

COMMONWEALTH OF AUSTRALIA

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Interviews and Questionnaires

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Reading

- ID Ch 7
- See also id-book.com

Common characteristics of Interviews/Questionnaires

- Involves a set of predetermined questions
- Involves sampling
- Used to describe characteristics of a population of interest
- Need clear set of goals
- Not useful for exploratory research, where the research question and methodology are still being developed - observation is better.

Interview techniques

- Consistency is important
 - same questions, same wording, same order (unless ordering effects are of concern)
- Avoid leading questions
 - Many people struggle with this function, do you?
- Avoid jargon and long questions
 - What do you think of the new NBN?
- Need accurate records
- Need to make participants feel comfortable
 - Are no right or wrong answers
- Written consent needed and sometimes ethics approval

Running the interview

- *Introduction* – introduce yourself, explain the goals of the interview, reassure about the ethical issues, ask to record, present any informed consent form.
- *Warm-up* – make first questions easy and non-threatening.
- *Main body* – present questions in a logical order
- *A cool-off period* – include a few easy questions to defuse tension at the end
- *Closure* – thank interviewee, signal the end, e.g, switch recorder off.

Types of interview

- **Unstructured**
 - Open-ended questions, process not pre-determined, can't replicate
 - Generate rich data, but more difficult to analyze
 - Eg. Tell me a bit more about your experience with using this tool?
- **Structured**
 - Closed questions, pre-determined, standardised procedure, replicable but may lack richness.
 - Used when study's goals are clear, need a pilot study
 - Eg. Which function did you find the most useful? (user to choose from range of options).

Types of interview

- **Semi-structured**
 - Both closed and open questions, start with pre-planned questions, then probe for more details
 - Broadly replicable, provides a good balance between richness and ability to replicate
- **Group interviews**
 - Pros: access to more participants, participants less intimidated, build on each others ideas
 - Cons: more difficult to find convenient time, need a skilled facilitator to focus discussion, maybe harder to analyse issues from tape

Open versus closed questions

- **Open ended**
 - What do you think of this screen layout?
 - How often do you think you use this website on a weekly basis?
 - What are some of your favourite websites for finding and booking a restaurant?

Open versus closed questions

- **Closed question**
 - Are these two buttons distinguishable from one another?
Please circle your answer YES / NO
 - How many times a week do you use this website?
Please circle your answer:
1-5 times a week, 6 – 10 times a week, 10 – 20 times a week, 20 – 50 times a week, more than 50 times a week

Another example of open vs closed questions

- What type of input device do you prefer to use?

- VS
- Which of the following input devices do you prefer using? Please circle your answer.
 1. Touchscreen
 2. Touchscreen + audio
 3. Mouse only
 4. Mouse + keyboard
 5. Other?

Focus groups

- Type of group interview, often used in social sciences research
- Involves 3 to 10 users chosen as a representative sample of target population of interest
- Trained facilitator:
 - guides discussion
 - preset agenda, but unanticipated issues can be explored
 - prompts less active participants
 - discourages verbose participants from dominating

Focus groups

- Allows diverse and sensitive issues to be raised
- Enables people to put forward their opinions in a supportive social environment
- Can be used in requirement gathering to identify conflicts in terminology or expectations between different users.

See ID section 7.4.4

Interviews

- General considerations
 - Does people's reported behaviour correspond to their actual behaviour
 - How representative is the sample?
 - Were respondents interviewed together or separately?
 - How do these impact on the results?

Different types of interviews

- Personal interview
 - Good control over sequencing
 - Unclear questions and answers can be clarified
 - More details obtained
 - More costly
 - Interviewer bias
- Telephone interview/questionnaire
 - High response rate
 - Easy to administer
 - Participants are more accessible
 - Less personal
 - Interviewer and selection bias

Different types of questionnaires

- Mail questionnaire
 - Good for highly personal topics
 - Has to be completely self-explanatory
 - No control over order survey is filled out
 - Response bias

Types of questionnaires

- Online questionnaire
 - Reach large numbers quickly
 - Lower costs - no copying and postage
 - Data analysis is quicker and easier
 - No control over order survey is filled out
 - Response bias (sample not random)
 - Email - limited to text, but can target specific users
 - Web-based - can include graphics, help-screens, pop-up screens, & can enforce rules such as one selection only

Questionnaires

- *Similar to a structured interview*
- Can have closed and open questions
- Can be distributed easily to large number of people
- Less personal, may be more difficult to get subject participation
- Can be paper-based or online (email, web)
- Sampling can be a problem when the size of a population is unknown as is common online

Questionnaire construction

- Steps involved in preparing a questionnaire
 - Decide what information is being sought
 - Decide on type of questionnaire to be used
 - Write a draft of the questionnaire
 - Re-examine and revise the questionnaire
 - Pretest or **pilot** the questionnaire
 - Make changes and specify the procedure for use.

Questionnaire construction

- **Order** of questions is important
- **Wording** must be carefully chosen
 - not ambiguous or offensive, use familiar words, no jargon
 - words used can affect responses given, avoid leading questions, need clear instructions for use
- Free response vs. closed questions
 - Free response -> easier to construct + more flexible for respondent, more difficult to record and score
 - Closed -> have a predetermined answer format, e.g., 'yes' or 'no', easier to answer and score, more difficult to construct and reduces respondents' choices so less accurate, more commonly used

Questionnaire construction

- Layout
 - needs to be easy to understand and fill out
 - make aesthetically pleasing
 - include numbering
 - balance needed between using white space and keeping the questionnaire compact.
- Provide **clear instructions** on how to complete the questionnaire.
- Avoid long sentences - split compound sentences into two
- Not too long overall

Question and response format

- 'Yes' and 'No' checkboxes
- Checkboxes that offer many options
- Rating scales
 - Likert scales
 - semantic scales
 - 3, 5, 7 or more points?
- Open-ended responses

Observation



- Direct observation in the field
 - Structuring frameworks: used to guide observation
 - Degree of participation (insider or outsider)
 - Ethnography : where observers immerse themselves in the culture that they study
- Direct observation in controlled environments
 - Think-aloud technique
- Indirect observation: tracking users' activities
 - Diaries
 - Interaction logging

Sample structuring framework to guide observation

- The Goetz and LeCompte (1984) framework:
 - *Who* is present?
 - What is their role?
 - *What* is happening?
 - *When* does the activity occur?
 - *Where* is it happening?
 - *Why* is it happening?
 - *How* is the activity organized?

Data recording

- Notes, audio, video, photographs
- Notes plus photographs
- Audio plus photographs
- Video
- NO audio or video for your assignments!



See id-book.com

Key issues when data gathering

1. Setting goals
 - Decide how to analyze data once collected
 2. Relationship with participants
 - Clear and professional
 - Informed consent when appropriate (ethics)
 3. Multiple approaches
 - Gather information/data using more than one approach
 4. Pilot studies
 - Small trial of main study
- Note: Data gathering used both to develop requirements and for evaluation purposes

Choosing and combining techniques

- Depends on
 - The focus of the study
 - The participants involved
 - The nature of the technique
 - The resources available

Analysis

- Templates – Volere
- Diagrams
- Patterns
- Categorising
- Critical features

Data gathering techniques: summary table

Technique	Good for	Kind of data ¹	Advantages	Disadvantages
Interviews	Exploring issues.	Some quantitative but mostly qualitative.	Interviewer can guide interviewers if necessary. Encourages contact between developers and users.	Time-consuming. Artificial environment may inhibit data.
Focus groups	Collecting multiple viewpoints.	Some quantitative but mostly qualitative.	Highlights areas of consensus and conflict. Encourages contact between developers and users.	Possibility of dominant characters.
Questionnaires	Answering specific questions.	Quantitative and qualitative.	Can reach many people with low resource.	The design is crucial. Response rate may be low. Responses may not be what you want.
Direct observation in the field	Understanding context of user activity.	Mostly qualitative.	Observing actual work gives insights that other techniques can't give.	Very time-consuming. Huge amounts of data.

(continued)

Reference -Table 7.2 pg 343 in Interaction Design 2007. See also Table 7.1, p261 in ID 2011

Ethnography

- Traditionally used in social sciences to understand the social organization of activities and also work.
- Ethnography is a philosophy with a set of techniques that includes participant **observation** as well as interviews, questionnaires and studying artifacts.
- Ethnographers immerse themselves in the culture that they study.
- Allows one to understand people's real needs. Can thus design products that fit intuitively into people's lives.

Summary of Data Gathering

- Three main data gathering methods: interviews, questionnaires, observation
- Key issues for data gathering: goals, multiple approaches, participant relationship, pilot
- Interviews may be structured, semi-structured or unstructured
- Questionnaires may be on paper, online or telephone
- Observation may be direct or indirect, in the field or in controlled setting
- Techniques can be combined depending on study focus, participants, and available resources

Assignment 2 - plan

- For assignment 2:
 - You will create some open-ended and closed questions
 - Discuss pros and cons of both types, why would you choose to use each of them and what for?