Week 7: Qualitative Data Analysis

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Part of slidedeck inspired by Dr Kami Vaniea

Analysing qualitative data

Why do we need to analyse data?

We analyse data to:

- Make sense of the data we have collected
- Identify meaningful, interesting, and valuable findings
- Translate findings into design specifications, guidelines, recommendations

Types of Data

Quantitative Data:

- Information that can be quantified or expressed as numbers
- Examples include responses to closed questions, time taken to complete task, error rate, log data, etc.

Qualitative Data:

- Difficult to measure as numbers
- Examples include descriptions such as field notes, responses to open ended questions, interview transcripts, think aloud talk, etc.

How to analyse qualitative data

- Qualitative data analysis involves organising large volumes of data into categories on the basis of codes, themes, concepts or similar features
- Often analysis starts as soon as data collection starts

Methods:

- Thematic analysis
- Content coding
- Topic modelling

Thematic Analysis

Thematic Analysis of Qualitative User Research Data

https://youtu.be/KUZ6iGvJlGI

Thematic Analysis

"Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail" (Braun and Clarke 2006).

A six-step method for identifying, analysing and reporting patterns (themes) within data in response to a research question:

- Familiarise yourself with the data
- Generate initial codes
- Search for themes
- Review themes
- Refine and name themes
- Produce the report

Thematic analysis is a practical method used across UX industry and research

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3,* 77-101.
https://www.researchgate.net/publication/235356393_Using_Thematic_Analysis_in_Psychology

https://www.nngroup.com/articles/thematic-analysis/

Phase 1: Familiarise yourself with the data

Transcribe verbal data

Immerse yourself in the data: read and re-read transcripts, notes etc

Read data in an active way: search for meaning, patterns, etc, and take notes about ideas for coding

Phase 2: Generate initial codes

Codes identify a feature of the data that is important or interesting or meaningful to your research question

- A code is a word or a short phrase that describes a piece of data - essentially a label
- Codes can indicate the subject of a comment, the nature of a comment, feelings or emotions, etc
- Each item can have multiple codes

Inductive (bottom up) and deductive (top down) coding

Activity 1: Code data by applying existing codes

See handout

Apply the list of codes to the text in the transcript extract from a user study about using an online educational environment

Activity 2: Generate Codes

See handout

Work in groups of 3-4

Annotate on paper

Phase 3: Search for themes

All data have been initially coded

Group similar codes together into overarching themes

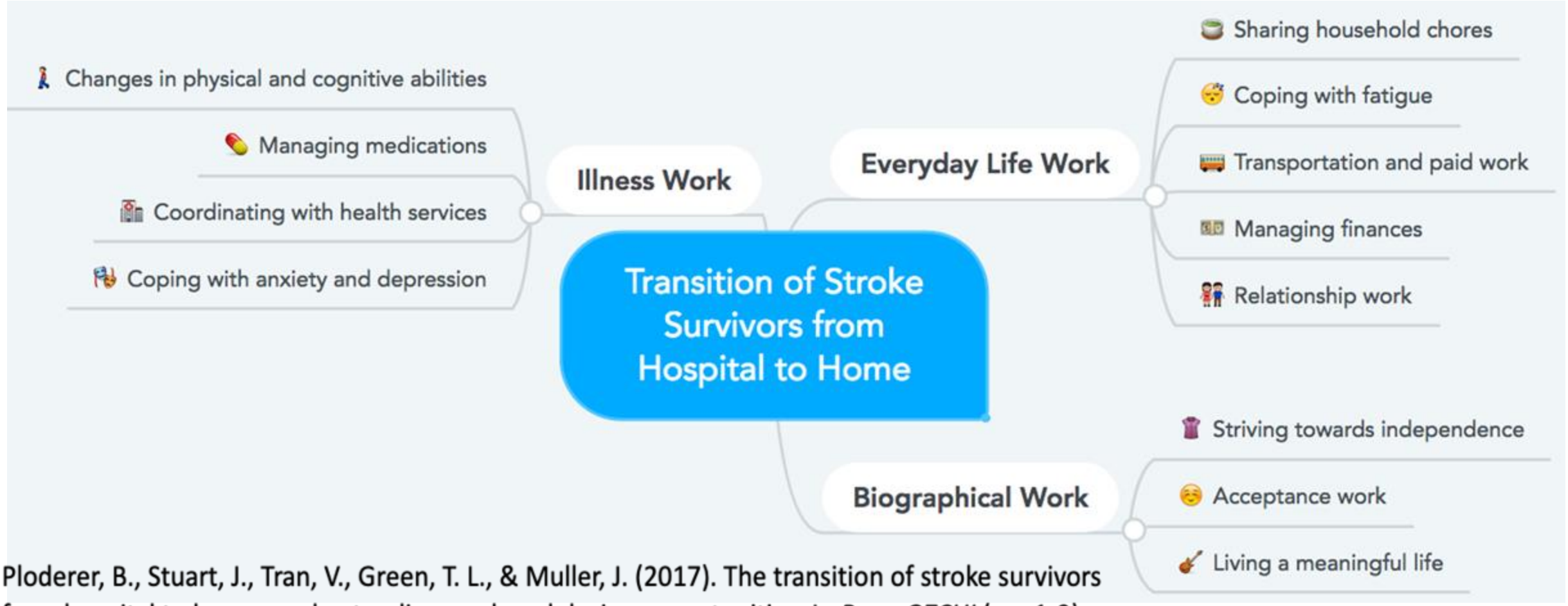
-Some initial codes may form main themes, others may become sub-themes, others may be discarded

-Group codes through an affinity diagram

Affinity diagram process:

1. Write one code per post-it note
2. Place notes on surface and add similar notes in close proximity
3. Keep revising arrangements
4. Name each group

Example: codes and themes to describe the experience of stroke survivors in their transition from hospital to their homes



Ploderer, B., Stuart, J., Tran, V., Green, T. L., & Muller, J. (2017). The transition of stroke survivors from hospital to home: understanding work and design opportunities. In *Proc. OZCHI* (pp. 1-9). https://doi.org/10.1145/3152771.3152772

Activity 3: Group codes into themes

Create an affinity diagram to group your codes from Activity 2 into themes

1. 1 code per post-it note
2. Bring post-it notes down to the front
3. Place similar codes together
4. Give each group/theme a label

Phases 3-6: Review themes, refine and name themes, and produce the report

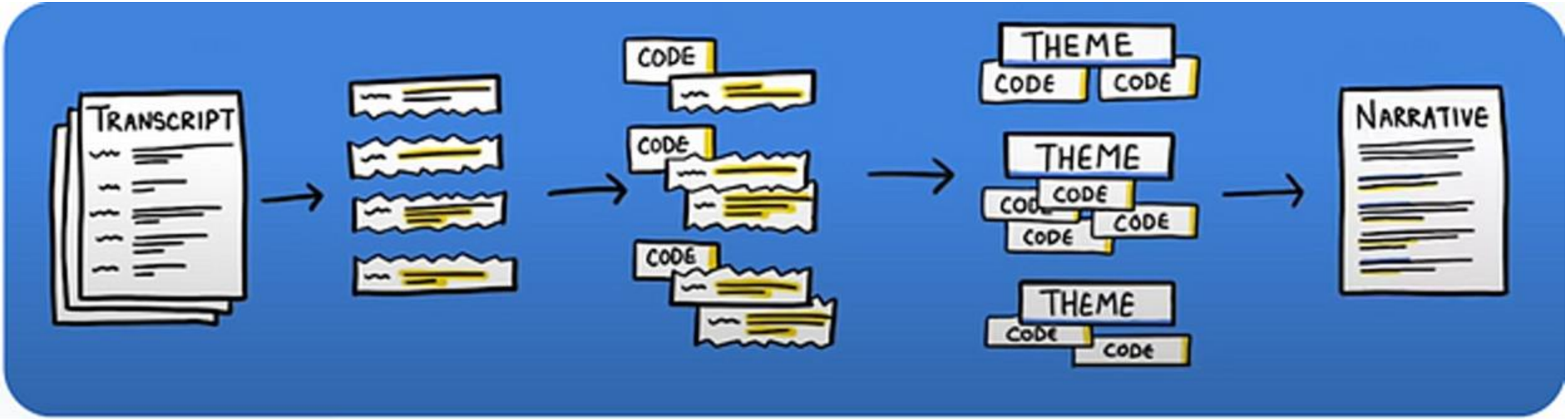


Image source https://medium.com/@aalaa.m.abdou/thematic-analysis-in-depth-ux-research-part-%E2%85%B0-6cbeca890aaa

Tools to support qualitative analysis

Start coding on paper as you have more flexibility

You can add codes as comments in Word or through a separate column in Excel

Online whiteboards such as Miro

Analysis tools such as Nvivo

Any questions?

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Part of slidedeck inspired by Dr Kami Vaniea