Identifying evidence-based medicine instructional opportunities in health science curricular documents for librarians and information specialists.

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What We are Going to Do

- General introductions to qualitative research methods

- Developing a coding frame and formalizing rules

- Extracting data from units, and sub-units, of analysis

- Brainstorm

Breakout Room – Icebreakers

- Introduce yourselves to your groups
    - You'll be working with them for the remainder of the workshop

- Use Mentimeter to provide how much experience (in years) you have with qualitative research methodology experience
    - 0-1 years
    - 1-2 years
    - 2-5 years
    - 5+ years

A General Introduction to Qualitative Research Methods

Semantics Matter

- Qualitative data research methods can be a useful set of tools
  - These research methods are fluid and can be applied in multiple situations
  - Qualitative research projects are often done with multiple peope

- Defining and justifying an approach is a common problem while working with qualitative data research methods

- You can run into problems with qualitative data research methods because reviewers may have different working definitions of methodologies

What Can Qualitative Research Methods Do?

- Qualitative research methods can extrapolate patterns from words

- Quantitative research methods are focused on numbers
  - The focuses and approaches are different for qualitative and quantitative research methods

- Qualitative research methods are used in a variety of fields to identify patterns in interviews, documents, etc.
  - Can be used to accomplish multiple goals
  - We are focusing on patterns in documents

Individual Exercise

- Use Mentimeter to answer the following question:

"What is one question you have about qualitative research methods before you work through this workshop?"

Two Types of Main Thought Processes

- Induction

  "A type of reasoning that begins with study of a range of individual cases and extrapolates patterns from them to form a conceptual pattern."

- Deduction

  "A type of reasoning that stats with the general or abstract concept and reasons to specific instances"

  Bryant A, Charmaz K, eds. *SAGE Handbook of Grounded Theory*. Washington, DC: SAGE; 2007: 608.

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Induction Vs Deduction

- The approach you choose will depend on your goals as a researcher

- Let your goals drive your methodology
  - If looking at patterns, try and label categories of coding frame by patterns you want to study

- Neither choice is wrong but you must be able to justify that choice.

Breakout room

- Using Mentimeter, please report out the following:

"Reflect on why different goals may drive either an inductive, or deductive, approach."

- Please use phrases no more than 5 words that represent your group's discussion
- Groups may have more than one answer

What is Coding?

- Coding is simple a way of describing the data in a methodical way
  - Can be done either qualitatively or quantitatively

- A coding frame is developed to provide a framework for sorting data into categories
  - Can be done either deductively or inductively

- A coding unit is whatever you are using the coding frame to sort into categories
  - This can be a sentence, bullet point, or verb
  - Be consistent across the entire dataset

Thematic Analysis

- There are multiple ways to analyze data obtained from qualitative research methodologies

- Thematic analysis is a way to synthesize categorization (coding) of a dataset

- With thematic analysis, patterns in the dataset can be described
  - Not a quantitative data analysis

Breakout room

- Using Mentimeter, please report out the following:

"Brainstorm on different types of themes that you might be interested in identifying that would be beneficial in your job roles."

- Please use phrases no more than 5 words that represent your group's discussion
- Groups may have more than one answer

Developing a Coding Frame and Formalizing Rules

Breakout Rooms

- Use the provided category from an example coding frame and decide if the provided three coding units would be coded with it.

- Take notes on what difficulties your group experienced

Code Category
Legal awareness, application, organizational awareness and advocacy

Example coding unit 1	Enhance the quality of population care by participating in the development of medication use and health promotion policies and by contributing to the accessibility and utilization of effective health care services.
Example coding unit 2	Demonstrate an understanding of peer review and the expectations of professional licensing boards, including medical jurisprudence
Example coding unit 3	Apply the principles of animal welfare for the protection of animals through the prevention and relief of suffering and the human and responsible management according to the established codes of practice

Why Create a Coding Frame?

- Using an inductive approach, a coding frame can be tailored to a dataset
    - Tailoring a coding frame allows for full exploration of the dataset
    - Using a pre-developed instrument may miss themes in a particular dataset

- When appropriately developed and documented, a coding frame can guide the exploration of existing patterns in a dataset

- A coding frame can also help prevent scope creep during a research project

Breakout Rooms

- Reflect on how more specific guidelines might have made this exercise easier.

- Using Mentimeter, report out what difficulties your group experienced

Code Category
Legal awareness, application, organizational awareness and advocacy

Example coding unit 1	Enhance the quality of population care by participating in the development of medication use and health promotion policies and by contributing to the accessibility and utilization of effective health care services.
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Formalizing Rules in Coding Projects

- It is easy to get lost in the data while categorizing coding units: words, sentences, bullet points, etc.

- Develop inclusion and exclusion criteria for each category in a coding frame
  - Clearly state criteria for how a coding unit will be included, or excluded, from any category
  - Write these criteria down during, or after, developing the coding frame
  - Develop these criteria before coding the dataset

- Practice using the inclusion and exclusion criteria to sort some coding units
  - Clarify criteria as needed

Breakout Rooms

- On the next slide, you'll see the same three coding units and a category with expanded instructions

- Use the provided category from an example coding frame, the coding question, and inclusion/exclusion criteria to recode the provided three coding units

- Using Mentimeter, report how your experience changed with the additional clarity

Breakout Rooms – 5 min cont.

Code Category	Coding Question	Inclusion Criteria	Exclusion Criteria
Legal awareness, application, organizational awareness and advocacy	Is *awareness* of, *use* of, or *development* of **laws**, **policies**, or **organizational structure** the overarching theme of the coding unit?	[action verb about knowledge of, awareness of, identification of, or application of]+description of laws, policies, licensing boards, organizational structures, or development of policies/laws.	Use of didactic knowledge to explain the importance of policy.

Example coding unit 1	Enhance the quality of population care by participating in the development of medication use and health promotion policies and by contributing to the accessibility and utilization of effective health care services.
Example coding unit 2	Demonstrate an understanding of peer review and the expectations of professional licensing boards, including medical jurisprudence
Example coding unit 3	Apply the principles of animal welfare for the protection of animals through the prevention and relief of suffering and the human and responsible management according to the established codes of practice

Fluidity of Qualitative Research

- Carefully and clearly describe all categories in a coding frame and the rules, inclusion criteria, and exclusion criteria for sorting coding units into the categories
  - This is known as a coding rubric

- Coding frames, and rules, that are initially may not be adequately descriptive

- Your understanding and need of the coding frame and rules may change as you work through the data

- Keep track of any changes and where the coding frames/rules change
  - Be sure to recode everything that was previously coded

Extracting Data from Units, and Sub-units, of Analysis

Bringing Everything Together

- For an inductive approach to coding, read through the entire dataset you are working with.
  - Develop a coding frame with categories to describe the patterns you are interested at looking at
    - Be sure you include an "other" category]
    - Identify your coding unit and be consistent across your dataset
  - Formalize your rules before starting: categories of the coding frame, inclusion criteria, any exclusion criteria, and any additional things that may help you
    - This is known as a coding rubric
  - Review some of your dataset with the coding rubric and make changes as necessary
    - Don't be afraid to change rules during the coding process but know you'll need to recode
  - It is a standard practice for more than one person to be involved in developing a coding frame and rubric

Individual exercise

- Review your homework from the class

- What could be clarified/developed about your coding frame, inclusion and exclusion criteria, and additional items?

- If you have several, please focus on one to share with your group in the next exercise

Breakout Rooms

- Within your groups, share one rule that you've developed

- Discuss each rule shared by the group
    - How could this rule be interpreted?
    - How could inclusion/exclusion criteria be developed/clarified?

Optional Step:
Working with Sub-units of Analysis

- Working with sub-units of analysis is similar to coding original units of analysis

- Use the same coding frame
  - Identify the sub-unit of analysis
  - Note that the sub-unit must be nested within the original unit of analysis and must be smaller
    - Example: unit of analysis = sentence, sub-unit of analysis = verb
  - Use the rules, inclusion/exclusion criteria, etc. as a starting point and develop a more specific set of rules for sorting the sub-unit of analysis

Brainstorm

- Within your groups, discuss the following question:

"How can using the technique(s) from this workshop to analyze curricular documents advance instructional support practices?"

Using Mentimeter, report some of your group's thoughts

Wrap-up and Questions

- Thank you for participating in today's workshop

- Do you have questions at the moment?

- Please contact us later with any additional questions:
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  - hmoberly@tamu.edu