Field studies: observation, interviewing & ethnography

CPSC 544 Fundamentals in Designing Interactive Computational Technology for People

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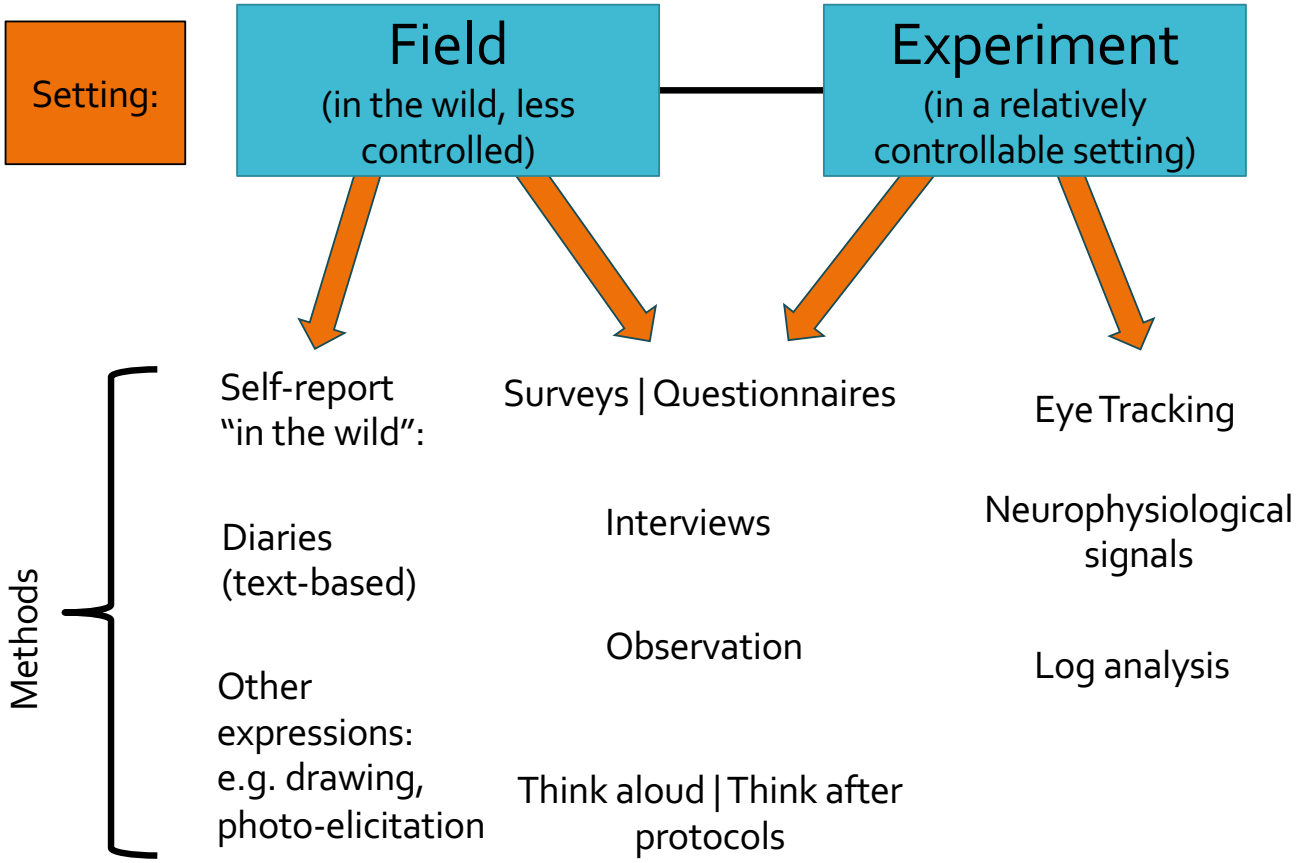
Learning Goals

- Explain why/when field work is an appropriate choice of enquiry
- Understand methods used in field work, including observation and interviewing
- Address some of the comments and questions that surfaced in today's readings

The world of evaluation



What is a **field study?**

- A general term that denotes a study that **takes place in its ultimate context**
- There are **tradeoffs** to situating a study "in context" ....

Pros

- Comprehensive understanding of current practice
- Greater ability to predict the impact of a new or re-designed technology
- Provides designers a richer understanding of audience + context
- Greater ability to prioritize design ideas & features

Cons

- Time intensive
- Large (sometimes vast) amounts of data that take time to analyze
- Output is *description* of practices, and must still be translated into design ideas and requirements
- Scale – often smaller number of users (due to effort of collection and analysis)

Orientation to field work

Reading Journal

- "I think it is interesting to relate these (ethnography, interviews] techniques to the **double-diamond design model** we learned last class. For example, I think mock-ups and prototypes can help the designers in the process of finding the right solution (i.e. the second diamond), allowing them to "fail fast" and enable rapid interactions. Interviews, on the other hand, can be useful for both of the "diamonds", allowing designers to both getting a good understanding of the user needs as well as getting feedback on the prototypes."
- Many questions arose about:
  - Building trust
  - Should the researcher be an "insider" or "outsider"?
  - What about the researchers' own biases?
  - Neutrality?
  - Focus – people, experience, products?

Ethics – vital questions and observations – will cover on next class!

Considerations in conducting fieldwork

- **General steps and considerations**:
  - Determine research objectives → What do you want to know?
  - Develop focal points → Scope and focus
  - Identify participants & sampling strategy → Who should you talk to/observe?
  - Recruit participants
  - Determine data collection methods and design materials
    - E.g., creating interview questions, ir observation approach
- **Other pragmatics**
  - How will data be recorded?
  - What do you need to bring?
  - Ethics, etc.
- **Piloting**
- **Post-session debriefing**
- **Data analysis**

Qualitative analysis covered in an upcoming class

What do you want to know?

→ Identify **focal points**

- **Identify 2-5 questions that focus & scope the research**:
  - Driven **by research objectives** or **development goals**
    - Not themselves research questions; form them to *get at* your RQ's.
  - Answers not anticipated or assumed
    - e.g.: What are the triggers that result in a doctor updating (or referencing) a patient record?

More examples: Hillesund 2020 (not in your readings) --

How do we arrange our surroundings when reading?

How do we position our bodies, how do we handle the object (the book, printed papers, the computer or the mouse)?

What do we look for first — and last?

What makes us start reading a text in a linear fashion — and what makes us stop, or continue browsing?

Hillesund, T. (2010). Digital reading spaces: How expert readers handle books, the Web and electronic paper. *First Monday, 15*(4): https://doi.org/10.5210/fm.v15i4.2762

Identify **participants**

- **By subcultures**
  - Social groups defined by cultural similarities (e.g. Serious cyclists, environmental advocates)
  - Share norms: e.g., values, behaviors, activities, language, place
- **By practices**
  - Social practices: cooking, skateboarders, DIY makers
- **And others**…

Recruiting participants

- **Sample size:**
  - Depends on methods
  - When examined qualitatively, usually **far fewer participants than in a lab study**;
    3-12 is common (assuming the collection of rich observational data).
    [WHY??]

- **Sampling methods:**
  - Quota
  - Purposive
  - Convenience
  - Snowball

Consider Porcheron et al reading:

- Why recruit *groups* of friends (using pubs as a point of encounter), rather than seek out individuals, in more individual settings?
- Is 11 participants (3 groups), from 1 pub really sufficient? What issues of representation does this raise?
- How do we know we are designing for the "right" people?

- **If you have specific groups of interest**
  - Need some kind of screener that identifies important parameters in your target population (inclu

Determine data collection methods

- Observation
- Interviews
- Ethnography

More to consider when choosing a method:

- What about time constraints, e.g. a 3 month course?
- Is a multi-method approach always better?

Observation

- Goal is to capture *tacit knowledge*, *reality* of what they do; impact of *context*; ward against participants trying *to please observer*
  - Tacit knowledge is gained through experience; subjective, informal, and difficult to share or express
  - Strive to minimize intrusion (effect of observer presence)
- Duration can vary dramatically (small # of days >> a year or more!)
- Can be focused on **person/event/place/object** *identified in focal points*)
  - can you think of an example for each?

"In fact…it takes just 27s for her to begin the process of retrieving her phone from her handbag …, and as she does so, continues to clarify her confusion over the exact definition of ballad.

Then, just prior to the commencement of her mobile device use, she provides the confirmation to the group of the task she is about to perform by articulating her intention with "to Google". This declaration confirms that the purpose of her retrieving the device is that of resolving the group dilemma.

We also see further examples of this as, following this fragment, Dayna uses her phone within her lap, below that of the table edge; while using her mobile device she ostensibly disengages from the conversation through which the use was occasioned in the first place." (Porcheron 2016)

Considerations

- **Look for what people do, not what they say**
  (or how these relate)
- **Direct observation**
  - researcher on site, in context
  - participate as little as possible (minimize intrusion)
  - may use an observational checklist, depending on research stage
  - data: notes, audio tape conversational components (for manual or automated transcript), collect artifacts, take pictures of artifacts that cannot be taken. Optional: videotape as a backup (why/not?)
- **Video observation** [captured]
  - researcher not present, video camera capturing instead
  - many of same data types can be collected
  - can be less intrusive for participant
  - but more intrusive in other ways (privacy, security)
- **Ethical considerations**
  - How do they differ? Is one more tricky than the other?

What to Observe

- **Routines & patterns**
- **Language**
  - what they and how they say things (do, think, believe)
- **Actions and activities**
  - what they do
  - how they behave
- **Things and environments**
  - what artifacts? spaces?
  - how are these artifacts and spaces: shaped and used

Interviews: when and why

- **Interviews are a tool that can be used at any point in design process, and most study forms**
- Well suited for (among others):
  - exploring issues
  - learning more about tasks, scenarios of use
  - involving users (+ making them feel involved)
  - understanding how people think

Interviews: **infinitely malleable**

- **The most flexible of methods! In:**
  - goals supported (what you want to learn)
  - form of study in which you use them
  - stage of research
  - how you deploy them
- **Some things that can vary:**
  - number of people
    - individual, pairs, groups
  - scope
    - duration, depth and breadth
  - type
    - structured, semi-structured, unstructured
  - location
    - in the lab vs. reality (in context)
  - in combination with other techniques

Kinds of interviews

- **Three main types:**
  - Unstructured
    does not mean lacking in purpose!
  - semi-structured
  - structured

- How do we not ask "leading" questions?
- How do we acknowledge different preconceptions of researcher and interviewee?
- **How do we ask the *right* questions?**

- What are the advantages of each type?
- Early stages of research use unstructured. Why?
- Later stage tend tp be more structured. Why?

*key is to **listen** rather than talk:* ***practice silence!***

- Other "special" types (can include types above):
  - group - e.g. focus groups
  - retrospective – user recalls and describes
  - contextual inquiry – user is interviewed while working

Structure: Pros/cons

Unstructured

- Rich data, things interviewer may not have considered
- Easy to go off the rails
- Time-consuming & difficult to analyze
- Impossible to replicate
- Open questions

Structured

- Predetermined, closed questions
- Confirmatory
- Replicable
- potentially important detail can be lost

Semi-structured

- mix of open and closed questions
- make sure to cover bases
- flexibility for open-ended follow-up as situation evolves

Often the sweet spot

Ethnography: Origins

- Roots in **anthropology** – exploration of the everyday realities of people living in small scale, non-western societies
  - ethnographers "figuring out" what is going on through participation in social life e.g., by observing, participating, and talking with people.
- Today, ethnography is used more broadly:
  - being applied to large industrialized societies (e.g., workplaces, senior centers, schools; and activities like teaching, financial investing)
- Studies the culture (values, beliefs, behaviors/activities, language) of a distinct group within a society.
  The distinct group of people have usually been together over an extended period of time, sharing beliefs, attitudes, behaviors, language to some degree.
- Aims to understand people, not "how they do something"
- Why is this valuable? Complexity of people and culture; understand desires, wishes, needs, wants

Ethnography

- Natural setting
- Holistic view
  - E.g., Consider the relationship between reading and writing reported by Hillesund: "For scholars, reading text is an integral part of their work; they read to prepare lessons, to evaluate, give assessments, to review, to correct and to comment, all activities with their own specific way of relating to the text. "
- Descriptive understanding
- Take a member's perspective
  - Blomberg et al., pp. 1027-1028

An interview in context is not an ethnography -- it has to significantly involve observation

Gaining access

Much more difficult than in laboratory studies.

- **Entry**: the process of developing presence and relationship in the designated research setting that makes it possible for the researchers to collect data.
- **Field**: the natural, non laboratory setting or location where the activities in which a researcher is interested take place.
- **Building rapport**: Develop good personal relationship with people to get access and information.
- **Consent and trust:** From whom?
- **Ethical conundrums**: varying reactions to being observed; legacy

Q: Inconsistent findings or ability to generalize?

In-class activity

- Get into your project groups
- With respect to **your project scenarios…**
  - Come up with a few possible **focal points** (can be very draft-y!)

Tips & Checklist for field work

- See another ~15 slides in this deck
- Please review as you plan your project.

Coming up

This week

- **Mon 09/18**
  - Team contracts (group: after class)
  - Researcher Journal #2 (individual)
- **Tues aft 09/19 (individual)**
  - Researcher Journal #3
  - Upload: TCPS 2 completion certificate + HCI Course Ethics adherence form (**no user study til all team members complete**
- **Thurs 09/21 (Lab)**: work on your team lit review

Next week

- **Sun 09/25**
  - 1st team deliverable: **Lit review and environmental scan. No RJ**
- **Mon 09/26 – bring draft versions to class**
  - Workshop study materials in class (unmarked – feedback)
- **Tues 09/27**
  - Researcher Journal #4

Tips and check list for field work

Review as a team before engaging in fieldwork

Guidelines in conducting fieldwork

- Assume respondent is expert
- Take cues from context
- Be flexible to adapt line of questioning
- Establish and maintain good rapport
- Do not interrupt unnecessarily
- Plan questions that allow triangulation
  - ask the same question in different ways
- Do not pre-suppose answer
  - How often do you use your mobile phone to call family members? VERSUS
  - What are the ways in which you communicate with your loved ones?
- Avoid:
  - asking long questions
  - using compound sentences
  - using jargon
  - asking leading questions
  - … and generally be alert to unconscious biases.

Some criteria for a good interview

- Structure the time
- Have a clear beginning, middle and end
- Explain why are there, what you hope to learn
  - if they don't know, they can't tell you
- Use props and visuals as appropriate (e.g., prototypes, photos)
  - sometimes it's easier to show than to tell
- Listen
- Make eye contact
- Refer back to things that they have said to check that you have understood
- Be attentive, respectful, sympathetic, and flexible
- Give the participant time to think
  - but if they go off topic, OK to gently steer them back

ACTIVITY: comparing and contrasting interviews [20 min]

- "how to do a research interview"
  - link to full video:
  - https://www.youtube.com/watch?v=9t-_hYjAKww
    - Contains more advice on good interviewing (and poor!)

On your own

Comparison of different methods

Weighing the pros and cons of observation, interviews and focus groups

Pros and cons of observation

Pros and Cons of Participant Observation	
Advantages	**Challenges and limitations**
Permits access to the "backstage culture," allows for richly detailed description of behaviours, intentions, situations, and events as understood by one's informants	Interpretation of data collected by researchers might be skewed by the researcher's individual interest rather than what actually happens in a culture
Provides opportunities to participate in unscheduled events	Understanding of the participant and what he/she thinks is being said is limited
Can afford the researcher the opportunity to experience the real emotions and feelings of those being observed	Researchers experience a feeling of having been excluded particularly at the beginning the research process
Useful for explaining "what is going on" in a specific culture and in particular social situations	community's discomfort with having an outsider may compromise the "reality" of what is being observed
Heightens the researcher's awareness of significant social processes	Interpretations of observations are subjective

DeMunck, V. C., Sobo, E. J. (Eds) (1998). *Using methods in the field: a practical introduction and casebook*. Walnut Creek, CA: AltaMira Press.
Kawulich, B. (2005). Participant Observation as a Data Collection Method, *Forum: Qualitative Social Research*, 6(2).

Pros and cons of interviews

Pros and Cons of Interview	
Advantages	**Challenges and limitations**
Can provide more detailed information than other data collection methods, such as surveys	Can be time-intensive because of the time it takes to conduct interviews, transcribe them, and analyze the results
May provide a more relaxed atmosphere in which to collect information through conversation, in comparison to filling out a survey	Interviewer must be appropriately trained in interviewing techniques in order to extract the most detailed and rich data from an interviewee
Interviewee can provide firsthand and more personal knowledge of a given topic that was not anticipated by the researcher	Not generalizable; generalizations about the results are usually incapable of being made because small samples are chosen and random sampling methods are not used
	Prone to bias; responses from interviewees (community members, program participants, etc) might be biased due to their stake in the program

Boyce, C., Neale, P. (2006) Conducting In-depth interviews: A Guide for Designing and Conducting In-Depth Interviews for Evaluation Input, Pathfinder international, pp.1-12.

Pros and cons of focus group

Pros and Cons of Focus Groups	
Advantages	**Challenges and limitations**
Generate many ideas through dynamic discussions; "snowballing effect" can occur as participants develop ideas together	Where focus groups are conducted within an organization, participants may be concerned about confidentiality
Bottom-up generation of concerns and issues, which can help to establish survey variables	Researcher must be highly skilled in facilitating and managing group discussions
Can offer validity to research and avoid issues of bias in researcher's interpretation	Some participants may not speak openly and may be inhibited because of the group
Relatively quick and efficient when compared with participant observation	Dominance by one, or some, participant(s) could limit findings relevant to the group as a whole

Hancock, B., Windridge K, Ockleford E (2007). *An Introduction to Qualitative Research*, Trent RDSU.

How will data be recorded?

- Handwritten notes (free form, coding sheet)
  - written notes can provide context, but not always details
- Audio recording
  - audio recording helps capture terminology, common phrases, specific details
- Video capture
  - video recording helps provide body language
- Still photos
- Take notes

Review with your group

Field notes

- No point in observation if you don't record!
- Develop powers of observation, practice mental notes.
- Describe behaviorally: try to avoid interpreting meaning of action.
- Description of individual(s) (in detail).
- Describe physical state of environment (in detail).
- Keep your interpretation separate from notes.

Pilot testing

- Interview checklist
  - Duration – too long? Prioritize your questions; too short? Consider whether you need to add questions
  - Clarity of interview questions
    - Practice being able to deliver the interview script fluidly
    - Ensure that all of the questions make sense to participants
  - Ability to operate recording equipment
- Observation checklist
  - Do you need to adjust your observational protocol, i.e., did it capture behaviours and activities adequately?
  - Were there things missing that were observed?
- Bottom line: do you get meaningful data?

Review with your group

What do you need to bring?

- Detailed preparation is required!
- Consent forms
- Screening forms (if participant selection not done in advance)
- Audio/video equipment
  - extra tapes, microphone?, extra batteries, tripod
- Note taking equipment
- Instruments: interview scripts, questionnaire, observational protocol

Review with your group

Primary and secondary researcher roles

- There is often too much for one person to do! Consider working in small teams
- Primary
  - usually the person who has contacted the participant guides the discussion
- Secondary
  - responsible for most data capture (all recording devices, primary notes, artifact collection)

Review with your group

Post-session check-list

- Debrief immediately with partner/team
- Type notes right away – expand as appropriate (make sure to note clearly what are expansions b/c they are subject to recall)
- Check your recordings and label media
- Make a log of all the items from the session (artifacts, audio/video tapes, still images, notes…)
- Write up reflection on session (things that were not clear, surprising, …)
- Plan for transcripts of dialog, as appropriate

Review with your group