

Lines of Enquiry

Research Tools

Aims of the session

- To explore a range of research tools for qualitative and quantitative research
- To write suitable aims and objectives for a potential research project
- To construct a research project

Methods of data collection

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graph TD; A[Methods of data collection] --> B[Secondary sources]; A --> C[Primary sources]; B --> D[Documents]; D --> D1[Govt publications]; D --> D2[Earlier research]; D --> D3[Census]; D --> D4[Personal records]; D --> D5[Client histories]; D --> D6[Service records]; C --> E[Observation]; C --> F[Interviewing]; C --> G[Questionnaire]; E --> H[Participant]; E --> I[Non-participant]; F --> J[Structured]; F --> K[Unstructured]; G --> L[Mail questionnaire]; G --> M[Collective questionnaire]; L --> N[Online questionnaire];
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Major sources of information gathering

- Primary data: The researcher undertakes the data collection
- Secondary data: The data is already available and can be reanalysed

The interview

Questioning people

- Unstructured interviews: Freedom in structure, content, wording and order of questions
- Structured interviews: Interview schedule predetermines the questions, wording and order

The questionnaire

Written list of questions completed by the respondent

- Mail or postal questionnaire (covering letter)
- Online questionnaire
- Administration in a public place

Choose between interview schedule and questionnaire

Consider the following:

- The nature of the investigation
- The geographical distribution of the study population
- The type of study population

Question

- What are the strengths and weaknesses of the following as research tools?

1. Questionnaires
2. Interviews

Strengths and weaknesses of questionnaires

Strengths	Weaknesses
■ Convenience: ■ Saves time	■ Limited application
■ Inexpensive: ■ Saves human and financial resources	■ Low response rate
■ Offer greater anonymity ■ No face-to-face action ■ Likelihood to obtain more accurate information on sensitive questions	■ Self-selecting bias
	■ Lack of opportunity to clarify issues
	■ No opportunity for spontaneous responses
	■ Responses may be influenced by the response to other questions
	■ Others can influence the answers
	■ Responses cannot be supplemented with other information

Advantages and disadvantages of interviews

Advantages

- More appropriate for complex situations
- Useful for collecting in-depth information
- Information can be supplemented
- Questions can be explained
- Has a wider application

Disadvantages

- Time consuming and expensive
- Quality of data depends on
 - Quality of interaction
 - Quality of interviewer
 - Could vary when multiple researchers are involved
- Possibility of researcher bias

Types of questionnaire (Sharp 2012)

- **Structured** - closed questions where the content and response is determined by the researcher
- **Unstructured** - open questions so content and form of response is determined by the respondent.
- **Semi structured** - a mixture of the above.

Types of questions Open-ended questions

Advantages:

- Provide in-depth information
- Greater variety of information
- No investigator bias

Disadvantages

- Analysis is more difficult if answers need to be classified
- Loss of information if respondents cannot express themselves
- Possible interviewer bias

Types of questions

Closed questions

- Advantages:
 - Easy to answer
 - Easy to analyse due to ready-made categories
- Disadvantages:
 - Information lacks depths and variety
 - Greater possibility of investigator bias
 - Answers are selected from a list and may not reflect respondents opinion

Common forms of closed questions

(Sharp 2012)

- Dichotomous questions
- Category questions
- List questions
- Exact answer questions
- Rank order questions
- Ratings

Dichotomous

- Are you:
 - Male ☐
 - Female ☐
- Do you drive?
 - Yes ☐
 - No ☐

Category

How many years have you been driving?

Less than a year ☐

Between 1 and 5 years ☐

Between 6 and 10 years ☐

More than 10 years ☐

List

A list of items is offered, any of which may be selected. For example a question may be asked about qualifications and several listed.

What qualifications did you have before you started your degree course?

None * ☐ Professional qualification* ☐

A levels or equivalent* ☐ Access course ☐

Please specify* _____

Ranking

In ranking questions, the respondent is asked to place something in rank order. For example, the respondent might be asked to place qualities or characteristics in order.

Please rank these qualities for a teacher using the numbers 1 to 5. Use the number 1 for the most important:

Good subject knowledge

Likes children

Patient

Speaks clearly

Believes learning should be fun

Likert Scale (1932)

- Usually on a three, five or seven point scale
- Remember the intervals may not be the same. We cannot say the highest ranking is five times higher than the lowest.
- The Likert scale indicates order.

Likert type scale

- Please indicate your opinion of this holiday resort on a scale of 1 – 5 where 1 is very poor and 5 is very good

Quality of hotel	1	2	3	4	5
Local transport	1	2	3	4	5
Cleanliness	1	2	3	4	5
Shopping	1	2	3	4	5

Young children might need a narrower range of responses. Pilot study essential.



I disagree



I agree

Figure 5.1 An alternative Likert-type scale

Other scales

The module has given me:

- knowledge and a critical understanding of the stages of social, emotional, moral and cognitive development
- a good understanding of the role played by families and schools in supporting social, moral, cognitive and emotional development.

1 2 3 4 5

5 = strongly agree
1 = strongly disagree

There are various stages of scaling devices which may be used in questionnaires,

<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly agree</i>
1	2	3	4	5

Alternatively, each of your questions could be followed by a scale that people tick. For example:

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
☐	☐	☐	☐	☐

Formulating effective questions

- Use easy and every day language
- Avoid ambiguous questions
- Avoid double-barrelled questions
- Avoid leading questions
- Avoid questions based on assumptions

Please review the following videos in your own time

Questionnaire design

<https://www.youtube.com/watch?v=BZLVI5zae2E&list=PLirEzjoHKvxoX8zZuFUSAi4jdukeexwx&index=12>

Question types and piloting

<https://www.youtube.com/watch?v=vjailyWAcJQ>

Constructing an interview based research instrument in quantitative research

- Personal and sensitive questions
- The order of the questions
- Pre-testing a research instrument
- Pre-requisites for data collection:
 - Motivation to share required information
 - Clear understanding of the questions
 - Possession of the required information



Methods of interview based data collection in qualitative research

- Unstructured interviews
- Structured interviews
- In-depth interviews
- Focus group interviews
- Narratives
- Oral histories
- Observation



Good/poor interview

<https://www.youtube.com/watch?v=9t-hYjAKww>



Interviews

- Interviews are particularly suited to exploring a participant's experiences or story
- The interviewer can obtain in-depth information about an issue.
- Ensure that you are clear about the information you hope to gather. This should help you to focus on the intent behind each question

Topic areas

Questions can be asked about:

- behaviours – what a person has done or is doing
- opinions and values – what a person thinks about an issue
- feelings – note that respondents can answer 'I think'
- knowledge – to obtain facts
- sensory – what people have touched, seen, tasted or smelled
- demographics – standard background questions – age, education etc.

Questions can be asked about past, present, future

Conducting the interview

- create a welcoming, relaxed environment
- check any equipment is working correctly
- don't react strongly to the participant's responses
- encourage responses with positive body language
- provide transition between major topics
- don't lose control of the interview

Immediately after the interview

- re-check equipment
- make any notes or observations

Sequence of questions

Go through the 'ground rules' then involve the participant as soon as possible:

- ask some factual questions before moving to potentially more sensitive topics
- intersperse factual questions throughout to avoid disengaging participants
- ask questions about the present before the past or future
- last question may allow participants to provide add any other information and to comment on the interview

Wording of questions

- wording should be open-ended
 - questions should be neutral
 - questions should be asked one at a time
 - questions should be clear
- Be careful about 'why' questions:
- can indicate a cause-effect relationship that doesn't exist
 - participant may become defensive
 - ask for examples to extend answers

Group interviews

"The group interview can also bring together people with varied opinions, or as representatives of different collectives." (Cohen, Manion and Morris 2007 p.373)

Strengths

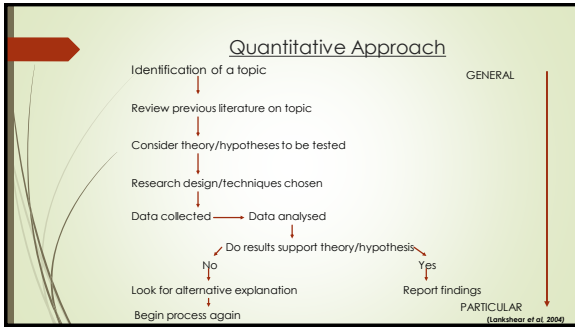
- can be timesaving
- can generate wider range of responses and large amount of data
- natural, conversational approach can stimulate lively debate
- can provide insight for subsequent individual interviews

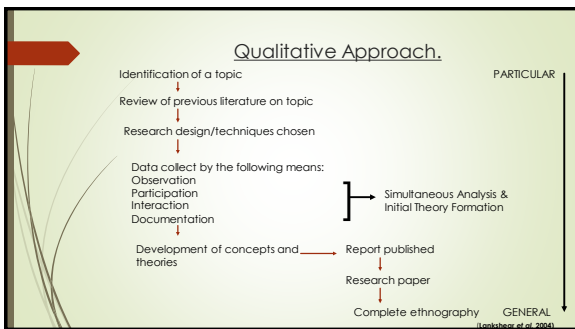
Weaknesses

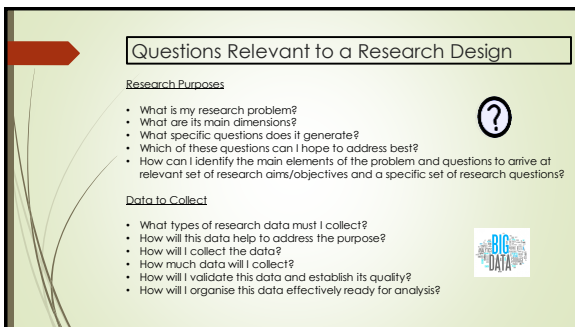
- problems with organisation
- can be difficult to manage and analyse
- without careful management some individuals may dominate

Ethics

- essential to obtain informed consent
- ground rules regarding confidentiality etc. must be reiterated at the start of every interview
- participants have the right to refuse to answer questions or to finish the interview before the planned end
- participants in group interviews must be reminded that all discussions are confidential and that all contributions must be treated with respect







Questions for Data Analysis Continued...

Data Analysis

- What forms of data analysis will I use and why?
- How will they help me achieve the purposes of my research?
- How will this form of analysis be conducted?
- What skills and abilities will I need to know and exercise for this to be delivered professionally?
- What will these forms of analysis let me say/not say about the data?

Guiding and Informing Sources

- Who helps me to understand how to frame/refine my research purposes?
- What are the relevant sources of guidance here?
- Who provides theories/concepts for my research problem/questions?
- How do these guide me in deciding what kind of data to collect/analyse it?
- Who provides good advice regarding the capture/storage/organising of data?
- Who gives good advice on how to analyse data?

(Lankes et al. 2004)

TASK

Group 1 - You want to understand **how often** students use social networking sites such as Facebook.

- Outline a study that would do this.
- Consider appropriate aims and objectives
- What research approach would be appropriate?
- Why is this research approach suitable?

Group 2 - You want to understand **why** students use social networking sites such as Facebook.

- Outline a study that would do this.
- Consider appropriate aims and objectives
- What research approach would be appropriate?
- Why is this research approach suitable?

Further reading

- Mukherji, P. & Albon, D. (2010) *Research Methods in Early Childhood*. London: Sage **Chapters 10 & 11**
- Important information about use of questionnaires & interviews with children

References

- Creswell, J.W. (2014) Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research, 4th edn, Harlow, Pearson Education Ltd.
- Flick U. (2011) Introducing Research Methodology, London: Sage
- Freebody, P. (2004) Qualitative Research in Education: Interaction and Practice, London, SAGE Publications Ltd.
- Gibbs G. (2012) University of Huddersfield lecture, Available at: <https://www.youtube.com/watch?v=nyjlyWAcJg>
- Kumar R. (2014) (4th ed) Research Methodology London: Sage
- Lankshear, C. & Knobel, M. (2004) A Handbook for Teacher Research: From Design to Implementation, Maidenhead, Open University Press.
- Robert Holmes, G. (2006) Doing Your Early Years Research Project: A Step-By-Step Guide, London, Sage Publications Ltd.
- Sharp, J. (2012) (2nd ed) Success with your Research Project, London: Learning Matters
- With thanks to Sage for some slides
