

Qualitative Studies

September 17, 2018

Slides adapted (with permission) from Dr. Carman Neustaedter

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Next Class

Wednesday (Sept 19):

We will assign presenters to readings (2 per student)

Look through the syllabus ahead of time

www.cs.umanitoba.ca/~bunt/COMP7920

Bring copy of syllabus / preferences to class

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Today

Qualitative research

Analysis methods

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Qualitative Research Methods

Interviews

Ethnographic / Observations

Participatory design sessions

Field deployments

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Qualitative Research Goals

Meaning: how people see the world

Context: the world in which people act

Process: what actions and activities people do

Reasoning: why people act and behave the way they do

Maxwell, 2005

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Quantitative vs. Qualitative

- | | |
|--|--|
| • Explanation through numbers | • Explanation through words |
| • Objective | • Subjective |
| • Deductive reasoning | • Inductive reasoning |
| • Predefined variables and measurement | • Creativity, extraneous variables |
| • Data collection before analysis | • Data collection and analysis intertwined |
| • Cause and effect relationships | • Description, meaning |

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Quantitative vs. Qualitative

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Quantitative vs. Qualitative

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|---|---|
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Getting 'Good' Qualitative Results

Depends on:

The quality of the data collector

The quality of the data analyzer

The quality of the presenter / writer

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Qualitative Data

Written field notes

Audio recordings of conversations

Video recordings of activities

Diary recordings of activities / thoughts

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Qualitative Data

Depth information on:

thoughts, views, interpretations

priorities, importance

processes, practices

intended effects of actions

feelings and experiences

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Analysis Methods

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Data Analysis

Open Coding

Systematic Coding

Affinity Diagramming

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General Analysis Strategies

Circulate notes and transcriptions among research team members

Hold analysis sessions

Identify patterns: in behaviour, events, artifacts, within and across individuals

Triangulate data where possible

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Open Coding

Treat data as answers to open-ended questions

- ask data specific questions
- assign codes for answers
- record theoretical notes

Strauss and Corbin, 1998, Ron Wardell, EVDS 617 course notes

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Example: Calendar Routines

Families were interviewed about their calendar routines

- What calendars they had
- Where they kept their calendars
- What types of events they recorded
- ...

Written notes

Audio recordings

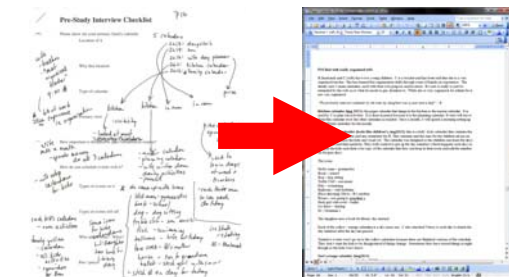
Neustaedter, 2007

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Example: Calendar Routines

Step 1: translate field notes (optional)



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Example: Calendar Routines

Step 2: list questions / focal points

- Where do families keep their calendars?
- What uses do they have for their calendars?
- Who adds to the calendars?
- When do people check the calendars?
- ...

(you may end up adding to this list as you go through your data)

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Example: Calendar Routines

Step 3: go through data and ask questions

B (husband) and C (wife) have two young children. C is a teacher and has been told that she is a very organized teacher. She has learned her organization skills through years of hands-on experience. The family uses 5 main calendars, each with their own purpose and location. B's role is really to just be reminded by his wife as to what he needs to pay attention to. While she is very organized, he admits he is not very organized.

"We probably had our calendar by the time my daughter was a year and a half." - B

Kitchen calendar (img 2611): the paper calendar that hangs in the kitchen is the master calendar. It is used by C to plan out activities. It is done in pencil because it is the planning calendar. Events will move from this calendar on to the other calendars as needed. Once a month, C will spend a morning setting up the different calendars for the month.

Orange family calendar (looks like children's, img2612): this is a kids' style calendar that contains the activities for the children and any reminders for B. This calendar and the ones for the children all use an icon system because the kids can't read yet. The calendar was designed so the children can learn the days of the week and their numbers. They both wanted to put up the day numbers (which happens each day) so C made the kids each their own copy of the calendar that they can keep in their rooms and add the number on for past days.

Where do families keep their calendars?

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Example: Calendar Routines

Step 3: go through data and ask questions

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Calendar Locations:

[KI] – the kitchen

Where do families keep their calendars?

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Example: Calendar Routines

Step 3: go through data and ask questions

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Calendar Locations:

[KI] – the kitchen
[CR] – child's room

Orange family calendar (looks like children's, img2612): this is a kids' style calendar that contains the activities for the children and any reminders for B. This calendar and the ones for the children all use an icon system because the kids can't read yet. The calendar was designed so the children can learn the days of the week and their numbers. They both wanted to put up the day numbers (which happens each day) so C made the kids each their own copy of the calendar that they can keep in their room and add the number on for past days.

[CR]

Where do families keep their calendars?

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Example: Calendar Routines

Step 3: go through data and ask questions

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[CR]

Continue for the remaining questions....

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Example: Calendar Routines

The result:

- list of codes
- frequency of each code
- a sense of the importance of each code

- frequency != importance

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Example 2: Calendar Contents

Pictures were taken of family calendars



Neustaedter, 2007

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Example: Calendar Contents

Step 1: list questions / focal points

- What type of events are on the calendar?
- Who are the events for?
- What other markings are made on the calendar?
- ...

(you may end up adding to this list as you go through your data)

Example: Calendar Contents

Step 2: go through data and ask questions



What types of events are on the calendar?

Example: Calendar Contents

Step 2: go through data and ask questions



Types of Events:
[FO] – family outing

What types of events are on the calendar?

Example: Calendar Contents

Step 2: go through data and ask questions

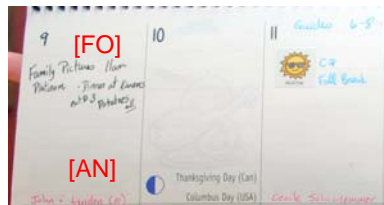


Types of Events:
[FO] – family outing
[AN] - anniversary

What types of events are on the calendar?

Example: Calendar Contents

Step 2: go through data and ask questions



Types of Events:
 [FO] – family outing
 [AN] - anniversary

Continue for the remaining questions....

Reporting Results

Find the main themes

Use quotes / scenarios to represent them

Possibly, but not necessarily:

Include counts for codes

Data Analysis

Open Coding

Systematic Coding

Affinity Diagramming



Systematic Coding

Categories are created ahead of time

from existing literature

from previous open coding

Code the data just like open coding

Data Analysis

Open Coding

Systematic Coding

Affinity Diagramming



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Affinity Diagramming

Goal: what are the main themes?

Write ideas on sticky notes

Place notes on a large wall / surface

Group notes hierarchically to see main themes

Holtzblatt et al., 2005

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Example: Calendar Field Study

Families were given a digital calendar to use in their homes

Thoughts / reactions recorded:

Weekly interview notes

Audio recordings from interviews

Neustaedter, 2007



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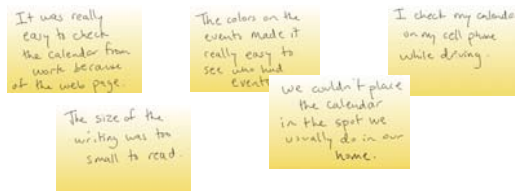
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Example: Calendar Field Study

Step 1: Affinity Notes

go through data and write observations down on post-it notes

each note contains one idea



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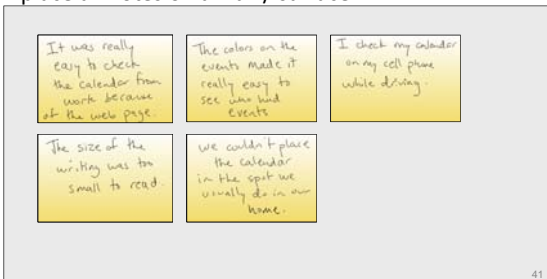
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Example: Calendar Field Study

Step 2: Diagram Building

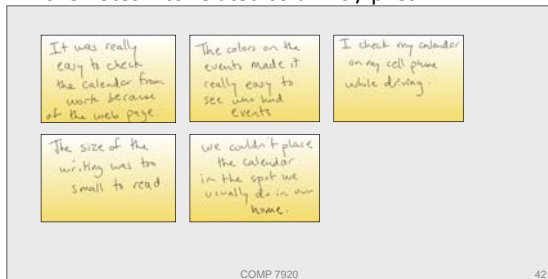
place all notes on a wall / surface



Example: Calendar Field Study

Step 3: Diagram Building

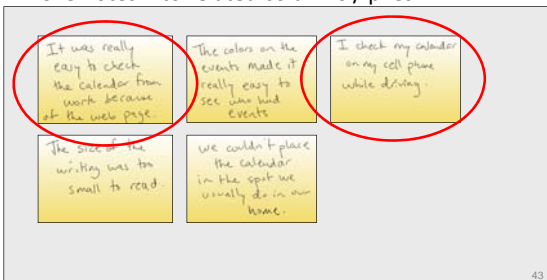
move notes into related columns / piles



Example: Calendar Field Study

Step 3: Diagram Building

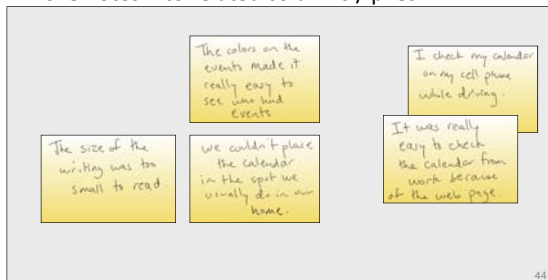
move notes into related columns / piles



Example: Calendar Field Study

Step 3: Diagram Building

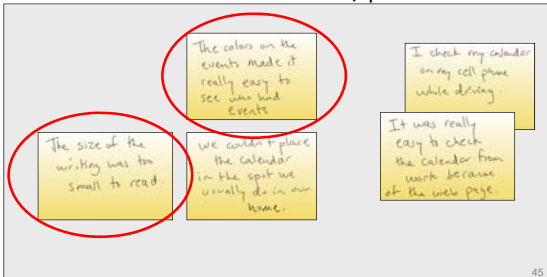
move notes into related columns / piles



Example: Calendar Field Study

Step 3: Diagram Building

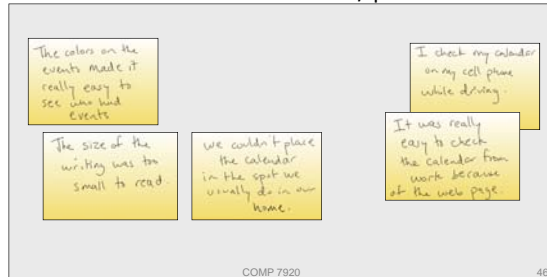
move notes into related columns / piles



Example: Calendar Field Study

Step 3: Diagram Building

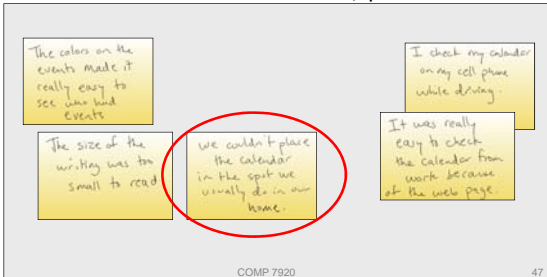
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Example: Calendar Field Study

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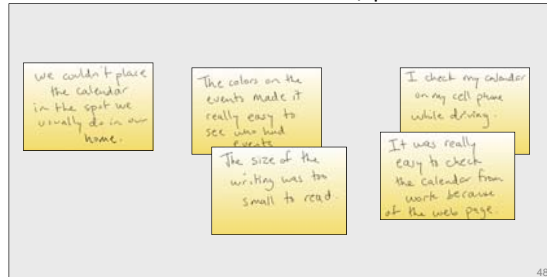
move notes into related columns / piles



Example: Calendar Field Study

Step 3: Diagram Building

move notes into related columns / piles



Example: Calendar Field Study

Step 4: Affinity Labels

write labels describing each group

we couldn't place the calendar in the spot we usually do in our home.

The colors on the events made it really easy to see who had events.

The size of the writing was too small to read.

I check my calendar on my cell phone while driving.

It was really easy to check the calendar from work because of the web page.

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Example: Calendar Field Study

Step 4: Affinity Labels

write labels describing each group

Calendar placement is a challenge

we couldn't place the calendar in the spot we usually do in our home.

The colors on the events made it really easy to see who had events.

The size of the writing was too small to read.

I check my calendar on my cell phone while driving.

It was really easy to check the calendar from work because of the web page.

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Example: Calendar Field Study

Step 4: Affinity Labels

write labels describing each group

Calendar placement is a challenge

Interface visuals affect usage

we couldn't place the calendar in the spot we usually do in our home.

The colors on the events made it really easy to see who had events.

The size of the writing was too small to read.

I check my calendar on my cell phone while driving.

It was really easy to check the calendar from work because of the web page.

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Example: Calendar Field Study

Step 4: Affinity Labels

write labels describing each group

Calendar placement is a challenge

Interface visuals affect usage

People check the calendar when not at home

we couldn't place the calendar in the spot we usually do in our home.

The colors on the events made it really easy to see who had events.

The size of the writing was too small to read.

I check my calendar on my cell phone while driving.

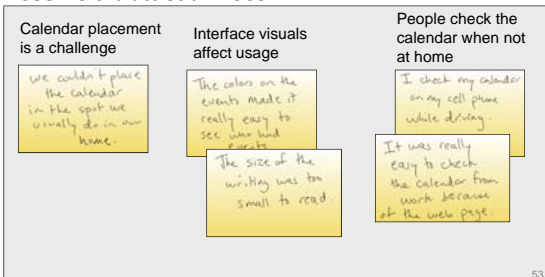
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Example: Calendar Field Study

Step 5: Further Refine Groupings

see Holtzblatt et al. 2005



Participants

Like with quantitative research, focus is on getting a representative sample

How many?

The more the better

If resource constrained, rule of thumb is to stop when you are seeing the same things again and again

Also known as data saturation

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Validity Threats

Things that may threaten the **reliability** of your qualitative results for properly and adequately describing a phenomenon

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Threats to Validity

Bias: researcher's influence on the study

Bias relates to what data is collected and how is it interpreted

e.g., studying one's own culture

Reactivity: researcher's effect on the setting or people

e.g., people may do things differently

Understand any threats and rule them out *or* understand how they affect the results

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Ensuring Validity

How can we be sure our results are valid if qualitative research is subjective?

Use one or more validity tests

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Validity tests

Intensive / long term

Get more data, repeated observations or interviews

Rich data

Make sure findings are full and detailed descriptions

Respondent validation

Ask respondents if your findings are correct

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Validity Tests

Negative cases

Search for cases contrary to what you think

Triangulation

Collect data from a variety of settings and methods

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Generalizability

Internal generalizability

You studied only a few people from a larger group; do findings extend within the group studied?

External generalizability

Do findings extend outside the group studied?

Answering this is not necessarily needed for qualitative work

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More on Two Common Qualitative Data Collection Techniques

Observations

Interviews

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Observation

Goal to capture **tacit knowledge** and ward against participants trying to please observer

Things that can vary:

Duration can vary dramatically (small # of days to a year or more!)

Degree of observer involvement can also vary
pros & cons to observer involvement?

Focus: person, event, place, object

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Specifics on Observation

Look for what people do, not what they say

Direct observations

Researcher on site, in context

Participate as little as possible

Take notes, audio tape conversational components, collect artifacts, take pictures of artifacts that cannot be taken, sometimes videotape as a backup

Video observations

Researcher not present, video camera capturing instead

Can be less intrusive for participant

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Interviewing is an art

Continuum: unstructured, semi-structured, structured

Early stages of research use unstructured or semi structured

Later stage interviews are sometimes more structured

Aim to ground participant statements in actual events, artifacts, etc

Why?

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Learning Outcomes

Now you....

Can explain the differences between qualitative and quantitative research

Are familiar with 3 basic approaches to data analysis

Are familiar with some important considerations for two popular data collection techniques