Reflexivity and Thematic Analysis

Dr Charles Martin

Announcements

assignment 2 published on Canvas:

*Your challenge is choose **one existing AI-integrated interactive computer system or interface** and run a user research study with 3–5 participants. You will answer the research question: "How do users' mental model of the AI system align with the behaviour of the system and what usability issues arise from any misalignments?"*

- collect and analyse data and present research findings
- apply quantitative and qualitative data analysis
- research **other students** in this class (do not research folks outside the class)
- participant matching in labs/drop-ins
- **new:** clearer instructions to complete the assignment, Markdown linter provided in GitLab CI.

Plan for the class

- Analytical frameworks (qualitative analysis)
- Interpreting and presenting findings
- Deep dive on *Reflexive Thematic Analysis* (needed for the assignment)
- Reflexivity and positionality statements

Analytical Frameworks

Analytical Frameworks

- different approaches can guide qualitative analysis
- **granularity:** from fine-grained detailed analysis to broader scope examinations
- conversation analysis: fine granularity, examines detailed interactions in short conversation fragments
- systems-based frameworks: coarse granularity, broad group or organisation level analysis
- useful depending on the research goals
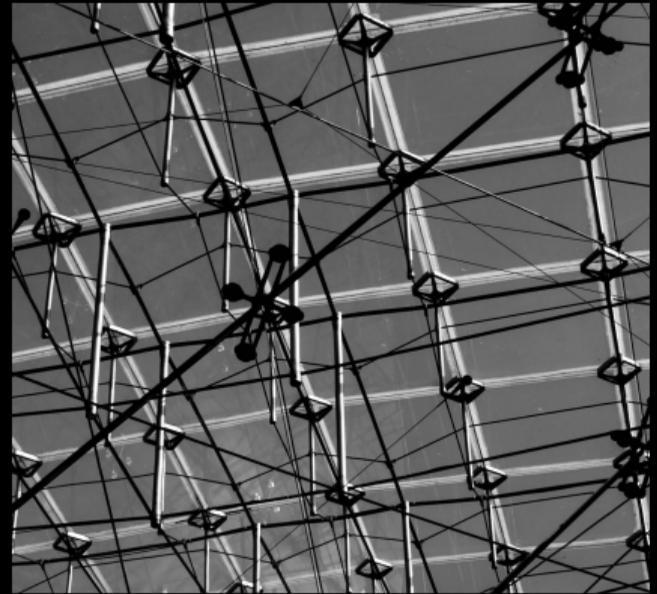
Figure 1: A framework. May not be analytical. (Photo by Maël GRAMAIN on Unsplash)

Conversation Analysis (CA)

- **CA:** examines the semantics of conversations, e.g., turn-taking and interaction
- e.g., compare conversations in different settings
- markup with syntax to capture detailed interactions and speech patterns
- **Square brackets [ ]** indicate overlapping talk between speakers
- **Round brackets ( )** show pauses in conversation with timing details (e.g., (1.1) = 1.1 second pause)
- **Physical spacing** represents temporal sequencing to show exactly when things

```
01  SUS i'd like to play beat t
02  LIA   [ oh no: ]
03  SUS [ alexa ][ (1.1)  ] bea
04  CAR        [ °yeah°; ]
05  LIA                  [°no:::
06  CAR (0.6) it' mother's day?
07  SUS it's (   ) yep (.) list
08      on eating your orange stu
09      (0.7)
10  CAR and your green stuff
11  SUS alexa (1.3) alexa (0.5)
12  CAR            =°and your
13  SUS play beat the intro
```
Conversation with family

Discourse Analysis

- Analysing dialogue: what is said, how words convey meaning
- Interpreting context, psychological and social aspects of words.
- Language as social reality, open to interpretation
- **Constructivist approach:** Language as a constructive tool: analyse the process of world construction
- Identify subtle and implicit meaning between sources

Content Analysis

- Classifies data into categories and studying frequency of occurrences
- Applicable to diverse media formats including text, video, images, etc
- can involve predefined frameworks or classification systems to systematically examine content across specified dimensions
- can be combined with other analytical techniques such as sentiment analysis

Figure 2: Analysing some content (Photo by Kaleidico on Unsplash)

Interaction Analysis (Jordan & Henderson, 1995)

- investigate human interactions with each other, artifacts, and technologies using video recordings of naturally occurring activities
- can be teamwork: researchers watch videos together, discuss in real-time
- coding and annotation through repeated video playing
- hypotheses based on observable participant actions and behaviors
- find patterns inductively by assembling instances of salient events

Grounded Theory

Grounded Theory (GT) is an *old and important* qualitative analysis technique (Corbin & Strauss, 2014; Galser & Strauss, 1967)

- main idea: identify *categories* (a kind of theme) through iterative data collection and analysis.
- any kind of data but often ethnographic and interview data
- analysis procedure:
  - *open coding*: categories, properties and dimensions discovered inn data
  - *axial coding*: systematically establishing categories/sub-categories
  - *selective coding*: refine and integrating categories
- *heavier and less flexible in comparison to Reflexive Thematic Analysis* (not suggested for first-timers)
- Rogers et al. (2023) claim that GT "uses reflexive thematic analysis", which I guess is accurate.
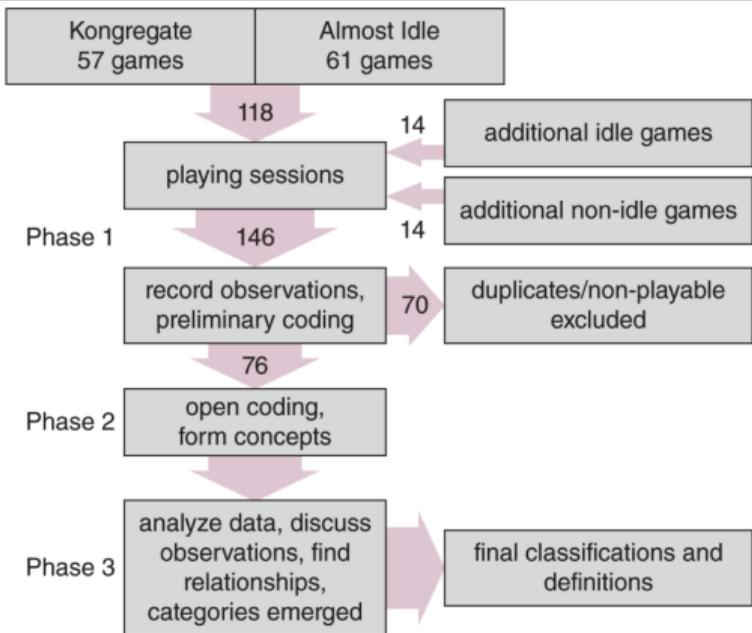
Grounded Theory Example: Idle Games

Figure 9.9 The process used by Alharthi et al., showing Phase 2 and Phase 3 using the three stages of grounded theory coding

Figure 3: GT process for Alharthi et al. (2018) in Rogers et al. (2023)

The analysis process that developed the incremental games super-category (each category above is part of incremental games). The process started with open coding of observations on idle games: multiple codes are created. Concepts are discovered through analyzing the open codes and identifying common features. This is an iterative process, where new codes are added, combined, or deleted. Each code is connected to one or more games and can be combined to form new concepts. Concepts are analyzed to find common relationships, and, thus, categories emerge. In the diagram, coloration is only to aid in reading. The left grouping is to show that all contained codes are part of click-to-manage and click-to-progress.
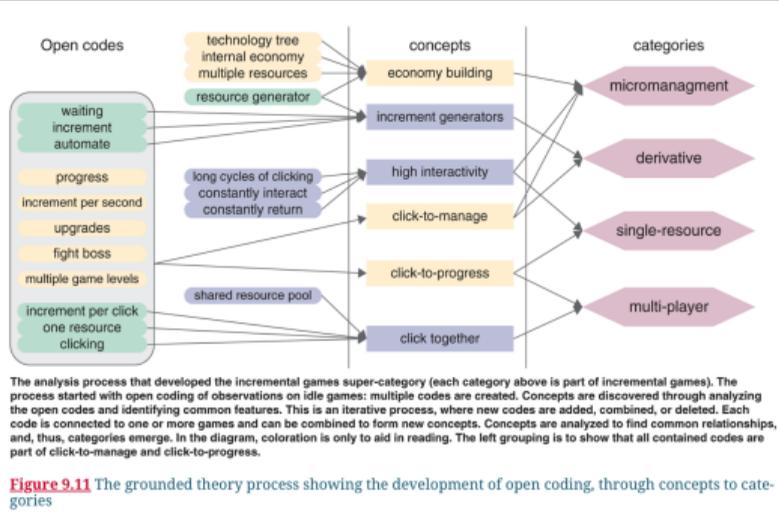
Figure 9.11 The grounded theory process showing the development of open coding, through concepts to categories

Figure 4: Codes and categories: Fig 9.11 Rogers et al. (2023)

Systems-Based Frameworks

- large projects involve many sources of data and stakeholders
- e.g., hospital, corporation, local council, airport, (or university…)
- need ways to understand how the system works together
- manage complex interdependencies
- common theme of management speak: "systems thinking"
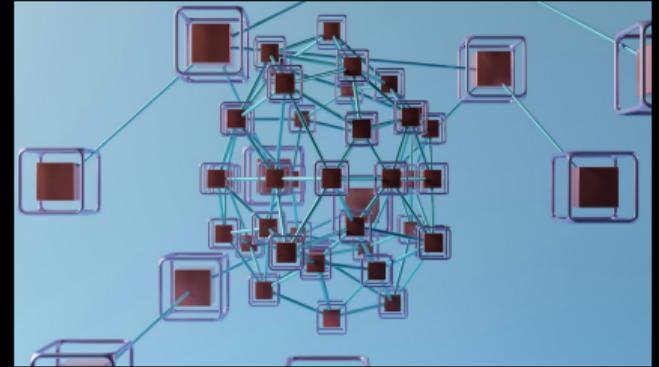
Figure 5: Some kind of system… to be analysed. (Photo by GuerrillaBuzz on Unsplash)

Socio-technical Systems Theory (STS)

- **STS:** technology and people in a work system are interdependent (Klein, 2014)
- treat the whole system as a whole, applied in complex work places.
- More of a philosophy than a methodology, a holistic perspective to address challenges.

Notable aspects:

1. Task interdependence
2. Socio-technical systems are "open systems": influenced by environmental factors
3. Heterogeneity of system components: subsystems have different technical components
4. Practical contributions: analysing systems, evaluating changes, designing co-optimised systems

Distributed Cognition of Teamwork (DiCoT)

- Distributed cognition unpacks how multiple people and technologies interact complete tasks and solve problems.
    - **information flow model**
    - **physical model**
    - **artifact model**
    - **social structure model**
    - **system evolution model**
- models have underlying principles, e.g., for physical model:
    - **horizon of observation:** What an individual can see or hear
    - **perceptual:** How spatial representations aid computation
    - **arrangement of equipment:** arrangement of the environment affects access to information
- useful in collaboration contexts, e.g., software development, medicine

Which Analytical Framework to Use?

framework	data	focus	outcomes	granularity
conversation analysis	spoken conversation recordings	process of conversations	how conversations are processed and progress	words or smaller
discourse analysis	speech or writing	how words convey meaning	implicit or hidden meanings in text	word, phrase
content analysis	written text, video, audio, images	how often something is featured or is spoken about	frequency of items in text	words to artefacts or people
interaction	video of	interactions	how	artifact

Interpreting and Presenting Findings

Figure 6: Here's all the data, enjoy! (Photo by Sear Greyson on Unsplash)

Big Research Writing Tip: Cite your methods

- Applies to research projects in this class and at Honours, master, PhD and research-focussed workplace
- Work with supervisors/mentors/managers to choose methodology and analytical frameworks
- Read and understand the framework from (recent) scholarly sources (not just `nngroup.com`)
- Change and evolution is allowed, but understand that there is a wealth of example and established approaches

Structured Notations

Specific interaction information can be represented in a formal/structured way when presented.

- presenting information through formal notations related to particular domains
- e.g., music applications might involve musical notation or symbolic data formats
- could be related to an analytical framework (e.g., conversation analysis)
- tradeoff between precision and flexibility; structured notation can be precise but potentially less accessible to a reader or limited in scope

Using Stories

Context of use and examples of user experience can be seen as stories or narratives.

- Participants tell stories during data gathering which can illustrate research findings.
- Observations can be framed as stories
- Stories can be written or in the form of storyboards or videos.
- Can be used to support research findings and provide authenticity.

Summarising Findings

Overall advice about findings...

- Multi-modal is often good: combine styles such as stories, plots, data excerpts, numerical tables
- Developing plots and visualisations is critical and hard work, just like crafting text. We spend hours getting it right in Python/R!
- Important to balance the weight of a **claimed finding** against supporting evidence; however, doesn't mean that small studies are not useful.
- Reviewers hate over-generalisation: careful with terms like "most," "all," "majority," and "none" without justification
- Statistical claims require care to avoid misleading the reader

What even is knowledge anyway?

Figure 7: Photo by Patrick Tomasso on Unsplash

What is knowledge?

By this stage, you could be excused for being a bit confused about qualitative research in HCI.

- Research is often defined as "knowledge creation", but it's not always clear *what* that knowledge is in HCI:
  - Is the knowledge from an interview different to a measured interaction?
  - Does our interpretation matter?
  - Do the users have to be objective?
- E.g., if you create a new app, and then evaluate it, can your evaluation ever be objective? (remember you created the app in the first place!)
- Not a new question: *epistemology* is a (philosophy) discipline to understand knowledge.

Epistemology

This may feel firmly off topic, but we need to surface some friction about *knowledge* to properly explain the different approaches in qualitative research.

- **Postivism/Post-positivism** knowledge is true by definition or provable via generalisable methods. The "post" bit accepts qualitative research but emphasise sample size and eliminating bias.
- **Interpretivism:** knowledge can be socially constructed and meaning made by people
- **Critical theory:** examine power structures and hidden inequalities
- **Constructivism:** knowledge is created and shaped by human experience and social interaction, including with the researcher
- **Pragmatism:** apply frameworks that work best to solve the problem (e.g., mixed methods research)
- **New-Materialism:** *things* can create meaning too with HCI defined by intra-action (Barad, 2007) of things and people

Activity: What should this mean to you

- Some aspects of HCI, e.g., "user experience" aren't well uncovered by (post-)positivist frameworks.
- Interpretivist/Constructivist stances more popular in qualitative HCI research.
- New-Materialism/Agential-realism (Barad, 2007) is emerging in HCI as a relevant mode of inquiry
- *but* this has some implications in terms of how findings are described! *Does any of this make sense? What kind of knowledge would you want to deal with?*

Discuss with someone near you for 2 minutes, then let's hear some answers.

Thematic analysis

- Let's get into some more detail how to do *thematic analysis*
- Remember that this is a group of techniques!
- I'll introduce *a* way of doing (reflexive) TA, adapted from Braun & Clarke (2022)

Phases of thematic analysis

1. Familiarise yourself with the data
2. Code the data
3. Initial theme generation
4. theme development and review
5. theme refining, defining and naming
6. writing up

Figure 8: (Braun & Clarke, 2006)

Phase 1: Familiarise yourself with your data

- considered poor practice to jump to *themeing* before understanding the data.
- familiarisation starts during data collection (thinking about the content while/directly after collecting)
- angles for thought: key knowledge, simalarities/differences, surprises, adjustments to interview technique/script.

Reading

- Read data in an active way: search for meaning
- make notes while reading
- familiarise while transcribing
- read and re-read transcripts

Figure 9: Source

26

Phase 2: Code the data

A code is: *a name or label applied to a chunk of data*

- reduces volume of data
- connects data items together.
- remember last week: inductive vs deductive coding (in this class, please do inductive!)
- chunks can have multiple codes
- code choice: short phrase, or a pithy label (shorter than the data it describes!)
- code small chunks: start with each sentence.
- do this *thoroughly*

Figure 10: (Piggott et al., 2015)

The table in Figure 10 contains:

Academic centre vs. distributed sites		
academic vs. distributed sites	solo practice	
Interest in teaching		
perspectives on being a preceptor	past teaching experiences	family vs specialist teaching
Financial considerations		
financial considerations		
Administrative barriers		
hospital administration barriers	work environment and space	medical school administration barriers
Medical experience and knowledge currency		
teaching about ambiguous cases	medical knowledge	their own medical education
Practice environment and schedule		
excuses not to teach	practice is too busy	rhythm of practice/time since school
takes time away from family obligations	teaching takes time/slows you down	scheduling
Training on teaching		
availability of CME	teaching about teaching	challenges as a new preceptor
teaching experience in residency		
Setting up systems for learners in distributed campus settings		
rewards of teaching	unsure of learner roles	suggestions to improve teaching
Student engagement and medical learner level		
learners that are interested	teaching medical students versus residents	challenges as a learner

What to look for when coding?

- initial coding: lots of new codes
- later: reuse existing codes.
- length: sometimes *one word* can be too general (links too much data)
- don't overlook data: code the obvious

Example codes for "uncertainty"

- "uncertainty about what to do next"
- "uncertain about whether command was received"
- "uncertain about whether information is true"
- "uncertain whether other options would be better"

Figure 11: (Lazar et al. 2017, p.312)

28

Coding your data in a text editor

Coding transcripts takes practice, but this activity will give you an idea of the kinds of decisions involved in applying categories. Our coded extract is shown here:

[Well, looking at the map, again there's no obvious start point **UP 1.2, 2.2**], [there should be something highlighted that says 'start here' **UP 1.1, 1.10**].

Ok, the next keyword that's highlighted is evaluating, but [I'm not sure that's where I want to go straight away **UP 2.2**], so I'm just going to go back to the introduction.

Yeah, so I probably want to read about usability problems before I start looking at evaluation. So, I, yeah. [I would have thought that the links in each one of the pages would take you to the next logical point, but my logic might be different to other people's **UP 1.3**]. Just going to go and have a look at usability problems.

Ok, again I'm going to flip back to the introduction. [I'm just thinking if I was going to do this myself I would still have a link back to the introduction, but I would take people through the logical sequence of each one of these bits that fans out, rather than expecting them to go back all the time **UP 1.10**].

Going back . . . to the introduction. [Look at the types. Observation, didn't really want to go there. What's this bit [pointing to Types of UE on map]? **UP 2.2**] Going straight to types of . . .

Figure 12: (Rogers et al., 2023)

1. **Interface Problems**
   1.1. Verbalizations show evidence of dissatisfaction about an aspect of the interface.
   1.2. Verbalizations show evidence of confusion/uncertainty about an aspect of the interface.
   1.3. Verbalizations show evidence of confusion/surprise at the outcome of an action.
   1.4. Verbalizations show evidence of physical discomfort.
   1.5. Verbalizations show evidence of fatigue.
   1.6. Verbalizations show evidence of difficulty in seeing particular aspects of the interface.
   1.7. Verbalizations show evidence that they are having problems achieving a goal that they have set themselves, or the overall task goal.
   1.8. Verbalizations show evidence that the user has made an error.
   1.9. The participant is unable to recover from error without external help from the experimenter.
   1.10. The participant suggests a redesign of the interface of the electronic texts.
2. **Content Problems**
   2.1. Verbalizations show evidence of dissatisfaction about aspects of the content of the electronic text.
   2.2. Verbalizations show evidence of confusion/uncertainty about aspects of the content of the electronic text.
   2.3. Verbalizations show evidence of a misunderstanding of the electronic text content (the user may not have noticed this immediately).
   2.4. The participant suggests re-writing the electronic text content.

Identified problems should be coded as [UP, << problem no. >>].

Figure 13: (Rogers et al., 2023)

Types of codes

- In vivo codes: based on the literal words of a participant (Given, 2008)
- Researcher denoted: based on the researcher's interpretation
- Semantic: surface level, close to in vivo but may not be exact words
- Latent: based on deeper interpretation of data

Code book

- Some qualitative research involves collecting codes in a document and sharing between researchers
- Researchers argue this can help eliminate bias
- Controls on number and type of codes, aim for consistency and repeatability
- Often not recommended in reflexive thematic analysis

Table 2. Sample Data-Driven Codes, Definitions, and Examples

Code	Description	Example
Other influences on teachers	Teacher refers to influences on her practice and/or thinking (e.g., former professors, colleagues, students, other professional development experiences, etc.) excluding NMD	"You know, one of my professors at Meredith had the saying—and I've kind of forgotten it except the last part that said children can't understand math' til they hold it in their hand. And that has kind of been my guiding force the, you know, the years I've been teaching."
Curricular references	Teacher makes direct/indirect or general/specific references to curriculum (e.g., Standard Course of Study, pacing guides, Trailblazers, Every Day Math, etc.)	"At my grade level, I think I know the curriculum"
Pedagogical struggles	Teacher expresses uncertainty, lack of clarity, and/or concern, about some aspect of the "how, what, or when" of classroom practice	"But my concern is, you know, two years down the road, is there going to be some stepping-stone that we've missed, that's going to put that concrete fact . . . the child doesn't have. So that's probably my biggest concern."

Figure 14: Example of code book entries (DeCuir-Gunby et al., 2011, p. 147)

31

Let's code some interview data.

> ***David*** *is explaining how orders groceries*
> *online.*

Use the poll everywhere link to code statements and we will see them all together. We'll code each statement for 1 minute and then discuss the results.

Figure 15: PollEverywhere link: https: //pollev.com/charlesmarti205

A theme:
"A theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set" (Braun and Clarke 2006, p.82)

How do we find them?

In this class:
1. Use affinity diagrams to cluster codes / data extracts
2. Look for patterned responses/meanings (may help to write higher level codes)
3. *prototype* themes that capture "something important" (may help to promote a code)
4. Refine and question your themes and codes, not all themes are well-supported by data.
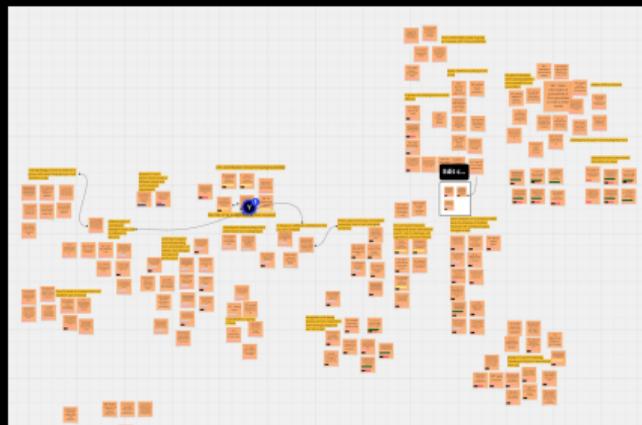
Figure 16: A Miro board from Yichen Wang's thematic analysis (2025)

Themes do not emerge

Braun and Clarke *insist* that "themes do not emerge", (Braun & Clarke, 2022)

- themes are created by the researcher, not exacavated from the data
- work goes into analysing data and deciding on themes that can be supported
- when folks write "themes emerged", it's as if the themes were either there to begin with or developed themselves.

Terry & Hayfield (2021) suggest approaching themeing by *prototyping*, an iterative process where "the goal isn't to finish".

Emma Conway, PhD
@emmaconwayyue

When your interests converge... #thematicanalysis @jinnybraun @drvicclarke

themes
do not
emerge

11:55 AM · Dec 30, 2021

Figure 17: Themes do not emerge is a bit of a meme.

Code Hierarchies

- Some TA methods suggest hierarchies of codes to find themes.
- I suggest: codes, sub- or prototype-themes, then themes
- In this example, are the themes thick or thin?
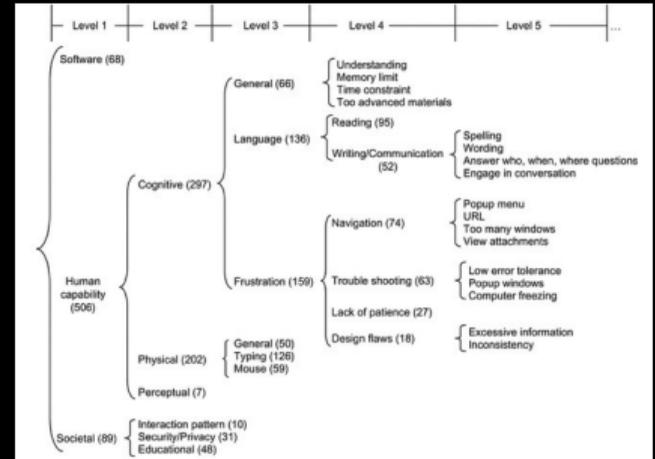
Figure 18: (Lazar et al., 2017)

Phase 4: Develop and review themes

Are your themes good? Test them.
- Are themes supported by (enough) data?
- Answer your research question?
- Provide strong organising concepts?
- Conceptually rich? (Could you write 500 words about each?)
- Do the themes reflect the overall meaning of the data set?

Figure 19: Are your themes bucket-y? (Photo by Ella Ivanescu on Unsplash)

Thin vs thick themes

There are different types of themes, and a common distinction:

- Themes that categorise groups of codes: bucket themes, semantic themes, *thin* themes
- Themes that interpret the codes, revealing hidden information: latent themes, *thick* themes

Charles (2025; i.e., these slides!) suggests that **4** is a key heuristic for assessing theme thickness. (Disclaimer: may be revised in future!)

Number of words heuristic:
If your theme is <4 words, it might be a bit thin.

Number of themes heuristic:
If you are proposing >4 themes, they might be a bit thin.

Source: Charles, 2025. 😬

Phase 5: Refine and name themes

- Does your theme name reflect its 'essence'?
- Does the theme contain subthemes?
- Are your theme names descriptive but concise?
- Can you describe your theme in a couple of sentences?

EXHIBIT 4.1. A Thematic Definition for the Person Centred Care Study

Relational Orientation in Care

This theme identifies that the therapeutic relationship and "success" with a client move beyond a set of tasks (and sometimes even initial clinical outcomes), treating the relationship as a priority. The therapeutic relationship is not then understood as a welcome addition to rehabilitation, but the basis of it. Participants often identified that what seems to be a dead end of improvement in the physical sphere can result in un-acknowledged possibilities across others. Practitioners who were considered "good" by participants often engaged with the client in ways that moved beyond the task or program, motivating them through the relationship built up between them. In contrast, "doctators" treated their clients as a set of tasks or parts of a body that needed to be repaired. Depth of relationship (or perception of such) had the potential to enable greater engagement, high levels of motivation, and a willingness to participate in tasks that seemed difficult or mundane.

Figure 20: Theme example from Terry & Hayfield (2021)

Activity: Let's theme

Let's cluster some codes from the HCI grocery interview.

- Use this miro board link: https://quicklink.anu.edu.au/o095

This is fairly uncontrolled so be kind 😇

1. Yellow notes are "codes", cluster them.
2. Make red notes to represent prototype themes.

Cluster for 2-3 minutes, discuss, theme for 2-3 minutes, discuss.

Figure 21: Miro Board sharing link (QR code)

Phase 6: Write up a report

- determine the narrative for your themes
- include quotes and examples from your data
- include analysis: an argument in relation to your research question
- in your user research project: support themes with data
- in your final project: present design implications arising from the themes

Truly novel value creation centers on being able to reach a previously inaccessible environment with a versatile imaging device, as P9 articulates *"We have a person who's been looking at detecting old land mines from heat signatures so rescue scenarios, not putting people into these things. So the whole range of things where drones are coming in and people are becoming a back step. A lot of the time for safety reasons."* And though the physical nature of aerial imaging might be novel, it often connects to existing business concerns:

> *In forestry, there are a lot of contractors who work, there are fellers, and there are machine operators, and someone buys timber and it has to be transported out of the forest, and so on. Then it can also be partly for the landowner to document that: "I am not happy with this job. There are folds here that have become clogged. There are logs here."*
> *Then the landowner may take pictures with drones and send the contractor. And even the opposite, a contractor can say: "Now we have done what we can." Many forest owners are certified and have a set of rules to follow, then they can show: "When we left this forest area, we followed everything according to the certification. Here is the documentation." So, photo and film from drones, which shows clearly. Then they are covered.* [P3]

Some applications are linked closely to peripheral technologies, e.g. computer graphics, and machine learning. P6 works with real estate, where they were working on combining 3D exterior drone maps with 3D interior scans of commercial real estate. This way, stakeholders would be able to take "virtual tours" where both exteriors and interiors are connected and appear realistic.

Figure 22: (Ljungblad et al., 2021)

41

Reflexive Thematic Analysis Bingo (Braun & Clarke, 2022)

A bingo card of potential researcher problems with (R)TA… which make sense so far?

B	I	N	G	O
Mentions inter-coder reliability	Implicitly (post-)positivist TA (not acknowledged)	More than 3 levels of themes	Mention of a lack of (statistical) generalisability	Messy mix of realism and constructionism
Unacknowledged social cognitions (e.g., attitude or body	Themes are thin - just single idea (a code)	Themes do not have a central organising concept	"Themes emerged"	Data collection stopped at "saturation"

Reflexivity

Figure 23: Reflections by Charles, 2023

What is reflexivity?

- turns back on or accounts for the person's self
- analytic attention to the researcher's role in research
- continual dialogue and critical self-evaluation of positionality
- honouring oneself and others through awareness
- thoughtful, conscious self-awareness
- using subjectivity to examine social and psychosocial phenomena
- attending to the context of knowledge production

Table 1. Commonly cited definitions of reflexivity from the field of qualitative research. (Table view)

Reference	Definition
(Walsh 2003)	"That which turns back upon (or takes account of) itself or the person's self"
(Dowling 2006)	"The analytic attention to the researcher's role in qualitative research. A continuous self-critique and self-appraisal where the researcher explains how his or her own experience has or has not influenced the stages of the research process."
(Gentles et al. 2014)	"The generalized practice in which researchers strive to make their influence on the research explicit - to themselves and to their audience."
(Finefter-Rosenbluh 2017)	"A continual internal dialogue and critical self-evaluation of the researcher's positionality (Pillow 2003), which leaves the researcher changed in its wake (Mauthner and Doucet 2003)."
(Russell and Kelly 2002)	"A process of honoring oneself and others in our work through an awareness of the relational and reflective nature of the task."
(Finlay 2002b)	"A thoughtful, conscious self-awareness that encompasses continual evaluation of subjective responses, intersubjective dynamics and the research process itself"
(Kuehner et al. 2016)	"A strategy of using subjectivity to examine social and psychosocial phenomena, assuming that social discourses are inscribed in and social practices are embodied by the researcher."
(Malterud 2001)	"Attending systematically to the context of knowledge construction, especially to the effect of the researcher at every step of the research process."

Figure 24: (Olmos-Vega et al., 2023)

What is reflexivity in HCI?

- researcher is a non-objective instrument! (to detect phenomena such as "user experience", among others)
  - "an individual's experiences and background make up a unique perspective on the world... influences how they interact with participants" (Liang et al., 2021)
  - "Reflexivity calls upon researchers to self-reflect and understand their own possible biases, their role in power relations, and how these factors might manifest in their work" (Liang et al., 2021)

Positionality

- "how a researcher's perspective compares to others' perspectives" (Liang et al., 2021)
- not necessarily about disclosing your identity
- disclosing, or examining the aspects of the researcher that is relevant to understand their situated context

45

What is reflexivity in HCI?

Burroway's definition (Rode, 2011):

1. reflexivity, unlike positivism, embraces intervention as a data gathering opportunity
2. reflective texts aim to understand how data gathering impacts the quality of the data itself. This approach "commands the observer to unpack those situational experiences by moving with the participants through their time and space"
3. reflexive practitioners attempt to find structural patterns in what they have observed, and fourth, in doing so they extend theory

Types of reflexivity

- **Personal Reflexivity:** how are our (*you!*) unique perspectives influencing the research?"
- **Interpersonal Reflexivity:** what relationships exist and how are they influencing the research and the people involved? What power dynamics are at play?
- **Methodological Reflexivity:** How are we making methodological decisions and what are their implications?"
- **Contextual Reflexivity:** How are aspects of context influencing the research and people involved?

(Olmos-Vega et al., 2023)

Box 3. Interpersonal reflexivity (Table view)

Interpersonal Reflexivity: Power	I was an insider during my study of clinical supervision. But I was not just any insider: I was a clinical supervisor in the department in which we conducted the study. In other words, the participants were colleagues I worked with and residents I supervised. I also did my residency
Ask yourself: what relationships exist and how are they influencing the research and the people involved? What power dynamics are at play?	training in the same department, which meant that most of my colleagues had been my supervisors at some point. Consequently, my interactions in the research space were influenced by experiences as a supervisor and as a (former) resident. I had to carefully think through and document how these existing relationships and my position in the context impacted my data and the context itself. For example, being known in the context gave me access to many participants; however, I had to mediate any pre-existing differences of opinion with or feelings about the supervisors and/or residents to uncover their clinical supervision experiences. In addition, I had to consider how existing power dynamics were shaping my interactions with residents—e.g. would they highlight the more positive experiences they had with me as a supervisor, or would those who did not like my supervisory style avoid participating in the study as a result of our previous encounters? Different dynamics shaped my interactions with supervisors—e.g. some of my former supervisors could have felt pressure to ascribe to my views on supervision or may have felt that they were being evaluated.

Statement of Positionality – Example

3.4 Author Positionality

In this section, we lay out the research team's values, epistemologies, and backgrounds so that readers can approach our findings and analysis with more clarity.

The views of the first author, CAL, are highly represented throughout this work—in developing the surveys and interviews, in conducting the interviews, and in analyzing and reporting on the data. They have sought to move away from their positivist training and now follow an interpretivist form of inquiry that builds knowledge, rather than one that sets out to prove it [127]. They value the co-construction of knowledge with participants and emphasize the importance of sharing lived experiences as a conduit of knowledge. This is shown through our research questions that are meant to explain a current variety of approaches to work with marginalized people in HCI (summative) and inform the future of such research (formative) [52]. They have seen how some HCI researchers have built systems for marginalized people without considering ways to truly partner with them in the research. They have also had first-hand experience with discrimination and harm based on their identities. From this, the first author values the knowledge of marginalized people and sees working with marginalized people as a requirement. Simultaneously, the first author holds different, interweaving identities, some marginalized and others that have granted him more privilege than others. It is through this unique combination of identities and understanding as both the oppressed and the oppressor that they have pursued and carried out this work.

SM was trained in systems engineering and information, and has designed and evaluated many systems, especially those either designed or appropriated to support health and well-being with a focus on personal data tracking. Critics, including SM and collaborators, have pointed out the tendency of these technologies to better support people who have more resources and to perpetuate norms, leading to both intervention-generated inequalities and further marginalizing people. While these have been concerns of SM's work, he has also made mistakes that contribute to inequities or further marginalization (cf., critique of Epstein et al. [54] in Keyes et al. [103]), and had a goal for this project of learning, with and from others in the field, how to do better.

Figure 25: (Liang et al., 2021)

JK comes from a computer science and HCI background and has experience in designing and evaluating a wide range of technologies using a human-centered design approach, including those intended for use by people with disabilities and from marginalized backgrounds. She has first-hand experience in seeing how different levels of engagement with different populations can impact the appropriateness of design ideas and potential for exploitation of marginalized people in human-centered design research. She has also worked on projects where she has been both a member and non-member of the intended population and, like SM, had a similar goal with this work of learning to do better and be more intentional and equitable in how marginalized people are centered in HCI research.

Much of this work is motivated by the research team's commitments to social justice and frustration with how marginalized voices have been and continue to be treated both in HCI research and in the world beyond. Further, the research team comes from a department that values the human-centered process in research and the thoughtful engagement of sociotechnical systems. They are positioned in an academic institution that is well-known in the HCI community, which influences their networks and potential responses to our work. They also recognize that it is a privilege to be able to reflect and focus on healing instead of survival, even just for a moment.

Figure 26: (Liang et al., 2021)

Activity: Positionality statement (in a sentence)

Let's try it:

What is your 1-sentence statement of positionality as a researcher?

Use the poll everywhere link to provide it.

Figure 27: PollEverywhere link: https://pollev.com/charlesmarti205

Why should you care about reflexivity?

- Considering researcher's perspective is important part of developing *thick* themes.
- Needed to address challenges of subjectivity in HCI research.
- Positionality statement and reflexive consideration required for postgraduates (COMP6390) in Final Project!

Who has a question?

- I can take *cathchbox* question up until 2:55
- For after class questions: meet me outside the classroom at the bar (for 30 minutes)
- Feel free to ask about **any aspect of the course**
- Also feel free to ask about **any aspect of computing at ANU**! I may not be able to help, but I can listen.

Figure 28: Meet you *at the bar* for questions. 🍸🥛🍵☕🫖
Unfortunately no drinks served! 🙃

References

Alharthi, S. A., Alsaedi, O., Toups Dugas, P. O., Tanenbaum, T. J., & Hammer, J. (2018). Playing to wait: A taxonomy of idle games. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–15. https://doi.org/10.1145/3173574.3174195

Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. duke university Press.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. Sage Publications.

Corbin, J. M., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. SAGE Publications.

DeCuir-Gunby, J. T., Marshall, P. L., & McCulloch, A. W. (2011). Developing and using a codebook for the analysis of interview data: An example from a professional development research project. *Field Methods*, *23*(2), 136–155. https://doi.org/10.1177/1525822X10388468

Galser, B. G., & Strauss, A. (1967). *Discovery of grounded theory*. Aldine, London.

References iii

Given, L. M. (2008). In vivo coding. *The SAGE Encyclopedia of Qualitative Research Methods*, *2*.
https://www-doi-org.virtual.anu.edu.au/10.4135/9781412963909.n240

Jordan, B., & Henderson, A. (1995). Interaction analysis: Foundations and practice. *Journal of the Learning Sciences*, *4*(1), 39–103.
https://doi.org/10.1207/s15327809jls0401/_2

Klein, L. (2014). What do we actually mean by "sociotechnical"? On values, boundaries and the problems of language. *Applied Ergonomics*, *45*(2), 137–142.

Lazar, J., Feng, J. H., & Hochheiser, H. (2017). *Research methods in human-computer interaction*. Morgan Kaufmann.

Liang, C. A., Munson, S. A., & Kientz, J. A. (2021). Embracing four tensions in human-computer interaction research with marginalized people. *ACM Trans. Comput.-Hum. Interact.*, *28*(2). https://doi.org/10.1145/3443686

Ljungblad, S., Man, Y., Baytaş, M. A., Gamboa, M., Obaid, M., & Fjeld, M. (2021). What matters in professional drone pilots' practice? An interview study to understand the complexity of their work and inform human-drone interaction research. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. https://doi.org/10.1145/3411764.3445737

Olmos-Vega, F. M., Stalmeijer, R. E., Varpio, L., & Kahlke, R. (2023). A practical guide to reflexivity in qualitative research: AMEE guide no. 149. *Medical Teacher*, *45*(3), 241–251. https://doi.org/10.1080/0142159X.2022.2057287

Piggott, T., Morris, C., & Lee-Poy, M. (2015). Preceptor engagement in distributed medical school campuses. *Canadian Medical Education Journal*, *6*(2), e20. https://pubmed.ncbi.nlm.nih.gov/27004073

Porcheron, M., Fischer, J. E., Reeves, S., & Sharples, S. (2018). Voice interfaces in everyday life. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–12. https://doi.org/10.1145/3173574.3174214

Rode, J. A. (2011). Reflexivity in digital anthropology. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 123–132. https://doi.org/10.1145/1978942.1978961

Rogers, Y., Sharp, H., & Preece, J. (2023). *Interaction design: Beyond human-computer interaction, 6th edition*. John Wiley & Sons, Inc. https://quicklink.anu.edu.au/kv9b

Terry, G., & Hayfield, N. (2021). *Essentials of thematic analysis.* American Psychological Association.