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SCHOOL OF INFORMATION  
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# Applying Qualitative Methods in Studies of Retrieval Interactions

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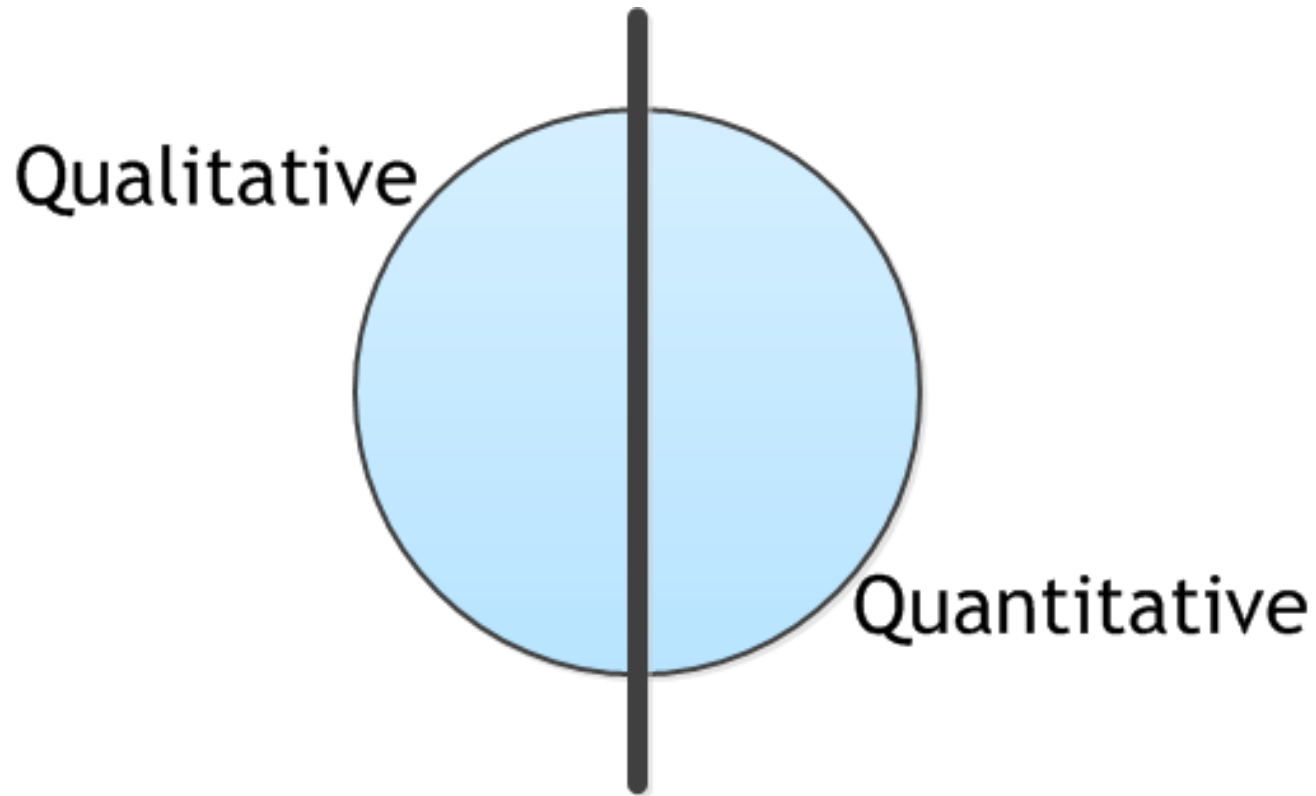
School of Information & Library Science  
University of North Carolina at Chapel Hill

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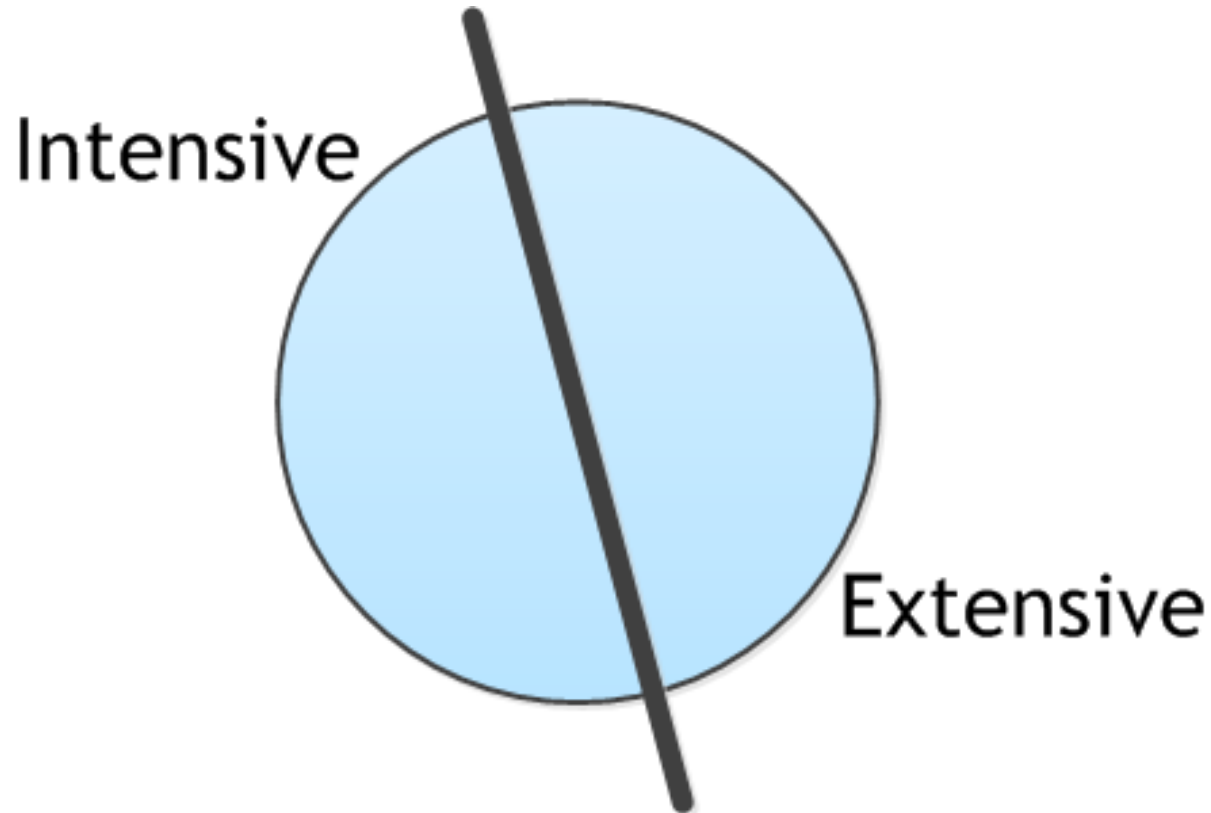
# Taking a birds' eye view



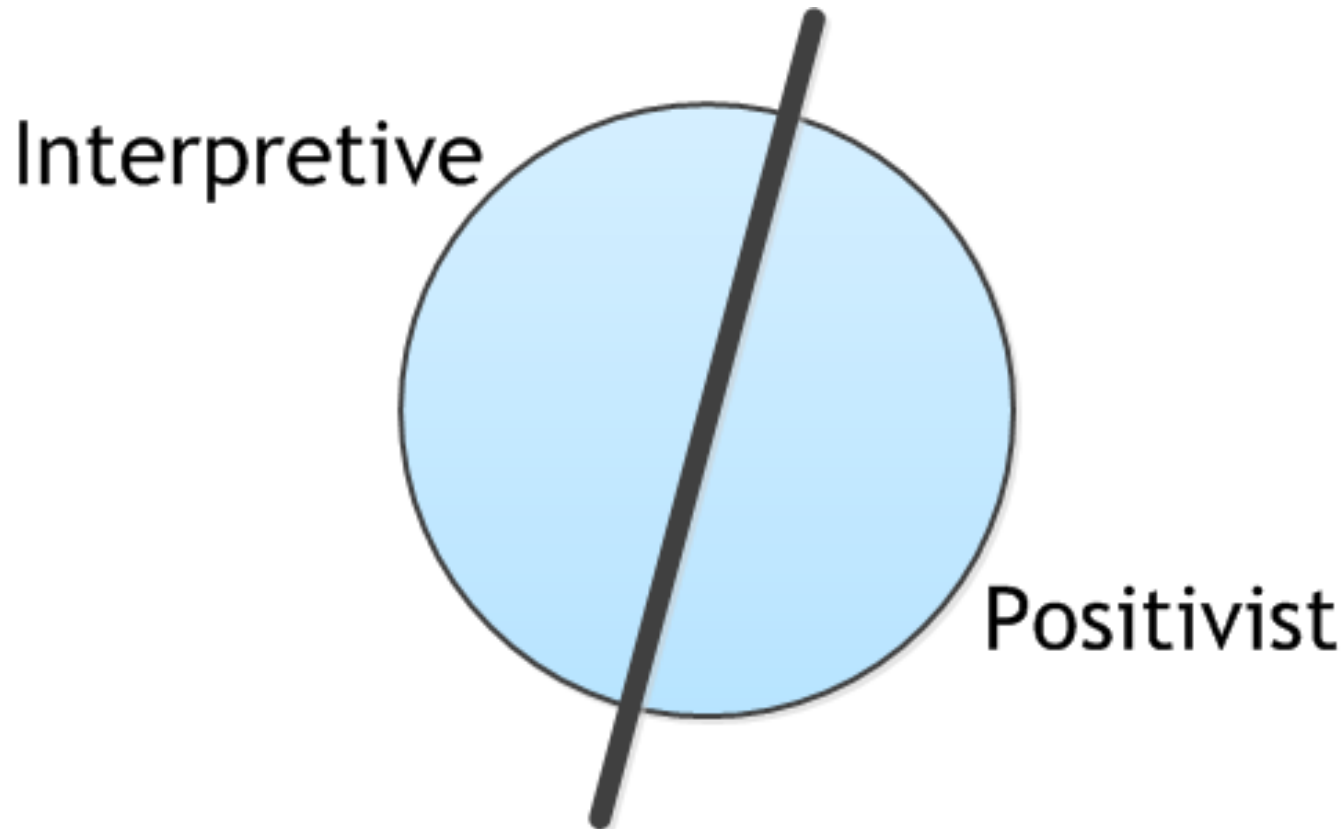
# Differences in data type



# Differences in scope



# Differences in epistemology



# An example of these contrasts



# The plan for this afternoon

- Consider collection of qualitative data
  - Observation
  - Think-aloud protocols
  - Interviews
- Analyzing that data
  - Coding
  - Memo-writing

# Observation

Observation is a process of “planned, methodical watching that involves constraints to improve accuracy.” --Weick, 1968





# Observation in the lab

- Direct observation
- Video
- Screen capture, transaction logs



# Observation in the field

- Establish a role for yourself
- Consider the multiple sets of norms that apply to the setting
- Understand that people in the setting will make judgments about what to show and tell you
- Use of technology for data capture could influence what you “see”



# Think-aloud protocols

- Original purpose: to understand cognitive processes



# Think-aloud protocol: worst case

DILBERT



www.dilbert.com  
scottadams@aol.com

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# Different approaches to think-aloud protocols

- Communications orientation as an alternative
- Probing for diagnostic information



# Different forms of think-aloud protocols

- Concurrent
- Retrospective
- Paired



# Exercise: Think-aloud protocol

- Develop a small set of “probes” that will be allowed
- Conduct think-aloud protocol for one search task

# Exercise: Think-aloud protocol

Think aloud as you complete this search task on the browser of your choice:

You recently became acquainted with one of the farmers at the local farmer's market. One day, over lunch, he was on a rant about how people are ruining the soil. He was clearly upset, so you're interested in finding out more. What are some human activities that degrade soil fertility?

From Wu et al., 2012



# Exercise: Think-aloud protocol

Think aloud as you complete this search task on the browser of your choice:

"You recently became involved with a conservation group that picks-up trash from local waterways. One of the group members told you that your work was important because it helps keep pollution out of the ocean. What are some of the different types of ocean pollutants? What environmental risks are associated with each pollutant?"

From Wu et al., 2012

# Discussion of think-aloud exercise

- What was the effect of the probes?
- How difficult was it to think aloud?
- What types of data were you creating?
- How might that data be analyzed?

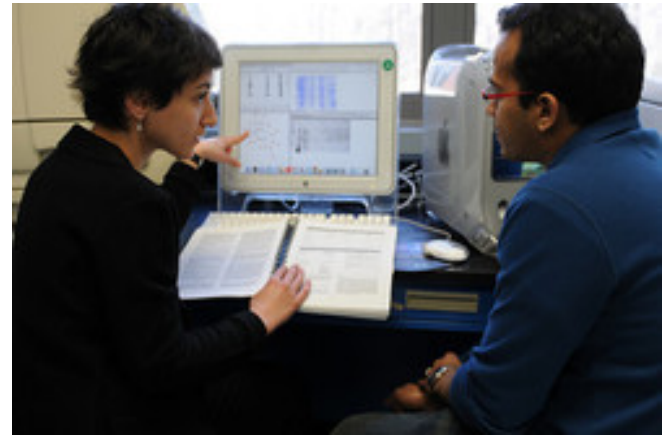
# Interviews

- Conduct an interview at the end of some searching activity
- Conduct an interview as the primary method of data collection



# Questions you might ask

- Ask about the search experience
- Ask about the system
- Ask about the context of use



# Example interview guide

- What would you say are two strengths of this video surrogate?
- What would you say are two weaknesses of this video surrogate?
- For what types of tasks do you think this surrogate will work very well?
- What types of tasks might you like to do, for which this surrogate will not work well? How can it be improved to serve this purpose?
- Any other suggestions for improving this surrogate?

# Exercise: Develop an interview guide

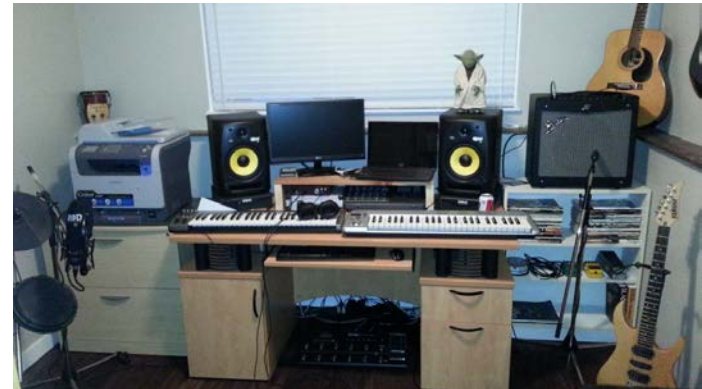
- Imagine a study comparing two search engine interfaces
- Each participant will be interviewed after completing several search tasks with each interface
- What questions would you like to ask them, after the interaction with each interface?
  - Write 2-3 questions to include in the interview

# Interview guide exercise, part 2

- Re-write one of your interview guide questions as a leading question
- Re-write one of your interview guide questions as a closed-ended question
- Discuss the original questions, and their weaker revised versions
  - Of all the original questions, which would the group include in the interview? Why?
  - In what ways would the weaker questions have a negative impact on your study?

# Additional possibilities

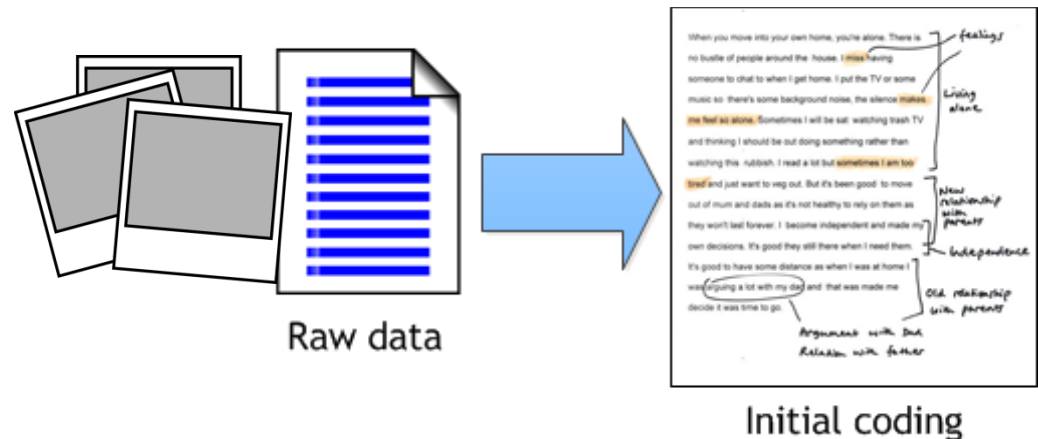
- Existing documents
- Other artifacts at the site





# Initial coding

“Coding means naming segments of data with a label that simultaneously categorizes, summarizes, and accounts for each piece of data.” --Charmaz, 2006



# Coding exercise

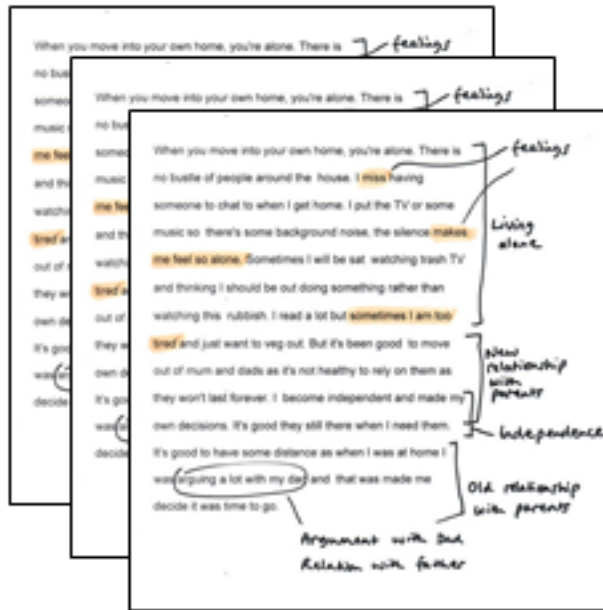


- The context for this exercise
  - Study purpose: evaluate the relative strengths of five different digital video surrogates
    - Transcripts include comments on fast-forward surrogates
  - Comments were gathered via interviews as participants interacted with each surrogate, for four different videos
- Read (quickly) the assigned transcript
- Assign initial codes, line by line

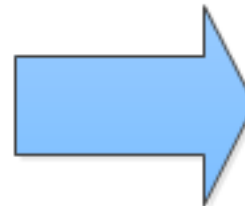
# Coding exercise, continued

- Work in teams of 2-3 people, to compare codes and discuss/reconcile differences in coding
- Discussion:
  - How much difference was there, between coders?
  - In what ways did someone else's creativity help you see the data in a new way?

# From initial coding to concepts



Initial coding



Concepts/  
Categories

# Memo writing

“Reflect on data and write memos. Thinking is the heart and soul of doing qualitative analysis.”

--Corbin & Strauss, 2008



# Tips for writing memos

- Give it a title
- Explore the concept/code, based on your data
- Query your data
  - What was the searcher doing?
  - What is the searcher saying?
  - What do the searcher's actions and statements take for granted?
  - What connections do you see?
- Shape your analysis into an argument

# Exercise: Free writing

- Choose one or two of the codes assigned to the interview data
- Write whatever comes to mind about that code
  - Get your ideas down as quickly and fully as you can
  - Write to and for yourself
  - Write freely (and badly)

# Exercise: Writing an early memo

- Keep in mind what you learned during the free writing exercise
- Develop a brief memo, documenting what you've learned about the concept/idea represented by the selected code



# Discussion of the exercise

- In what ways did the free writing help you get started on the memo?
- What title did you assign to your memo? Did it help you stay focused?
- In what ways is the memo an effective way for you to understand the code/concept better?
- Given the coding you've done, what other memos might you want to write before proceeding to the next interview?

# Recap: Using qualitative methods in studies of search interactions

- Consider your reasons for using qualitative methods
- Consider alternative data collection methods
  - Observation, think-aloud protocols, interviews, other
- Consider how you will analyze the data to address your research purposes
- Consider how you will integrate the qualitative data with other data you're gathering

- **Additional questions or comments?**
- **Contact information:**  
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# Establishing trustworthiness



# Ways to establish trustworthiness

- Prolonged stay in the field
- Member checking
- Peer debriefing and support
- Negative case analysis
- Triangulation
- Audit trail
- Rich/thick description of findings