FOUNDATIONS OF QUALITATIVE DATA ANALYSIS WITH ATLAS.TI®

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Learning Objectives

At the conclusion of this session, participants will:

1. Discover how to use ATLAS.ti to:

- Upload primary documents into hermeneutic units so as to manage and analyze transcribed data

- Proceed from development of categories in *open coding* through *axial* and *selective coding* and *grounded theory*

2. Distinguish among open, axial and selective coding, and between theoretical and conceptual framework in qualitative research

3. Identify relationship between *literature review* and the selected *study framework*, research design and the theory that will emerge from their data analysis

4. Discuss the importance of *prolonged engagement* in relation to enhancing rigor in qualitative research

5. Identify specific methods that *enhance rigor* in qualitative data analysis and how Atlas.ti helps
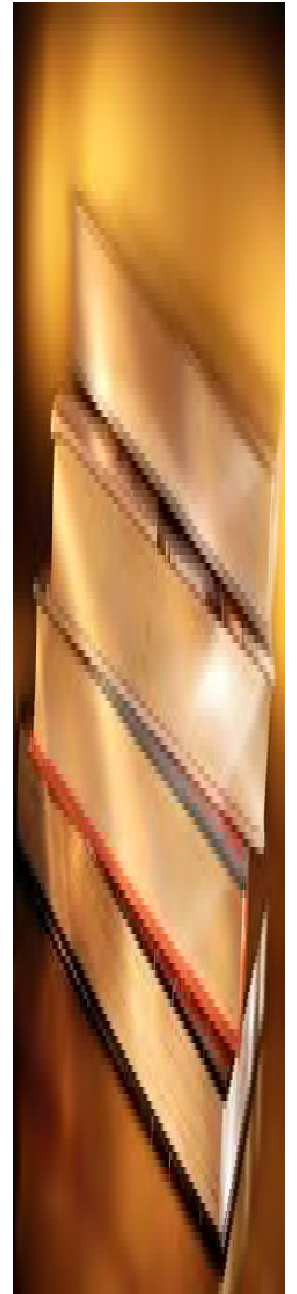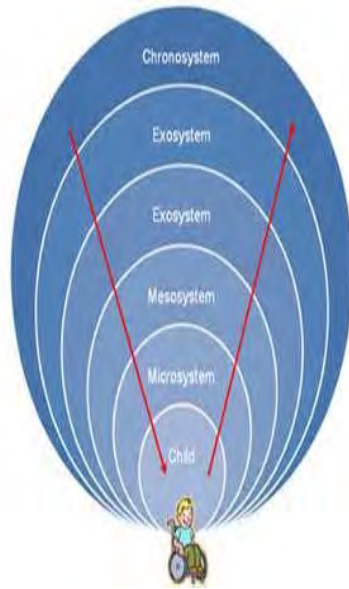
Importance of the "Lit" Review

- Focuses your research question;
- Informs :

  - Development of Informed Consent

  - Theoretical Framework

  - Conceptual Framework

  - Research Methods

    - Tools/ Instruments

    - Supporting Devices

  - Data Analysis

    - Summarizing Findings
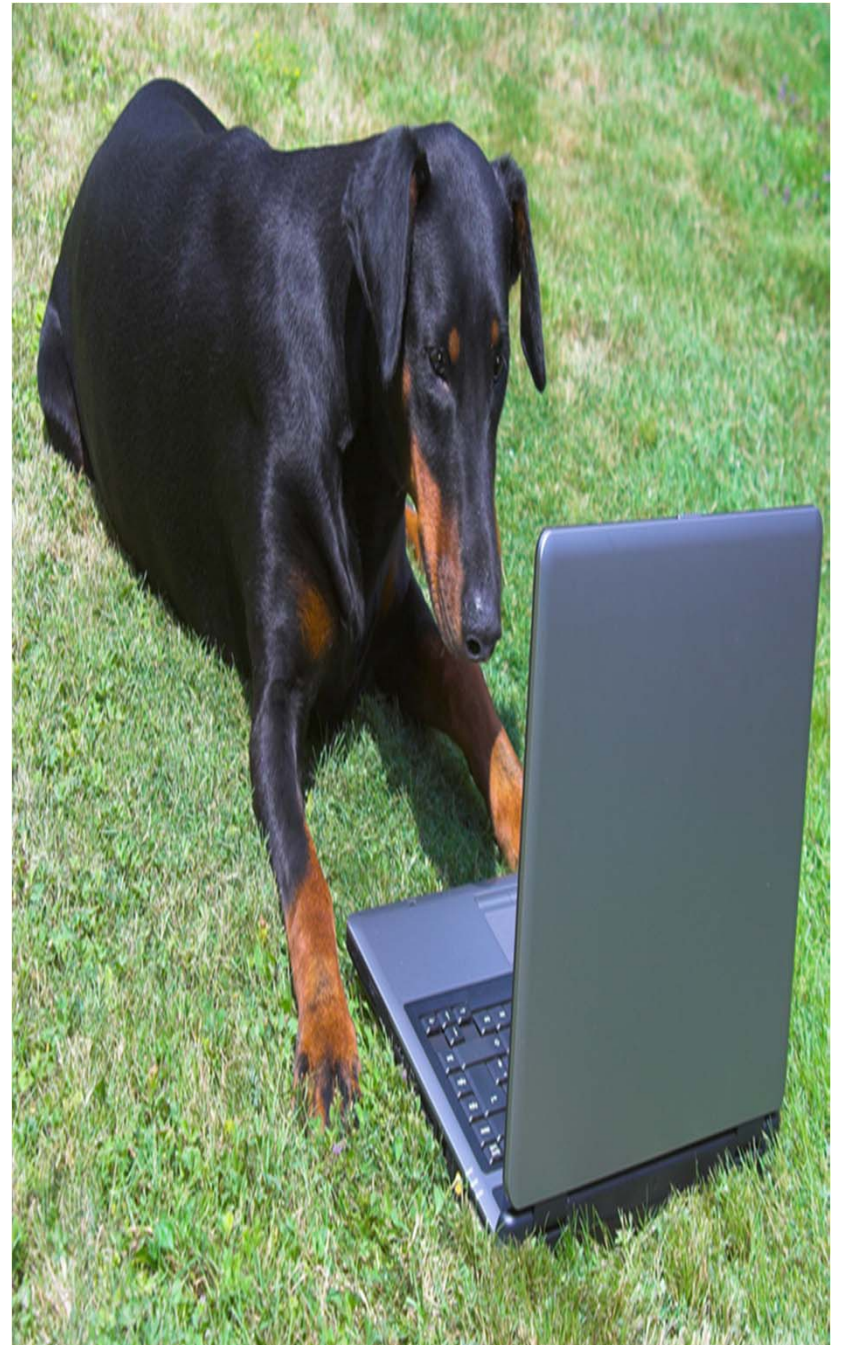
Importance of Theoretical Framework for Research

Any research topic has several elements that may be viewed from multiple perspectives

- You cannot study or focus on all the perspectives at the same time
  - A theoretical framework allows you to:
    - Identify a logical structure that you can reasonably expect your research to follow
    - Maintain a clear focus on your topic and research
      - Less wandering and wondering
    - Clarify specific methods to effectively and successfully conduct your research

Comparing theoretical and conceptual framework

Theoretical Framework

- Identified through your THOROUGH review of the literature regarding your research topic

- Involves consideration of evidence-based theories in relation to the research topic

- Broader in scope

- **ROAD MAP that guides**

- *What knowledge is available concerning the phenomenon of interest?*

- *What types of knowledge are available?*

- *Why are you selecting this particular theory?*

- *Are there other theories that can add to your understanding of your topic?*

Conceptual Framework

- Your notion of how research problem will be explored, *in context of theories that literature review reveals as relevant to your topic*

- Considers the possible relationships between variables within your topic area

- **Destination**

- Your research findings

- help you **operationalize** the theoretical framework;

- clarify relationships among the variables in your study
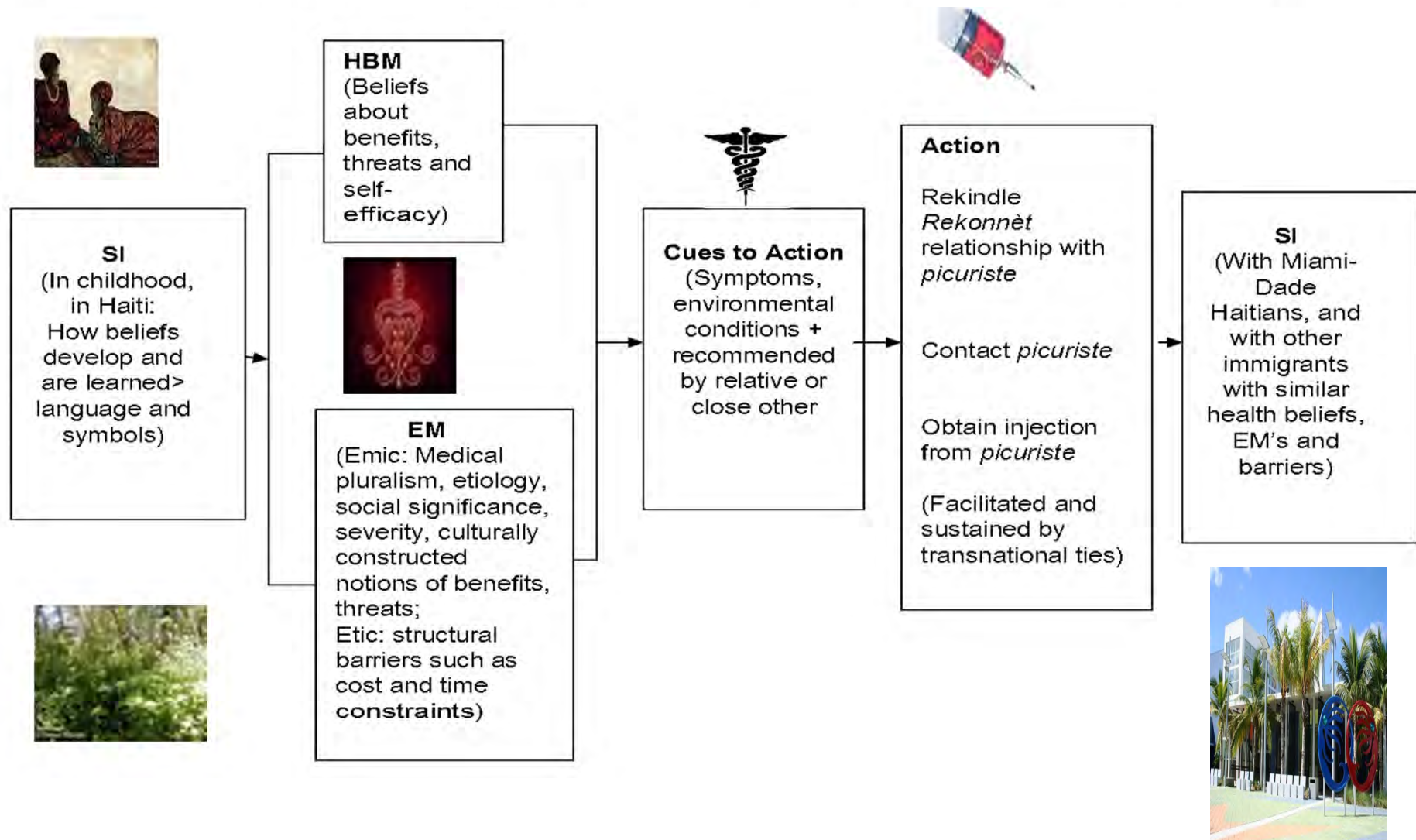
- *YOU ADD to the literature!*

- **Broad Topic of Interest**

  - Why is it that among Haitian immigrants in Miami-Dade County who test + for HIV, over 60% report no identified risk?

- **Specific interest**

  - Are there health practices within the target population (Haitian immigrants in MDC) that may pose hidden risks for blood-borne pathogens?

- **Theoretical Framework**

  - Health Belief Model

  - Explanatory Model of Illness

  - Symbolic Interactionism

Proposed Framework Derived from Data: Emergence and Persistence of *Picuriste* Use in Miami-Dade

SI
(In childhood, in Haiti: How beliefs develop and are learned> language and symbols)

HBM
(Beliefs about benefits, threats and self-efficacy)

EM
(Emic: Medical pluralism, etiology, social significance, severity, culturally constructed notions of benefits, threats; Etic: structural barriers such as cost and time constraints)

Cues to Action
(Symptoms, environmental conditions + recommended by relative or close other)

Action

Rekindle *Rekonnèt* relationship with *picuriste*

Contact *picuriste*

Obtain injection from *picuriste*

(Facilitated and sustained by transnational ties)

SI
(With Miami-Dade Haitians, and with other immigrants with similar health beliefs, EM's and barriers)

Reliability in Qualitative Research

- Researcher's Ability to Prove Findings are:

  - Dependable

  - Credible

  - Confirmable

  - Transferable

TRUSTWORTHINESS

A FAITHFUL COMPANION IS A SURE ANCHOR
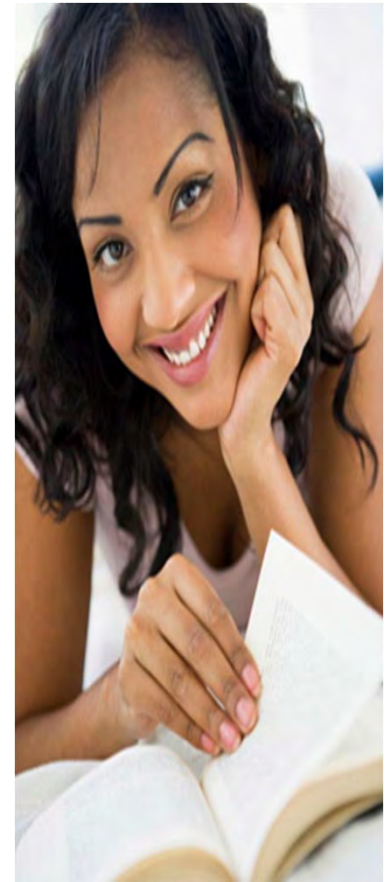
Dependability of Findings

- Carefully plan for and to provide clear rationale for any unexpected changes, and prepare for expected changes in the design of the study as well as in the data collection and analysis process
  - Triangulation- More than one procedure for collecting data results in cross-validation of data and findings; collecting data across different time periods
  - Participant observer
  - Audit trails
    - Internal as well as external through the use of a consultant/ expert
      - Verification of consistency in research methods with theoretical framework, in data collection, analysis and interpretation
   - intercoder/interrater agreement

Credibility of Findings

- Demonstrating purposeful steps to ensure that your study is identifying and describing your topic of interest and related findings

- Prolonged engagement and persistent observation

  - Investment

  - Identification of Key Informants

  - Trust

- Participant observation

- Complementary articulation (**triangulation** of analysis methods in addition to triangulation in other areas of your study)

  - Source, Researcher and Location

Credibility of Findings (con't)

- Peer debriefing (Qualified "Other")
- Negative case analysis
  - Purposefully seeking and analyzing what appear to be contradictions in participants' reports or in your data analysis

- Member checking
  - Returning to your participants with your findings to confirm or modify your findings
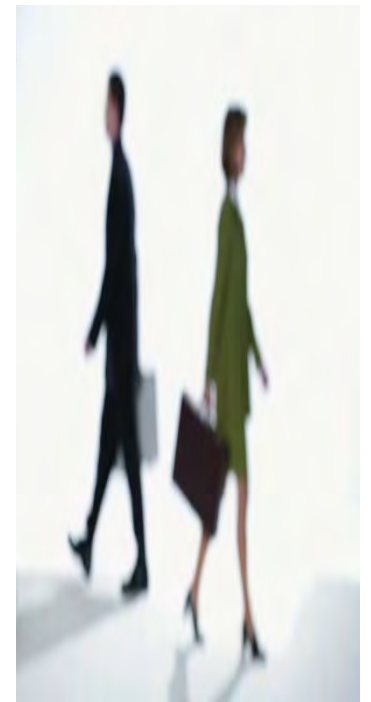
Confirmability of Findings

- Keeping clear and organized field notes/ comments, memos

  - Settings

  - Interruptions

  - Unexpected findings

  - Examples that contradict data collected in previous stages of collection

- Some researchers will include a sample of their "raw" data

  - (in the picuriste study, a transcript of one of the interviews written in Haitian *Kreyòl*, with a transcript of the English translation was appended

Transferability

- Demonstrate that the results you obtained from your analysis of the data are likely to be <u>consistent across different enclaves with similar populations</u> by providing a "thick" enough description of your research process

  - ➤ Include factors that may need to be taken into account

    - ✓ contextual

    - ✓ social

    - ✓ cultural nuances

In picuriste study, there was a clearly defined conceptual model that was derived from the findings

Additional Methods to increase Rigor

- Protocol for Transcription (Oliver, Serovich and Mason, 2005).

- Structured Codebook

- Agreement Analysis

  - Use experienced mentor/consultant to validate the accuracy of the study's codebook, thus minimizing researcher bias

    - Analyze sample of transcripts and check for agreement/ discrepancy

- Member Checking

- Audit Trails (Marker of rigor that allows for transparency)

Excerpt from Protocol for Transcription: Miami-Dade Picuriste Study

Character or Action	Manner represented in transcriptions
Interviewer	I
Respondent	R
Slight Pause	"-"
Long pause	"- -------"
Giggles, Laughs	Indicated by the words "giggles" or "laughs" in parentheses
Sigh	Indicated by the word "Sigh" in parentheses
Speaker emphasis	Italicized words
Speaker increases volume of voice significantly	CAPITALIZED WORDS, followed by "!!!"
Speaker non-verbal language deemed significant	Documented in field notes and indicated by observed action in parentheses
Speaker changes language	Indicated by (Changes to English/ *Kreyòl*/ French), and the non-English/ French/ *Kreyòl* word is in bold format

Developing a Structured Codebook

- Begin with categories pertaining to the topic of your research

  - A structured codebook should contain:

  - The category/ code

  - A brief definition of the code

  - A full definition of the category/ code

  - A description when to use the category/code

  - A description of when not to use the category/code

  - An example of the category/ code in use (MacQueen, McLellan, Kay & Milstein, 1998).

  ✓ *Some of the categories/ codes in your codebook will derive from your theoretical framework, some from the literature and some from your initial "first listen" and "first read" of the transcribed data.*

Excerpt from Structured Codebook _Picuriste Study

Next Page

Code	Brief Definition	Full Definition	When to use the Code	When not to use the Code	Code
Benefits Perceived	Response to what is good about *picures* or what are *picures* good for	Use of *picuriste* is employed by the respondent as a strategy that is aimed at mitigating a perceived threat to health, i.e., disease or lack of access to conventional health care- and there is a belief in the efficacy of that strategy	When the respondent reports a specific benefit constructed and perceived by him or her that directly influences the decision to use a *picuriste*, even by using a negative example	When the coder perceives a benefit that is not directly reported as such by the respondent	If the person has a pain or infection that you don't want to develop into something worse, you give it to them—sort of as a preliminary thing in the U.S.
Threats Perceived	Susceptibility to and severity of health condition	Use of *picuriste* is reported by the respondent as a reaction to a perceived severe health condition or to a health condition to which they personally feel vulnerable	Respondents describe specific health condition that they personally feel susceptible to, or describes the severity of a health condition as necessitating the use of a *picuriste* injection	Respondent describes a legal threat perceived to the practice or use of *picuriste*; respondent describes a health risk associated with the practice or use of *picuristes*	When you give them the *picures* if some malady was going to come upon them, it halts the malady…There are those who have swellings and there are those who have things that break out on their bodies- understand? They may also be giving off some liquid (oozing), they need a *picure* to dry it up
Cues to Action	Symptoms or environmental factors	Use of *picuriste* is reported as instrumental in mitigating epidemics or weather related disease	When the respondents describe a specific environmental condition, i.e., weather, or a perceived epidemic or threat of disease that necessitates such injections	when the respondent describes a health risk associated with the practice or use of *picuristes*	When there is a fever (predicted)---or when there is a lot of rain especially when there are a lot of mosquitoes they give them to prevent tetanus at such times. (Laughs).

Inductive or Deductive Process

- No coercion
  - The decision is a methodological one.
    - Typically the qualitative data analysis process involves both a deductive and inductive approach
      - Begin with a priori concepts (codes), as a general framework
        - From literature
        - From research questions
          - Allow for discovery of emergent concepts (codes).

Key terms to know from ATLAS.ti

- Primary documents

- Hermeneutic Unit

- Code

- Code Manager

- Co-Occurring Codes

- Code Density

- Network Views

- Network Manager

- Code Relations

Other Important Atlas.ti Terms

- Within curly brackets following the code name, groundedness and density are displayed, i.e., Benefits {12-3}

- **Groundedness:**

❑ Code frequency – or number of quotations to which the code is applied

➢ Large numbers of quotations associated with a code indicate strong evidence found for this code.

➢ For grounded theory

  ➢ Evidence that memos are linked to codes and related quotations, reflections, analyses, and interpretations Hence "grounded" in evidence.

Still More Atlas.ti Terms

- Comment
  - The tilde character "~" flags commented codes
  - It is used not only for codes but for all commented objects
- Density
  - Number of links to other codes

- Author
  - User who created the code

- Created
  - Creation date and time.

- Modified
  - Date and time of last modification

Before you turn on Atlas ti

❑ Listen, listen, listen –to audio recordings

❑ Read, read, read---Transcripts of Recording, field notes, memos, data from secondary sources

❑ Become familiar with Grounded Theory

✓ *Remember, data analysis begins with the first interview because each interview will inform you if you need to modify the questions and prompts that you use in subsequent interviews and will let you know when you have reached saturation.*

Preparing transcripts before uploading to Atlas

- You should have read each transcript and confirmed consistency between transcribed data and audio data

- You should have determined if you have achieved saturation in your data---

  - *If not, you will need to return to the field to collect data*

NOW- - -

- Save each document as RTF, WORD or PDF

- Safe in a folder on Desktop or on C Drive …*NEVER ON A FLASHDRIVE!!*

- *Do not move location of original folder containing documents to be uploaded*

ATLAS. TI- Data Management Tool

- Computer-assisted software package designed to facilitate the qualitative analysis of textual, graphical and audio data
  - A variety of tools to manage, extract, compare and explore the meaningful data within the texts
  - *Content analysis*
  - Enables storage of data, by providing a framework for coding large amounts of textual data, and by providing a framework for retrieving data for comparison
  - Permits linkage of bits of information from the transcribed interview data into coherent themes and hypotheses that can be tested with subsequent **constant comparative analysis**
  - Enables you to revisit the raw data in the primary documents within the hermeneutic units
  - Enables ordering, reduction and synthesis within and among the primary documents
  - Code families
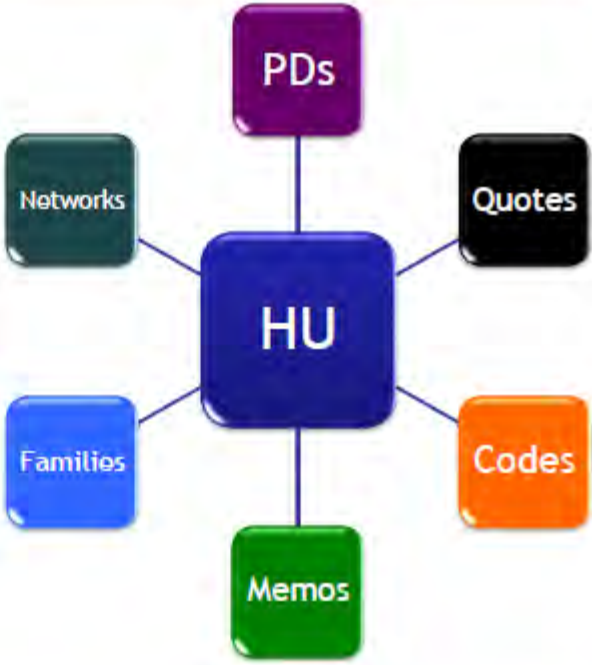 - Provides systematic and comprehensive treatment of transcriptions.

Why Use Atlas.ti

Original text from Transcript:
Participants' Words

Analysis Interpretation

Interpretative Text/ Quotations
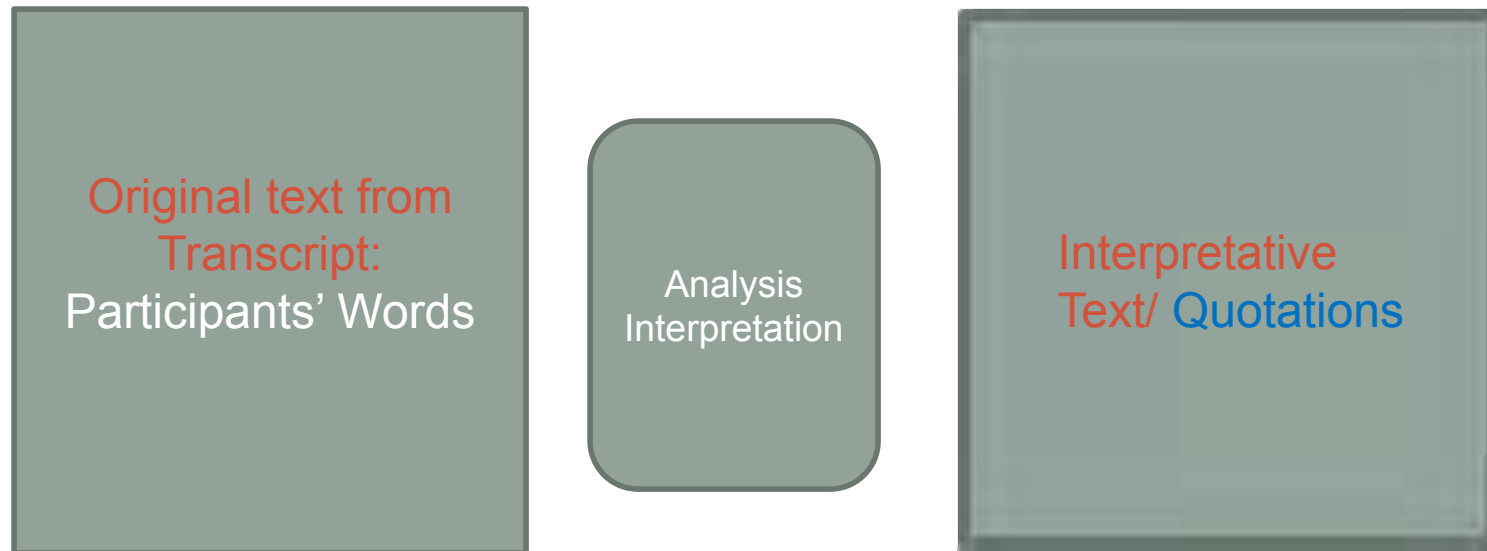
Components of Hermeneutic Unit

The Objects of the Hermeneutic Unit

These are the basic elements of an analysis project with ATLAS.ti. Generally speaking, the many other functions and tools available to researcher revolve around these six objects.

PDs
Networks
Quotes
HU
Families
Codes
Memos

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Codes and Quotations

- Segments of the text selected by you or automatically via auto-coding.

- Quotations

  - The basic unit of the analysis project

  - Can be linked to codes, memos or other quotations or can be left unlinked

  - Can be of various lengths-

    - Be parsimonious- select only what will be put in the context of your writing, to answer the particular question

  - Linkages between and among codes and quotations and memos can be viewed as rich graphic representations called networks

Understand Levels of Coding

- Identify and *label* general categories through open coding

- Keep track of notes and ideas in *memos*

- Identify distinct categories and *sub-categories*

- Find *relationships* among categories through <u>axial</u> coding

- Determine which among your categories are *core categories* that begin to answer your research questions

- Integrate categories through *selective coding (links between core categories and other categories)*

- *Confirm* your categories and ideas by triangulation

Co-occurring Codes

Refers to:

❑ When a code has been used to code quotations
that are in close proximity to another code

❑ When a code is applied to a segment of text that
overlaps with another code, or

❑ When a code directly follows another quotation.

Importing Co-Occurring Codes

- The proximity of coding applied to a text can also be exploited via the Query Tool's "co-occurrence"

  - Query Tool provides quotations for explicitly specified codes, but the *import* function brings in only the codes

❑ To import co-occurring codes:

✓ Select one or more codes in the Network Editor.

  ✓ Choose NODES / IMPORT CO-OCCURRING CODES from the Network Editor's menu.

Memos

- Spaces to type in notes pertaining to

  - Reflection

  - analysis

  - Interpretation

  - integration• Spaces where to make sense of the data.

• Done during coding.

• Link memos to other codes, quotations, and

other memos.

Code Families

- Grouping of primary documents, codes,

  and memos according to shared

  characteristics

  - Permits comparison across cases, conceptual

    categories and themes

Code Networks

- Shows semantic relationships among codes, and among quotations
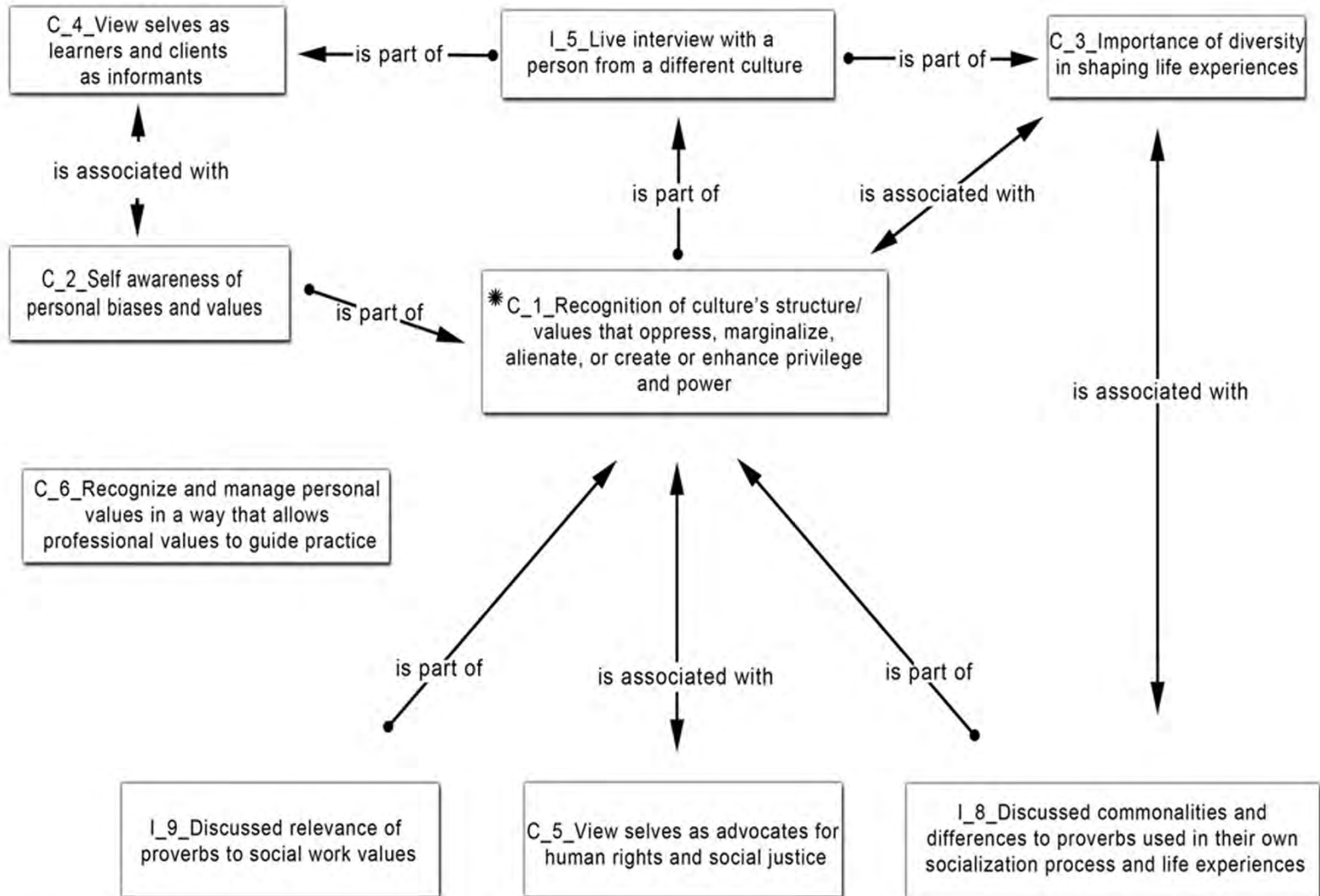 - Example of a code Network from a Cultural Competence Assessment follow

FIGURE 2. Graphical representation of competency codes in relation to instruction codes.

Resources

(http://www.atlasti.com/download.html)

– Quick tour

Setting up a new project

– Chapters of the manual

• Data management

• Creating, opening, and saving a HU

• Project back-up and transfer

• Book by Susanne Friese "Qualitative Analysis with ATLAS.ti". London: Sage, 2012.

• Companion website of the book: http://www.quarc.de/qualitative-data-analysiswith-

atlasti/companion-website.html

• Youtube- videos

Using ATLAS ti to analyze data

- Let's take a PEEK!!!!