Qualitative Research for Quantitative Researchers

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Agenda:

- About me!
- Qualitative and quantitative methods
  - Why should you learn about these methods?
  - Benefits & Downsides
- Types of qualitative methods
  - Qualitative methods
  - User Research/User Experience
  - Mixed Methods
- Tips and tricks
  - Asking questions
  - Survey Research
  - Interview tips
  - Qualitative Coding
- Time for Questions!

Hi! I'm Beth and I'm a Research Consultant

- Sociology PhD
  - Interview and ethnographic research on green building standards.
  - Taught undergraduate and graduate students in research methods.
- Academic, government/policy, nonprofit, and industry experience:
  - Nike, Facebook, Aledade, OHSU, Kaiser Permanente, Yale, US Department of Energy, US Forest Service, The Carpentries, Pluto VR, High Fidelity, HUB Agency & UC Davis
  - Projects range from designing mixed methods research projects, collecting data, assessment projects and training research teams.

Qualitative vs. Quantitative Research

Quantitative

Deductive

Hypothesis driven

Data is typically numeric

Larger sample size (n > 100)

Qualitative

Inductive

Theory building & developing hypotheses to test

Data is typically textual

Smaller sample size (n < 50)

Bias

In qualitative research, we assume there is bias.

Our goal is not to omit all bias, as it would be nearly impossible to do so.

Instead, our goal is to understand the biases we have and to conduct our research with attention to how those biases impact all aspects of the research process.

Why consider qualitative research methods?

- You need to ask people questions
  - You'd like to do this well and avoid bias.
  - Should this be a survey? Interviews? Focus group? How do you decide?
- You want to learn about a topic you don't yet have a dataset for.
- The topic you're exploring is fuzzy and hard to quantify.
- You found something in the data that you can't explain.
- You need a multiple choice/select survey question and you don't know what the responses should be.

Benefits of using qualitative research methods

- People's responses can surprise you and help you learn.
- It can help you understand the datasets and why people responded as they did.
- It can help you collect better survey data.
- Narratives can complement and support quantitative data.
- Qualitative research allows you to correct for your own biases by getting information from people who have a different background than you do.

Downsides of using qualitative research methods

- Both data collection and data analysis takes a lot of time.
- It takes skills that need to be developed and honed over time.
- It can be expensive.
- You are likely to get a lot more data than you expect.
- People are confusing
  - They don't always know why.
  - They can be frustratingly unaware/uninterested.

Don't do it if you can find the answers in other ways!
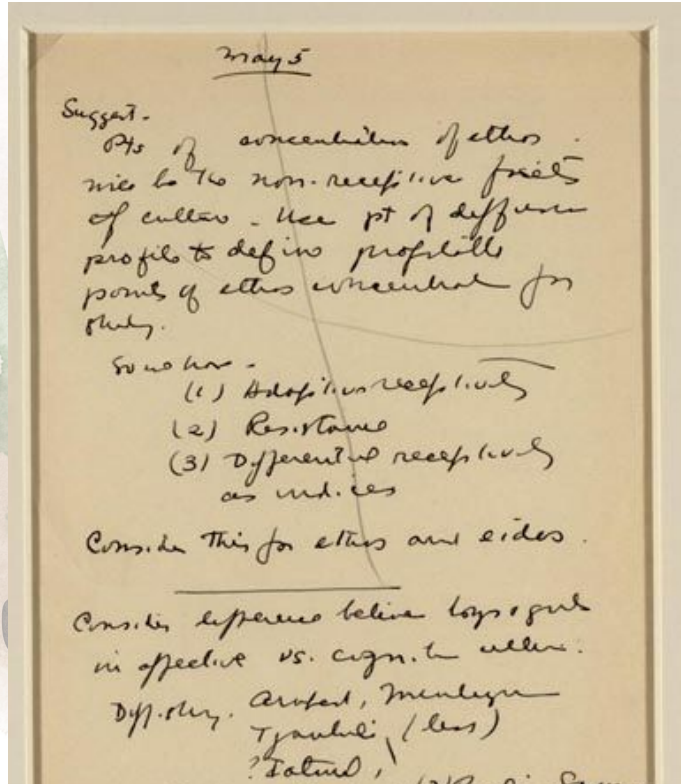
Caveats:

Photo by Ronnie Schmutz on Unsplash

Qualitative Methods

- Ethnography & Participant Observation
- Grounded Theory
- Observational Methods
- Interviews
  - Structured
  - Semistructured
  - Unstructured
- Focus Groups
- Case Study Research
- Archival Research
- Oral History

Ethnography & Participant Observation

Ethnography is literally translated as writing about people.

- Go to "the field" and write about what you experience.

Participant observation is a method where you participate and you observe.

- Join into a parade then write about it afterwards.

Ethnography & Participant Observation

These methods are useful when the questions are cultural.

- How do organizations make decisions during a pandemic?
- Why is one store more profitable than another very similar store?
- What makes a space online welcoming?
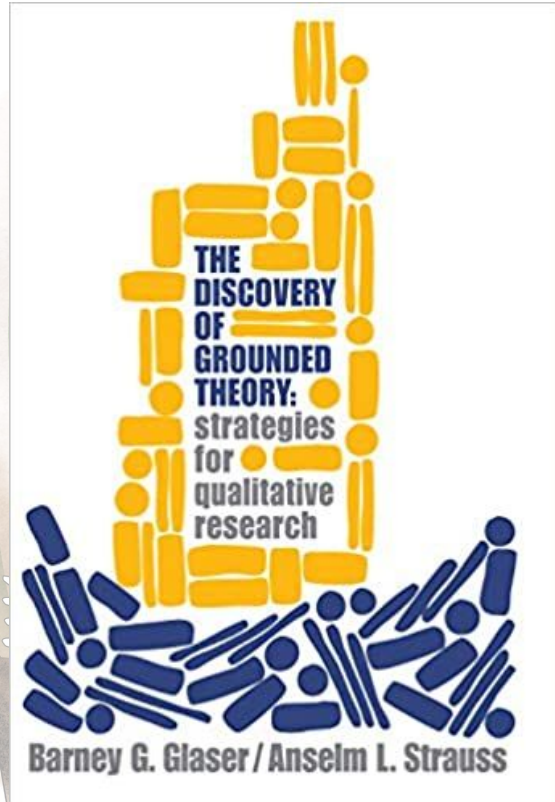- How do people decide which building is sustainable and which is not?
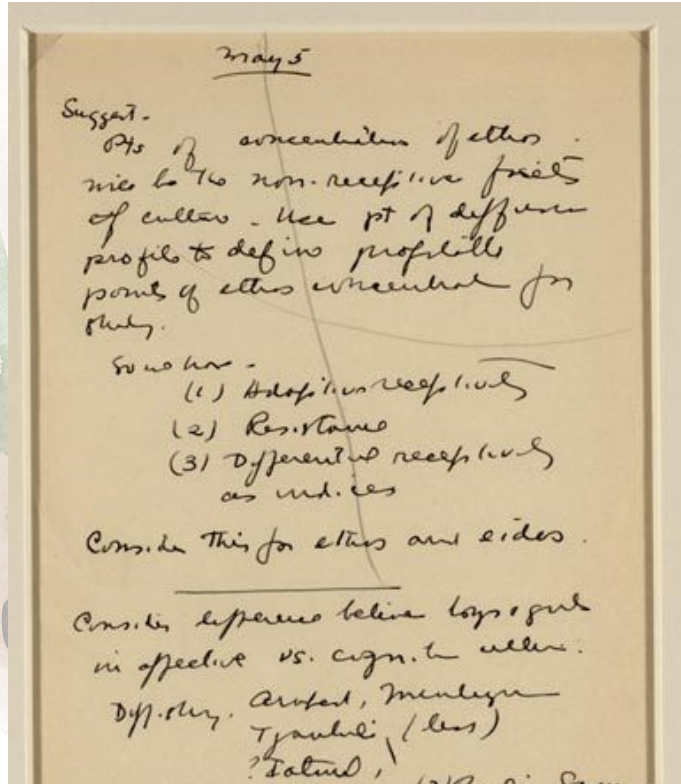
Observational Methods

Pure observational research is helpful when the questions have to do primarily with behavior.

- Transportation studies
    - How do cars flow in the parking lot?
- Workspace usage
    - Is the new café lounge area being used? How are people using it (meetings? conversations?)
- Museum
    - What is the typical flow of people through this space? What are they spending time at vs. moving past? What do obstacles do to their movement patterns?

Grounded Theory

THE
DISCOVERY
OF
GROUNDED
THEORY:
strategies
for
qualitative
research

Barney G. Glaser / Anselm L. Strauss

Focuses on using qualitative research to create theory.

- Counters the idea that qual research is anecdotal, unsystematic and biased by focusing on creating theory with the data.
- Key aspect is an inductive approach.
  - Theory comes from the data and must be supported by the data.
  - *Cannot make claims unsupported by data and theory must encompass all responses. (e.g. no omitting outliers)*

Structured Interviewing

- Standardized questions in the same order for each respondent.
- Typically more closed questions vs. open questions
  - Closed question: How long have you worked at this job?
  - Open question: Tell me about your time working at this job?

Useful when:

- Researchers only need answers to the questions being asked.
- Experimental methods
- Confirming data from other sources
- Need to compare responses between interviews equitably

Semi-structured Interviewing

- Researcher has a set of questions and guides the subject on those questions.
- Allows the conversation to flow more naturally.
- Can go in unexpected directions

Useful for:

- A subject's comfort/ease
- More inductive research when the questions and the answers are not known.
- Still allows comparison between interviews, but can create variation.

Low Structure or Unstructured Interviewing

- Open ended questions and/or very few broad questions
- Respondent takes the discussion in whatever direction they want.
- Requires active listening on the part of the interviewer.

Useful for:

- Allowing the respondent's reality to be the focus.
- Phenomenological interviews
- Oral History

Focus Groups

An interviewer talks with a group of people at the same time.

Useful for:

- Interviewing stigmatized populations as it can feel safer.
- Can help when there are cultural assumptions that the researcher may not share with participants.
- Creates a lot of data about a small number of questions.

Case Study Research

Picking a small number of cases and researching them in depth. Can be combined with other forms of research (e.g interviewing, participant observation, historical, document review) to develop the cases.

- Best when cases vary on relevant or intriguing attributes
    - E.g. one case is a high performing hotel and another case is a low performing hotel.
    - One tactic is to obscure the variation from the researcher as a way of blinding the research.
- Useful when research question is about why outcomes vary or when there is a notable set of differences in cases that we don't understand.

Archival Research

Working with existing texts to analyze them.

- Twitter/social media/blog posts
- Manuscripts
- Records
- Visual/audio recordings
- Minutes of meetings
- Government documents
- Whatever you can think of!

Oral History

An extended conversation where interviewer and interviewee talk about the past.

- Focused on allowing the interviewee to tell their story in their own words.
  - Stories can ramble or be non linear or even contradict themselves.
  - May be over multiple sessions.

Useful for:

- Impactful and/or challenging stories
- Populations that have typically been marginalized.
- Retaining institutional knowledge and history

More Methods

Qualitative

- Phenomenology
- Narrative Analysis
- Participant Action Research
- Qualitative Comparative Analysis
- Impact Analysis
- Stakeholder Research

UX/Design Research Methods

- User Testing
- Personas
- User Journeys
- Affinity Mapping
- Short Interviews/Intercepts
- Prototyping
- Card Sort
- SWOT Analysis
- Stakeholder Interviews
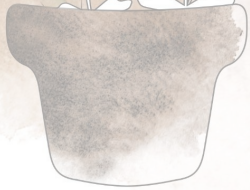
User Testing

Research where you ask a user to interact with a product or service prototype.

- Ideal for understanding user pain points.
- Can use to target underserved or difficult to serve populations
- Can be iterative and experimental.
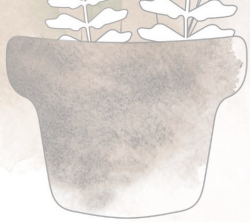
Prototyping

A rudimentary version of a product that you create to figure out what works and what doesn't.

These are meant to be iterated on and made better with new versions.

Types of prototypes:
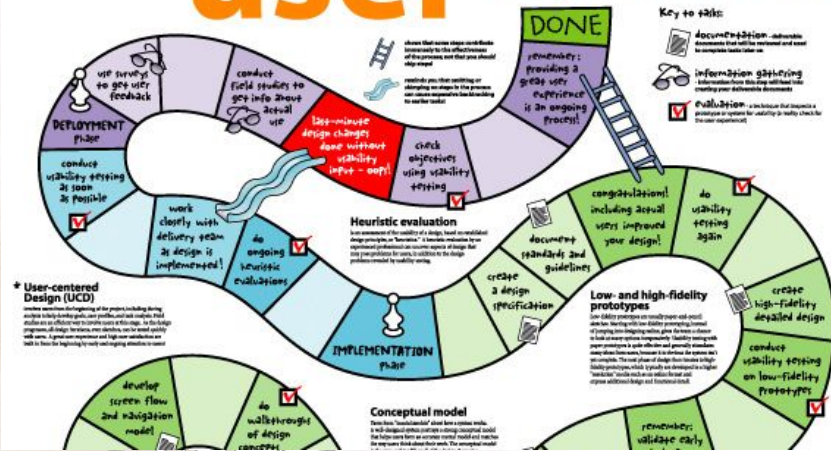
- Static/Paper
- Online mockup
- Spatial

Often used with user testing.
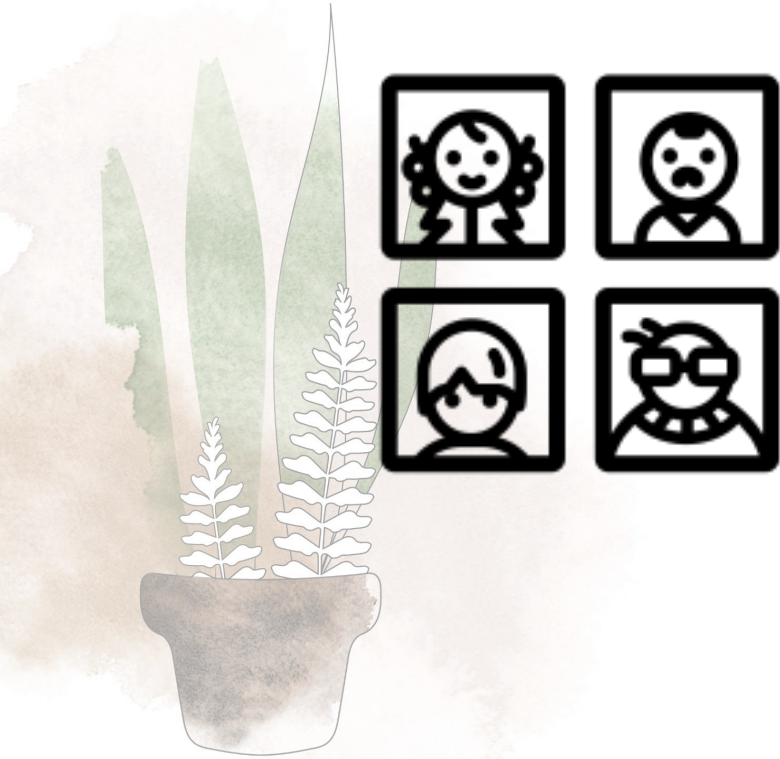
User Journey

Details the major interactions that shape the of the user's experience

Can help determine:

- Interaction points
- Pain points
- Decisions made
- Successes
- Emotions users experience

Personas

Fictitious description of who is the target user/customer based on research.

Used to help the design team develop empathy and design for the user.

Can be created from qualitative and quantitative data.

Intercepts

Short (less than five minute) surveys designed to get a quick response from users in the context within which it matters to them.

Designed to be short, quick and targeted.

Usually paired with additional research, since it's not enough data on its own.

Card Sort

Give content on cards to users:

- Ask them to rank or order them (e.g. importance, first - second - third)
- Ask them to categorize them in whatever way makes sense to them.
- Give them categories and ask them to sort the cards the way they want.

Can pair with interviewing and probes "Tell me more about why vaccines are more important than masks"

Mixed Methods

Mixing qualitative and quantitative methods

- Sequential
    - Qual → Quant   Do interviews to know what to ask in a survey.
    - Quant → Qual   Go deeper on survey findings with interviews
- Simultaneous
    - Qual + Quant   Do interviews while also going through analytics
- Investigatory/Pilot Studies
    - Notice there is something unusual in the quantitative data, ask someone with a different perspective what they see and what sense they make of it.

Skills Needed for Qualitative Research

- Listening skills
    - Developing rapport with interviewees/subjects
- Observational skills
    - Turning observations into data
- Facilitation
    - Focus group/workshop facilitation
    - Online facilitation
- Question development
    - Interviews
    - Surveys
- Qualitative coding and analysis
- Data synthesis
- Communication of results

Tips and Tricks

Asking Questions

- Closed Questions
  - What is your name?
  - Where do you live?
  - What was your major in college?
  - What is your job title?
  - On a zero to ten scale, rank your experience in college.
- Open Questions
  - Tell me about yourself.
  - What led you to choose your major in college?
  - What kind of work do you do now?
  - What did you like about college?

Closed questions are not bad, they just give us a different type of data.

Asking Questions

In both interviews and surveys, people will take the cue from the first question they are asked.

- Do they understand the question?
- Is it easy or hard to answer?
- Do they know the answer?
- Are they being encouraged to give complete answers? short answers? Quick answers?

This is why surveys often have harder questions at the end.

Asking Questions

When developing your questions, consider the type of data you want (and what you might do with it) and work backwards.

What question will ensure that I get the data I want?

- If I want narratives:
  - Tell me about how you decided to apply for this fellowship?
- If I want short answers:
  - What steps did you take to apply for the fellowship?
- If I want very short answers:
  - What is one word you would use to describe the fellowship application process?
- If I want priorities:
  - What were the three most important things to you about this fellowship?

Asking Questions

Your next question is: "But Beth, if you work backwards from the type of answer that you want, you'll be biasing the results". Yes! Let's acknowledge that and account for it:

- Ask the question to yourself and come up with multiple answers.
- If I want to know how people got to this class, I might ask "Tell me how you learned about the Intro to Qual for Quants class" I can imagine several different responses:
  - I saw a note on a Slack/LinkedIn and I signed up from there.
  - Beth mentioned it in a conversation and I wanted to support her.
  - I found it randomly on the internet.
  - I have no idea why I'm here, I clicked something and landed here.

Can all these answers coexist with this question?

How do we ask about hard to measure topics?

For instance: How do I measure "sustainability" or "success" or "impact"?

- Take an inductive approach, what does the population you're studying mean by this concept?
  - Are there different dimensions of the concept? What are they?
  - How can we measure each dimension?
- What have others done to measure this concept?
- Does the measurement of the concept by others match the way your target population understands the concept?
  - If not, what are the differences?

Survey Research

Common Mistakes I see in Surveys:

- Incomplete responses for multiple choice
- Inconsistent responses for a multiple choice
- Double barrelled questions
- Use of the words "good" and "bad"

How good is "good"?

On a scale of 0 to 10, where 0 is 'very negative' and 10 is 'very positive', general, how positive or negative would the following word/phrase be to someone when you used it to describe something?

Word/phrase	Average score
Abysmal	1.21
Awful	1.72
Terrible	1.75
Very bad	1.76
Really bad	1.85
Rubbish	2.17
Bad	2.60
Poor	2.71
Pretty bad	2.85
Below average	3.38
Mediocre	4.29
Average	5.09
Not bad	5.13
OK	5.51
Above average	6.62
Pretty good	6.76
Good	6.92
Great	7.76
Really good	7.78
Very good	7.90
Fantastic	8.74
Superb	8.77
Brilliant	8.77
Incredible	8.81

Very negative — 0 1 2 3 4 5 6 7 8 9 10 — Very positive
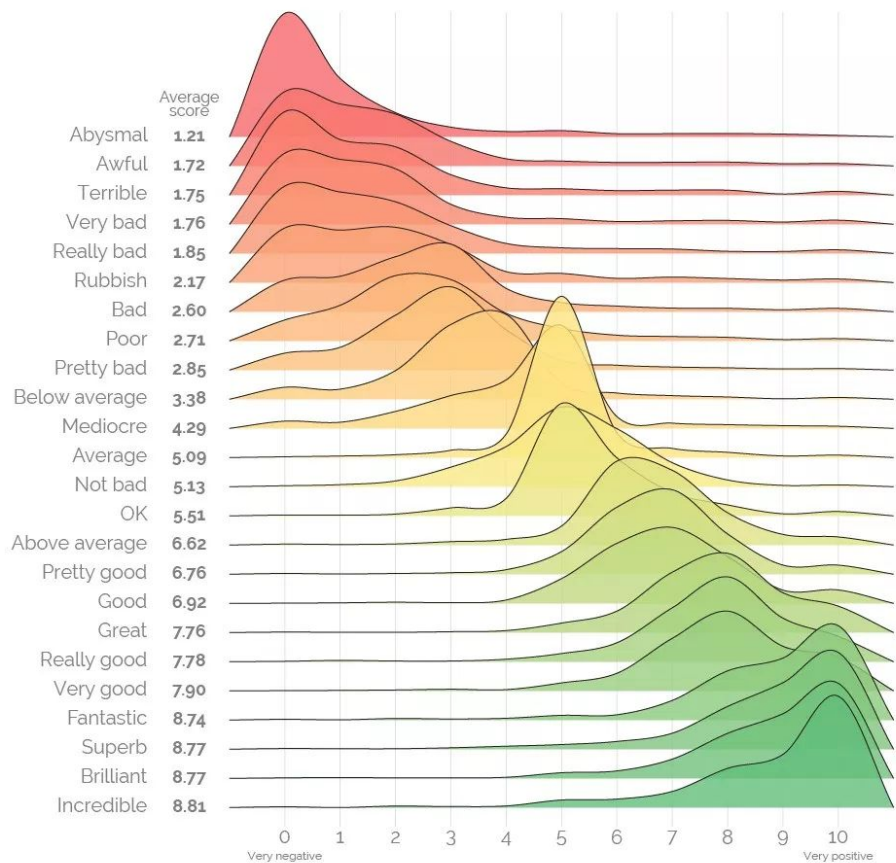
Spot the problem

The workshop was:
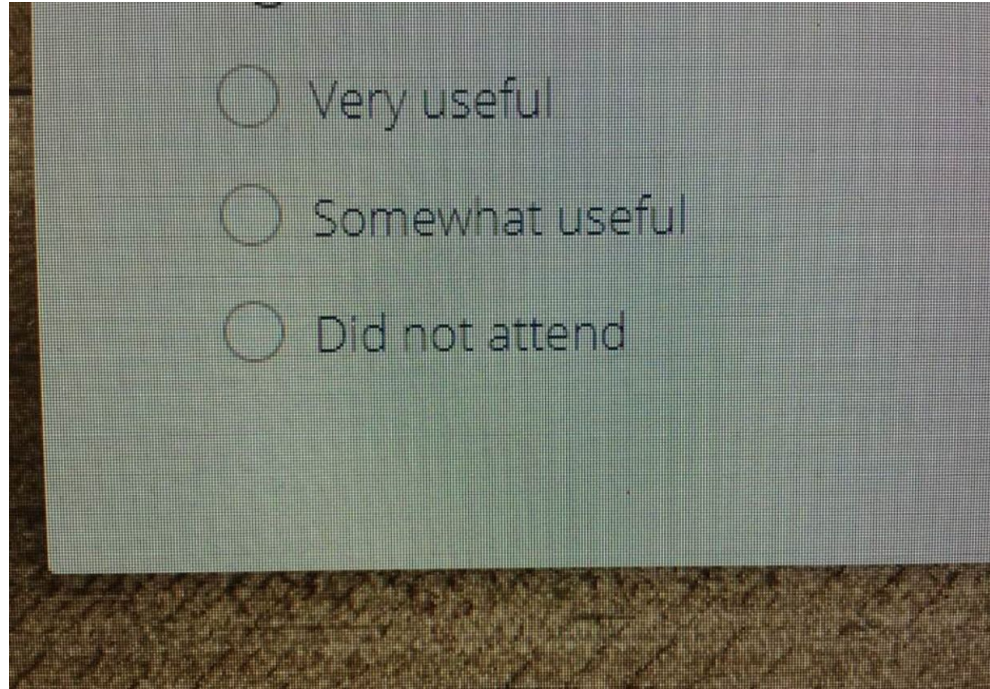
Spot the problem

What is your **age**?

- ○ 1 - 17
- ○ 18 - 21
- ○ 22 - 31
- ○ 32 - 37
- ○ 38 - 54
- ○ 55 - 64
- ○ 65+

Spot the problem

Please agree or disagree with the following statement: Facebook is good for the world.

- ○ Strongly agree
- ○ Agree
- ○ Neither agree nor disagree
- ○ Disagree
- ○ Strongly disagree

Spot the problem

The workshop was compelling and useful for my work?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

My #1 Tip for Survey Construction: Pre Test

- Find someone who is not you to take the test in front of you (via zoom is fine).
  - Ideally this is someone in your survey's target population, but in a pinch, your mother/partner/coworker will do.
- Observe them taking the test.
  - Ask them to say what they're thinking about as they take it.
  - BE QUIET AND OBSERVE. Resist the impulse to explain anything.
  - At the end, ask them for their feedback.
- Notice where they struggle.
  - Adapt your survey so they struggle less.

Asking Questions

Consider the type of data you want and work backwards. What kind of question will make sure that I get that answer?

- If I want narratives:
  - Tell me about how you decided to apply for this fellowship?
- If I want short answers:
  - What steps did you take to apply for the fellowship?
- If I want very short answers:
  - What is one word you would use to describe the fellowship application process?

Tips for interviewing

- Rapport is essential for good data.
  - It's worth spending time on this, five minutes in the beginning can make a difference in the data you get.
- Adapt to the interviewee.
  - Your body language should reflect the interviewees.
- Interrupt rarely
- Listen closely (even if you've heard it before).
  - When can anticipate the responses you're getting from respondents, you're reaching information saturation.
- Leave the tape running
  - Unless the respondent seems uncomfortable

A key to interviewing: Probes

Probes are actions or statements that encourage the other person to continue:

- Uh huh
- Mmmm
- Could you expand on that?
- Say more.
- You said ___, I'd like to hear more.
- [echoing a few words]
- [silence]

Analyzing Textual Data with Qualitative Coding

- Essentially annotating the textual data with labels based on the research questions you have.
  - Can use Qualitative Data Analysis (QDA) tools to do this.
  - Can also do this without computer (old school post it notes)
  - The process of coding is primarily done manually.
  - Coding can be iterative and collaborative.
- Building a code book
  - Describing the meaning of each code and what it signifies in the text.
  - Working from an existing code book can make the analysis easier and faster.
  - This can be used to have multiple people doing the coding and to create measures of intercoder reliability.

Qual Coding: Create codes/tags

Change tag ✕

definition

when an author defines a key term like reproducibility or replication

Merge... Save & Close Delete tag

Source:

Qual Coding: Highlight and code/tag

The adoption of reproducible research methods in academia remains low, despite the altruistic

and self-centered reasons for supporting reproducibility individually and at large. The more mag- [new highlight]

Highlight   ×

☐ interesting

☐ people

☐ tech

☐ gender

☐ gender.female

☐ tech.floss

Create a tag

Save & Close   Delete highlight

Qual Coding: Sort by Codes/Tags

Source: Taguette

Qual Coding: Codebook Example

Theme	Definition	Sub-theme	Statement focus
Benefits of cycling	Statements that describe a positive aspect of cycling	Health	Cycling as a healthy, active activity
		Financial	Saving money through cycling compared to using a car
		Transport	Access to places that are otherwise inaccessible without a bike
		Environmental	Benefits of cycling for the environment
Barriers to cycling	Comments that describe a negative aspect of cycling	Crime	Having the bike stolen, thus preventing riding
		Fear of injury	Perceived negative physical reactions to cycling
		Physical discomfort from exercise	Other required activities that might interfere with cycling
		Competing demands	Activities one is required to do that prevent cycling
		Sedentary behaviour	Other activities one might prefer to do rather than cycle
Cycling knowledge	Statements that describe an understanding of cycling and related components	Bike laws	Knowledge of laws for cycling
		Basic cycling safety	How to ride properly and common safety rules (though not laws)

(Hoffman, Hayes & Napolitano 2013)

Analyzing Textual Data

Other ways to analyze qualitative data:

- Text Mining and Sentiment Analysis
  - Increasing number of tools to do this, and some of these tools integrated into survey software like Qualtrics and others.
- Gathering Insights
  - At the end of each interview/focus group/set of field notes, write the top insights or findings that respond to your research questions.
  - Ideal for research that requires a quick turnaround and for surprising findings.
- Ongoing memos
  - This is often used in field research and ethnography, writing up the questions you have and what you've learned.

Analyzing Textual Data

Other ways to analyze qualitative data:

- Creating Tools from the Qualitative data
  - Personas
  - User Journeys
  - Prioritized lists
  - Dashboards
  - Spreadsheets
- Narrative Analysis
  - What are the common attributes of the stories in this data?
- Bespoke Analyses
  - A lot of the researchers I work with find themselves inventing their own way to analyze and report their qualitative work.

Conclusion

I've shared:

- An intro to the variety of qualitative research methods
- Some tips and tricks as you ask questions, do surveys and interviews.
- There are lots of further resources to follow this slide!

What questions do you have?

Qualitative Data Analysis (QDA) Software Packages

- ## Taguette
  - Free, open source, Python based
- ## Qcoder
  - Free, open source, R based, still in development
  - Emerged from ROpenSci Unconf
- ## NVivo
  - Desktop
- ## Atlas.TI
  - Desktop, also has mobile apps
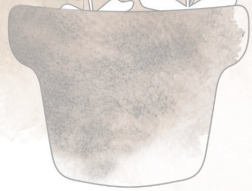- ## MaxQDA
  - Desktop
- ## Dedoose
  - Monthly fee, Web based

Resources

Ethnography

- Salsa Dancing in the Social Sciences: Research in an Age of Infoglut - Kristin Luker
- Writing Ethnographic Fieldnotes - Emerson, Fretz and Shaw
- Ethnographic Thinking - Jay Hasbrouck

Interviewing

- Reflective Interviewing - Kathryn Roulston

Resources

Design Research

- [18F Methods](#)
- [IDEO Design Kit](#)
- Just Enough Research - Erika Hall
- The User Experience Team of One - Leah Buley

Other Resources

- [Text Mining with R](#) - Julia Silge and David Robinson

Resources

Skill building

- The Art of Noticing - Rob Walker
- Visual Intelligence - Amy E. Herman
- Writing Ethnographic Field Notes