social process or actions of a population. Full representation is less important

Probability sample types

Random sample all of the population have an equal chance of being selected

Systematic sample e.g. Population is all of the medical students in year 5 of one medical school. You want to sample every 1 in 20 students (make sure there is no inherent ordering (e.g. by grades)

Non-Probability sample types

Convenience sampling – Choose participants that you know/who are available and that will answer your research question.

Saves time, money and small effort

But….

Provides biased information and reduce credibility in the research

Snowball or chain sampling

- some populations are hard to access e.g. criminal populations. Find one or a few people who are relevant to the area of research and ask them to refer you on to other similar people.
- It allows the researcher to reach populations that are difficult to sample when using other sampling methods.
- cost effective and simple.
- little planning and fewer researchers

But…

- Little control over the sampling method. Reliant on previous participants.
- Representativeness of the sample is not guaranteed. The researcher has no idea of the true distribution of the population and of the sample.
- Sampling bias - participants nominate people that they know well. May have similar traits, characteristics and beliefs.

Atkinson R and Flint J. Accessing Hidden and Hard-to-Reach Populations: Snowball Research Strategies. Social Research Update, Issue 33 , Summer 2001.

Purposive sampling

- **Purposive or judgement sampling** - common method of sampling in qualitative research. It groups participants according to pre-selected criteria relevant to a particular research question

- Sample sizes, which may or may not be fixed prior to data collection, depend on the resources and time available, as well as the study's objectives. Sample sizes are based on reaching theoretical/data saturation

- Provides control over who is in your sample

- Interested in outliers (usually discounted in quantitative research) (Kuzel)

Kuzel AJ. Sampling in qualitative inquiry. In Crabree BF, Miller WF. Editors. Doing Qualitative Research. Sage London (1992): 31-44.

Activity

In pairs - What do you think is the best way of sampling for each question and why?

- What are the long-term effects of mental health on refugees entering the healthcare system?
- What do general practitioners think of their new role in delivering healthcare to the elderly?

Error

- Self selection can introduce bias into a sample e.g. by agreeing to be part of a study
- May not be representative of the population
- Inadequate sample size

Further Reading

1. Oppong SH. The Problem of Sampling in Qualitative Research. Asian Journal of Management Sciences and Education. 2013. Vol 2(2).
2. http://www.ajmse.leena-luna.co.jp/AJMSEPDFs/Vol.2(2)/AJMSE2013(2.2-21).pdf
3. Kuzel AJ. Sampling in qualitative inquiry. In Crabree BF, Miller WF. Editors. Doing Qualitative Research. Sage London (1992): 31-44.
4. Barbour RS Checklists for improving rigour in qualitative research: a case of the wagging Dog? BMJ: British Medical Journal, 2001 – 322(7294):1115-7. ncbi.nlm.nih.gov
5. Devers, K. J. & Frankel, R. M. (2000). Study Design in Qualitative Research. Sampling and Data Collection Strategies. *Education for Health, 13*(2), 263-271.
6. http://www.qualitative-research.net/index.php/fqs/article/view/1428/3027

Research Ethics

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This session will cover…

1. Overview of ethical issues in research
2. Consent
3. Harm
4. Privacy
5. Deception

What do we mean by research ethics?

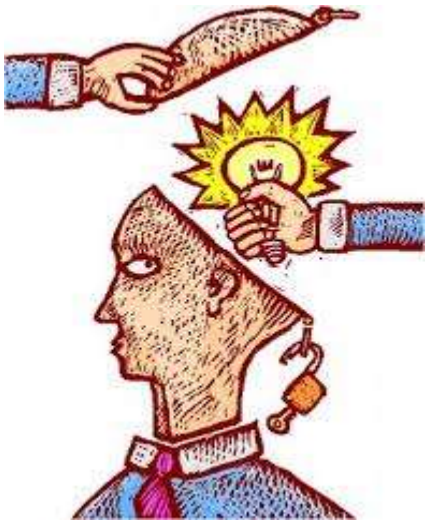
An ‘ethic’ is a moral principle or a code of conduct which … governs what people do. It is concerned with the way people act or behave. The term ‘ethics’ usually refers to the moral principles, guiding conduct, which are held by a group or even a profession (though there is no logical reason why individuals should not have their own ethical code)”

(Wellington, 2000: 54)

Ethical Issues Involving Research Subjects

- Researcher power over subjects
- Researcher duplicity regarding the purposes of the research
- Subject Safety, including against stress
- Subject loss of control over personal space, including their behaviour and their data
- Impact of the results

Ethical Issues Involving The Researcher

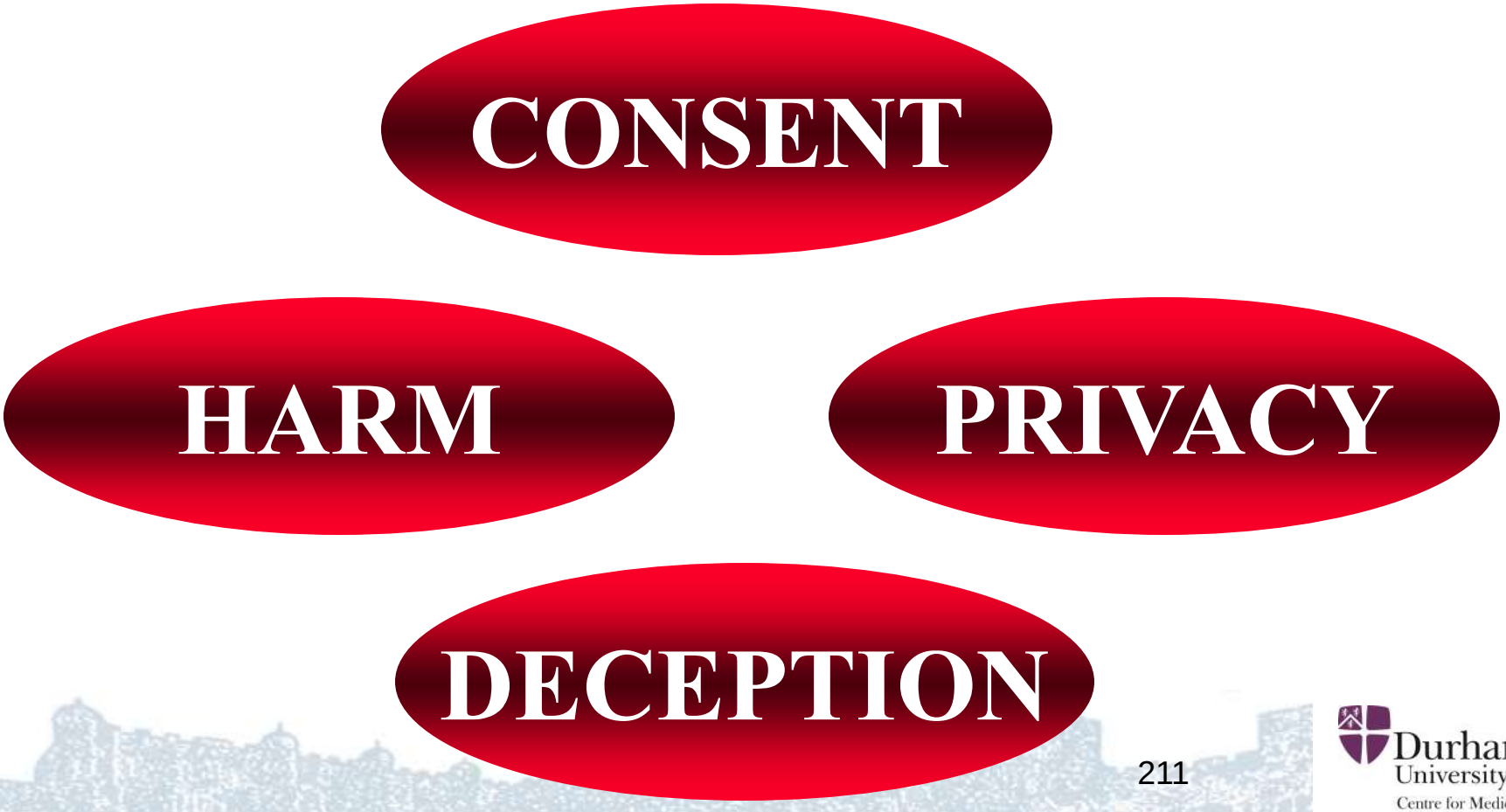


- Glossed research method
- Anticipated outcomes
- Citation and authorship
- More details required for method, outcomes
- An eerily familiar block of text
- Incomplete references

Approaching participants

- Who and how participants will be recruited
- A flow diagram of the stages of recruitment
- Exclusions
- Gatekeepers?
  - Where the research does not have legitimate access to the personal data of potential participants, gatekeepers will make first contact on behalf of the researcher
  - Research within organisations or workplaces will seek the employers permission for access to employees
    - Employees will feel freer to participate
    - Protect the employers reputation

Ethics in Research



Consent

concurrence

by a party

with an action

to be taken by another party

Consent

- ***Informed*** consent
  - Subjects must know potential risks, benefits, conditions of participation, and ability to withdraw without penalty
  - If consent is not informed, it can be as bad as (or worse than) not getting consent at all
  - Participants are aware that consenting deprives them of anonymity
- Consent should always be obtained
- Consent for questionnaires is usually by return of questionnaire

Standard ethical principles

For participants to **give fully informed consent** the researcher should provide information including:

- aims and nature of the research
- contact details of researchers
- duration of research & their involvement
- data access and storage
- how results will be disseminated
- the extent to which confidentiality and anonymity will be protected
- participants' right to withdraw from study

Elements of Consent

- **Capacity**
  - Ability: individual is competent enough to understand, evaluate, and make a decision of whether to participate or not
- **Information**
  - Is it complete/comprehensive and fully understood?
- **Voluntariness**
  - Subjects have the choice to participate or withdraw and are aware of this choice

Debriefing

- Purpose of project
- How and when results will be available
- If individual feedback will be available
- What will happen to the information that the participant provided
- How the results will be disseminated
- Whom the participant should contact if they wish further information

Harm

Psychological / social risk

- How will you cope with unexpected revelations by the participant?
- How will you cope with upset participants?
- Consider any risks to occupational standing and privacy

Risk to care received?

Harm (cont)

Research situations that may carry more than minimal risk

- Research involving sensitive topics
- Research using administrative or secure data
- Research which might induce stress, anxiety or humiliation
- Research involving respondents through the internet

Privacy

- Sensitivity of topic &/or data
  - Can responses/results affect the subject's life if known by others
- How public/private is the setting?
- Public display of the data
  - Personally identifiable information should be removed or changed
- Anonymisation
  - Direct identifiers (name, address, postcode, phone number etc)
  - Indirect identifiers (information on workplace, education, occupation, respondents unique value/code)

Deception

Often tied to the informed part of consent

- Omission: withhold information
- Commission: provide false information i.e., lying
- Establishing false intimacy: subject feels a high degree of comfort because he/she does not know is "on the record"
- Using accomplices: someone helping the researcher that the subject doesn't know is helping

Ethical review

- Ethical review is normally required for published studies
- BMJ "All research studies published in The BMJ should be morally acceptable, and must follow the World Medical Association's 2008 Declaration of Helsinki." http://www.wma.net/en/30publications/10policies/b3/index.html
- You must make a statement about your permissions, or state that they were sought, providing a reference number

Thank you!

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Research on Challenging and Sensitive Topics

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The Great Britain SASAKAWA FOUNDATION
グレイトブリテン・ササカワ財団

‘Sensitive’ Research

“potentially poses for those involved a substantial threat, the emergence of which renders problematic for the researcher and/or the researched the collection, holding, and/or the dissemination of research data”
(Lee & Renzetti, 1990, p.512)

- Potential risk for researcher and participant
- Examples of sensitive topics: domestic violence, political activism, crime, mental health, traumatic childbirth, sexual health, workplace bullying.

Doing sensitive research: Perspectives of the researcher

Fahie, 2014: Face to face interviews on workplace bullying

1. Exiting the researcher/interviewee relationship versus duty of care
    - Interviewees seeking contact and support after the research is over

2. Protecting the researcher
    - Emotional reaction to traumatic experience of participants

Recommendations (Fahie, 2014):

- Do not disclose personal details (home address, personal contact details)
- Conduct interviews in public places; ensure others aware of location and return time
- Monitor the emotional impact and response of the interviewee
- Discuss the research regularly to debrief and review any unexpected events

Doing sensitive research: Perspectives of the researcher

Dickson-Swift et al. 2007:

Entering the lives of others

"you need to demonstrate a certain degree of discretion, of respect, of appreciation for what they are doing…it is more than just words, it's more than just what you are going to analyse, it's their life, their experience and you need to make sure you are aware of that" (Dickson-Swift et al. 2007)

Developing rapport

- Facilitates disclosure
- Participant sees the researcher as a 'friend' or therapist (Brinkmann & Kvale, 2008)

Self-disclosure

- May facilitate disclosure and establish non-hierarchical relationship
- Think about your boundaries in advance

Doing sensitive research: Protecting the researcher

Recommendations (Dickson-Swift et al. 2007):

- Debriefing
- Counselling
- Schedule rest breaks throughout the project
- Protocols on physical and emotional safety

Preparation

- Consider scenarios and responses in advance
  - Discuss with colleagues, seek expert advice if necessary
- Gather information on support available for both the researcher and the participant
  - Know the limits of your training and expertise
  - Include information on support organisations, research colleagues, occupational health, and medical care in participant information sheets
- State that confidentiality will be broken if the participant discloses certain information (e.g. serious patient safety issue, abuse, criminal activity)
  - Include in participant information sheets
- Ethical review

During the research

- Begin by explicitly stating any key issues
  - E.g. Data will be confidential unless serious patient safety issue or disclosure of abuse or serious criminal activity
- Check participant has received and read information sheets before providing consent
- If in a group situation (e.g. focus group), set ground rules (confidentiality)
- Check that the location allows a private conversation and that the timing is convenient
- Build rapport, listen empathically, try to be non-judgemental
  - Be aware that this may be the first time the participant has disclosed sensitive information (Baird & Mitchell, 2013)

During the research

- Have a list of support resources available and be ready to signpost to help
- If participants become upset, give them time to compose themselves and remind them that they are free to stop the interview
- Recognise when an issue is beyond your expertise and refer to an appropriate professional
- Check at the end that the participant feels they have access to any required support

Afterwards

- Confidential debriefing with colleagues
- Ensure data are stored securely
- When reporting findings, check that any quotes do not contain identifiable information

Example: Workplace Bullying in healthcare organisations (Carter et al, 2013)

Mixed methods research: Anonymous questionnaires (n=2950) and semi-structured telephone interviews (n=43)

Issue 1: Recruitment

- Anonymous questionnaire
- Invitation to take part in interview study included in questionnaire packs
- Volunteers provided name and contact details, these were returned separately from the questionnaire to ensure questionnaire responses remained anonymous

Example: Workplace Bullying

Issue 2: Disclosure and confidentiality

- Discussed potential scenarios and responses with the research team (e.g. patient safety issues)
- Included information on when confidentiality would be breached in participant information sheets and reminded participants at the start of the interview

Issue 3: Protection of participants

- If participants showed signs of distress, offered to stop recording, or stop/rearrange the interview, and gave them time to compose themselves
- Had information available regarding help and support on participant information sheets and verbally via the researcher

Example: Workplace Bullying

Issue 4: Protection of researchers

- Debrief with research team after interview
- Counselling available via employer, if required

Issue 5: Data storage and security

- Once backed up, audio files deleted from voice recorders
- All files (audio, transcription, contact details spreadsheet) password protected
- Confidentiality agreement with transcription company

Issue 6: Reporting findings

- Ensured that findings did not include any identifiable data: names, ward and hospital locations removed from quotes
- Provided report on findings to participants, where requested

Activity

You are designing a qualitative study on **how doctors behave when they make errors** , for example, errors in drug prescriptions, misdiagnosing a patient's illness, or mistakes during surgical procedures.

You are planning to conduct face to face interviews.

Discuss:

- **What ethical issues may be raised in the interviews?**
- **How would you deal with them?**

References

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