

# Nvivo

## A Brief Introduction to Coding Qualitative Data with Nvivo

Dr. Anjali Dash  
Assistant Professor (Economics)  
School of Management  
Centurion University of Technology and Management

# Table of Contents

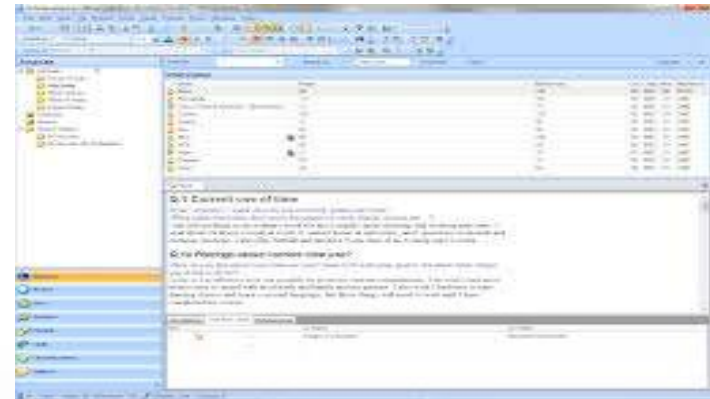
- ▶ Part 1: The Foundations
  - Preliminary Considerations
  - Education, Experience, Planning
  - Ways of Approaching Nvivo
  
- ▶ Part 2: Orientation to Nvivo
  - The Basics
  - Intermediate/Advanced Functions
  - Other uses for Nvivo



# Preliminary Considerations

I'm NOT paid by Nvivo to Provide Training Sessions

- ▶ Nvivo is a great tool, but there have been some real problems with the programme over the years.
  - Still can crashes easily.
  - You need to save your project often.
  - Problems in multiple users, ensuring you've merged projects properly.
  - You need to ensure a lot of space on your computer... don't download Nvivo onto an already near full laptop



Computer Assisted programmes are great tools... but you have to do the appropriate evaluation to ensure the programme is right for you!

# Preliminary Considerations

Explore the different software options best for you

- ▶ There are alternatives to Nvivo, such as:
  - ATLAS.ti
  - MAXqda
  - Dedoose
- ▶ There are also some Open Source options:
  - Aquad
  - CATMA
  - Compendium



dedoose  
Great Research Made Easy

# Preliminary Considerations

## Bibliometric Analysis of Nvivo and ATLAS.ti

### Nvivo Publication Data

- ▶ 2013 (158)
- ▶ BMC Public Health (19)
- ▶ Bandara, W. (9)
- ▶ University of Sydney (22)
- ▶ Canada (78)
- ▶ Medicine (481)
- ▶ Social Work (6)

### ATLAS.ti Publication Data

- ▶ 2013 (103)
- ▶ Patient Education & Counselling (9)
- ▶ Szecsenyi, J. (8)
- ▶ University of North Carolina (16)
- ▶ Canada (26)
- ▶ Medicine (314)
- ▶ Social Work (4)

# Preliminary Considerations

## What are the Pros and Cons of CAQDA?

### Positive Aspects

- ▶ Single Location for Storage of Data
- ▶ Easy access to sources
- ▶ Analyzes large amount of data
- ▶ Consistency of analysis
- ▶ Help with theory building

### Negative Aspects

- ▶ Proximity to the Sources of Analysis
- ▶ Easy to think of Nvivo as the 'method' when it is the tool.
- ▶ Time & Effort to become efficient
- ▶ Reluctance to change categories once formed

# Preliminary Considerations

## Different Ways of Thinking about Data Analysis

- ▶ One qualitative research method is to prioritize coding and data on oxford cards... as Peter Weeks from STU does..
  - String a clothesline within your work area against the wall.
  - Use Oxford cards for content or other ideas
  - Colour code your cards
  - Prioritize your ideas





# Preliminary Considerations

At what point should I consider using Nvivo?

- ▶ Less than 25 hours of coding? You can do it by hand.
- ▶ 25–60 hours of coding? Perhaps you should use Nvivo.
- ▶ Greater than 60 hours of coding? Definitely consider using Nvivo



- ▶ Auld, et al. (2007). Development of a decision tree to determine appropriateness of NVivo in analyzing qualitative data sets.





When learning a new  
programme...especially  
Nvivo, seek Zen  
Patience!



# Education, Experience, Planning

What Nvivo Software “WON’T” do for you?

▶ **Education:** You still must have a foundation in Qualitative Research Methods.

- Action Research
- Ethnography
- Grounded Theory
- Indigenous Methodologies
- Life History
- Narrative Research
- Phenomenology

Nvivo *won't* interpret your data for you! ... or we'd all be out of job.



# Education, Experience, Planning

What Nvivo Software “WON’T” do for you?

- ▶ **Experience:** Ideally, it would be good to have ‘some’ experience coding or interpreting documents thematically.
- ▶ **Planning:** Although more will be said later in the presentation, it’s good to have a plan for coding prior to any major project.

However, this is Qualitative Research. We must feel free to explore the data and not be hampered by pre-structured design.



# Education, Experience, Planning

## What Nvivo Software “WILL” do for you?

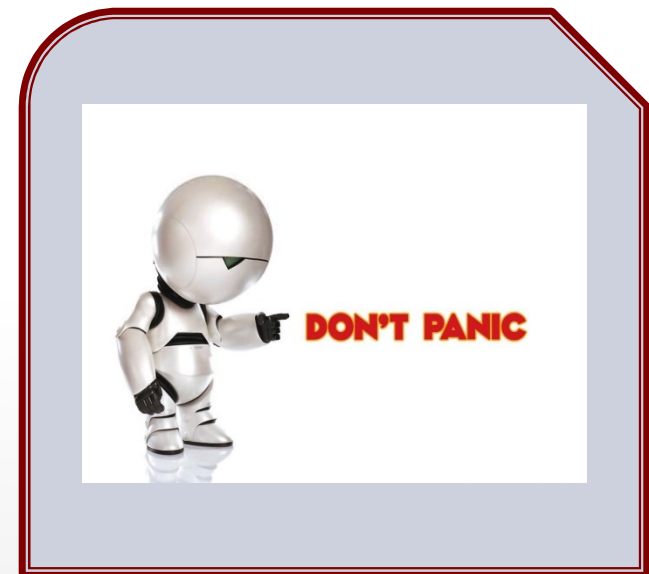
- ▶ Provide Ways to Organize your Research
  - Create folders and subfolders
    - Audio, Videos, documents, etc.
  - Save Bibliographic Information
  - Assign attributes to subjects
    - Age, gender, Education, etc.
- ▶ Provide Ways to Analyze your Research
  - Provides you with many ways to compare and synthesize your data.
    - Queries
    - Models
    - Reports

Nvivo provides a type of *Audit Trail* for your work. You have greater visibility & transparency of the research process. Reliability of coding can be tested.

# Education, Experience, Planning

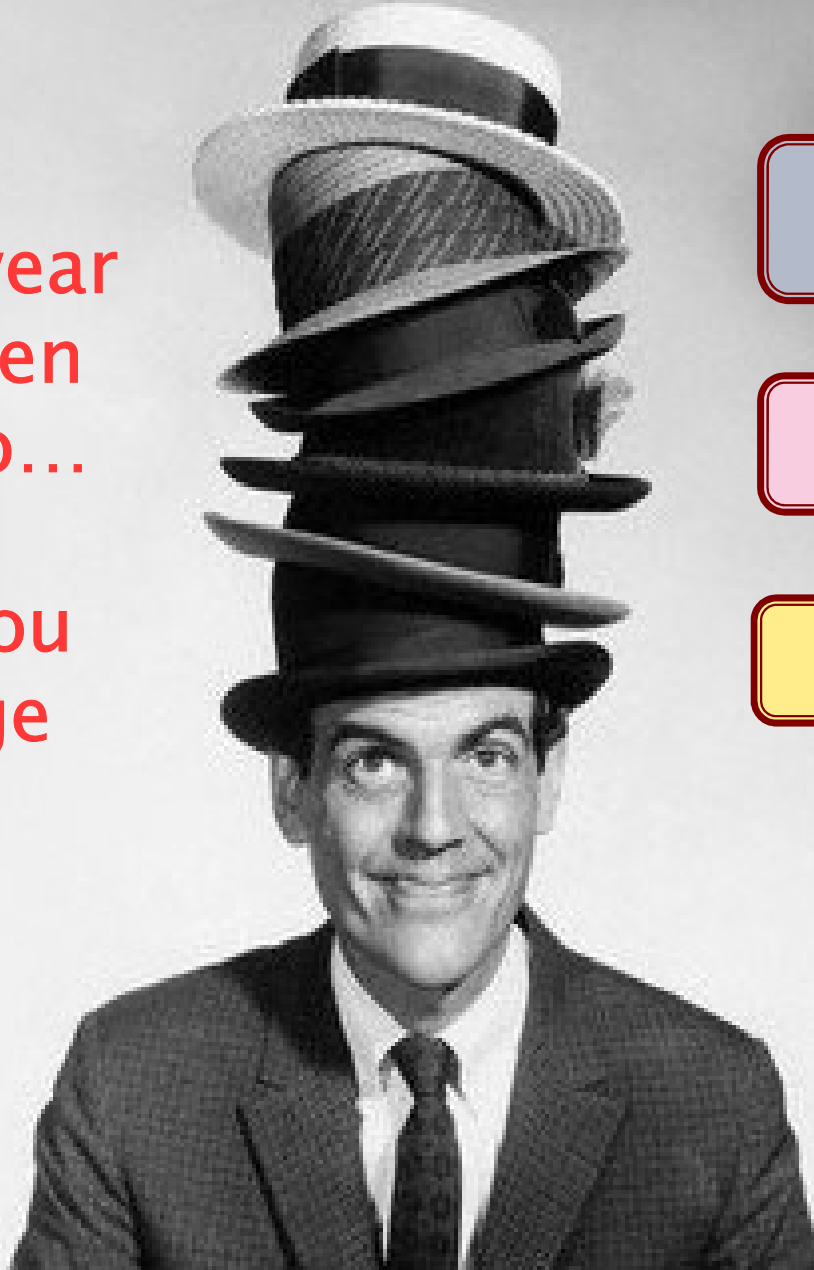
## Important Things to Know about using Nvivo

- ▶ Unless you try REALLY hard, you cannot completely mess up your Nvivo project.
  - There is an undo button... so don't panic!
- ▶ Although you want to be free to code interesting data, think before you code.
  - People who are immersed in their project tend to over code.



You have to wear many hats when learning Nvivo...

especially if you manage a large project...



Project Manager

Philosopher

Librarian

# Ways of Approaching Nvivo

## Project Management Perspective on Nvivo

- ▶ Being part Project Manager taking a Systems approach to the project, from beginning to end.
  - Do you Know the software limitations?
  - Can you actually get the data you want from the software?
  - What are the Technical issues with multiple people working on the same project?



“The key to creativity is to begin with the end in mind, with a vision and a blue print of the desired result.”  
*Stephen Covey*



# Ways of Approaching Nvivo

## Librarian Perspective on Nvivo Software

- ▶ Being part Librarian for assigning categories, classifying data and folders.
  - How will you name and structure your Source folders?
  - How will you name the Nodes that store your data?
  - How many sub-folders and sub-Nodes will you create?
  - Do you have a plan for consistent coding?



“Mr. Powell raised an eyebrow. 'I'm a librarian,' he said. 'I always know what I'm talking about.’”  
*Gary D. Schmidt*

# Ways of Approaching Nvivo

## Philosopher's Perspective to Nvivo Software

- ▶ Being part Philosopher having the patience and curiosity to fully explore your data
  - Using the Query functions to analyze your data in different ways.
  - Theorizing about data with the Modeling features.
  - Connecting selections of data to other parts of your project with the “Linking” options

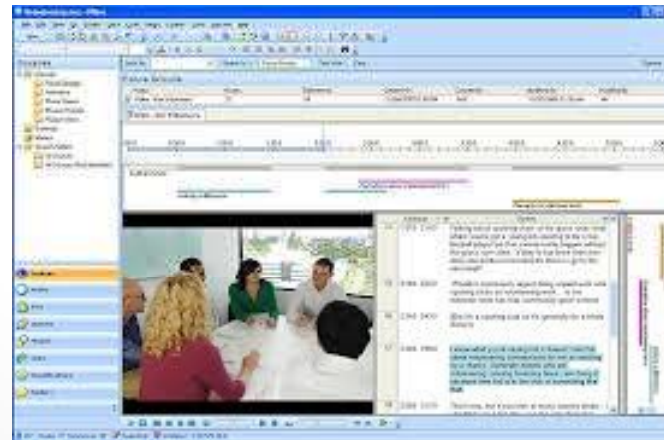


“Words are loaded pistols.”  
*Jean-Paul Sartre*

# Part 1 Conclusion

## Things to Remember about CAQDA

1. Nvivo is a 'Tool'... not a 'Method'
2. You have choices other than Nvivo
3. Know the limitations to using CAQDA.
4. You should have qualitative research education prior to using the software.



Remember that using Nvivo is about saving time, being a more efficient and accurate researcher.

# Part 2 Orientation to Nvivo

Now let's review the basics of the Programme

The screenshot displays the Nvivo software interface. The main window is titled "Nvivo tutorial project.nvp - Nvivo". The interface is divided into several sections:

- Menu Bar:** Includes File, Home, Create, External Data, Analyze, Explore, Layout, and View.
- Toolbar:** Contains icons for Navigation View, Find, Quick-Clipping, Detail View, Close All, Dock All, Undock All, Layout, Zoom, Link View, Node, Classification, Highlight, Coding Strips, Annotations, See Also Links, Relationships, Color Scheme, and Visualization.
- Nodes List (Left):** A hierarchical list of nodes. The "Nodes" section includes: Autozones (Response), Places and People, Relationships, and Matrices. The "Sources" section includes: Nodes (selected), Classifications, Collections, Queries, Reports, Models, and Folders. The "Nodes" list is expanded to show a tree structure with nodes like "Audience (Response)", "Places and People", "Relationships", "Matrices", "Audited", "Balance", "Community", "Economy", "Memorable quotes", "Natural environment", "Policy management", "Real estate development", and "Survey Responses".
- Central Video Player:** Shows a video titled "Betty and Paul" with a "Clickstream" overlay. The video content shows two people, Betty and Paul, sitting at a table in what appears to be a bar or cafe.
- Clickstream Window (Right):** Displays a transcript of the interview. The transcript is organized into segments with timecodes and speaker names. The visible text includes:
  - Segment 1: "This interview of Betty and Paul was recorded in their bar shop, and the recording captures the hum of their fridges in the background, making their speech a little more difficult to understand."
  - Segment 2: "00:01:01:11 What about the natural environment or the landscape of Down East? Are there things that you particularly like or value about the environment here, or don't like about the environment here?" (Speaker: Betty)
  - Segment 3: "0:13:1 - 2:42:9 I have kind of mixed feelings about that in terms of... One thing we see right here, we have lots of foxes trying to live in the little bit of woods we have left, and you see them on the road all the time where they've been killed. I wish we had areas that that wildlife could still grow and not be in danger of being killed on the highway. On the other side, I really wish we had places for the young folks to be able to at least for a short time, or until they could get on their feet to be able to afford their own houses, places for them to be able to live. There's not a whole lot of that down here -- affordable anyway. You buy a piece of land, and you've spent just about all your money just"

# The Basics: Navigation View

Navigation View allows you to quickly select functions



Very briefly, the navigation view allows you to select different Nvivo functions quickly.

- ▶ Sources
- ▶ Nodes
- ▶ Classifications
- ▶ Collections
- ▶ Queries
- ▶ Reports
- ▶ Models



# The Basics: Internals

Internals is the main ‘folder’ for storing your data



- ▶ “Sources” is the collective term for your research or project materials—anything from interview transcripts to video of research settings.
- ▶ Sources include:
  - Internals (field notes, transcripts)
  - Externals (Links to video footage)
  - Memos (Notes and thoughts)

# The Basics: Qualitative Education

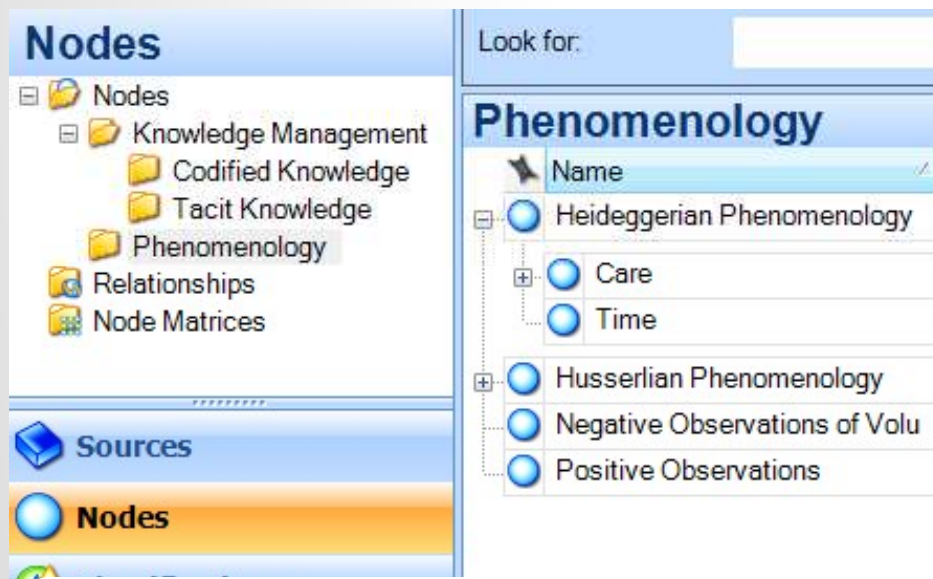
Your Analytic Methods can guide Node creation

- **Phenomenology:** Identify descriptions of the phenomenon; cluster into discrete categories; these describe the “essence” or core commonality and structure of the experience.
- **Discourse Analysis:** Examine how understanding is produced through a close look at the words. Interested in how the story is told, what identities, activities, relationships, & shared meaning are created via language.
- **Grounded Theory:** Open, axial, & selective coding: Examine concepts across their properties & dimensions; develop an explanatory framework that integrates the concepts into a core category.



# The Basics: Nodes

Nodes are the way you code your qualitative data



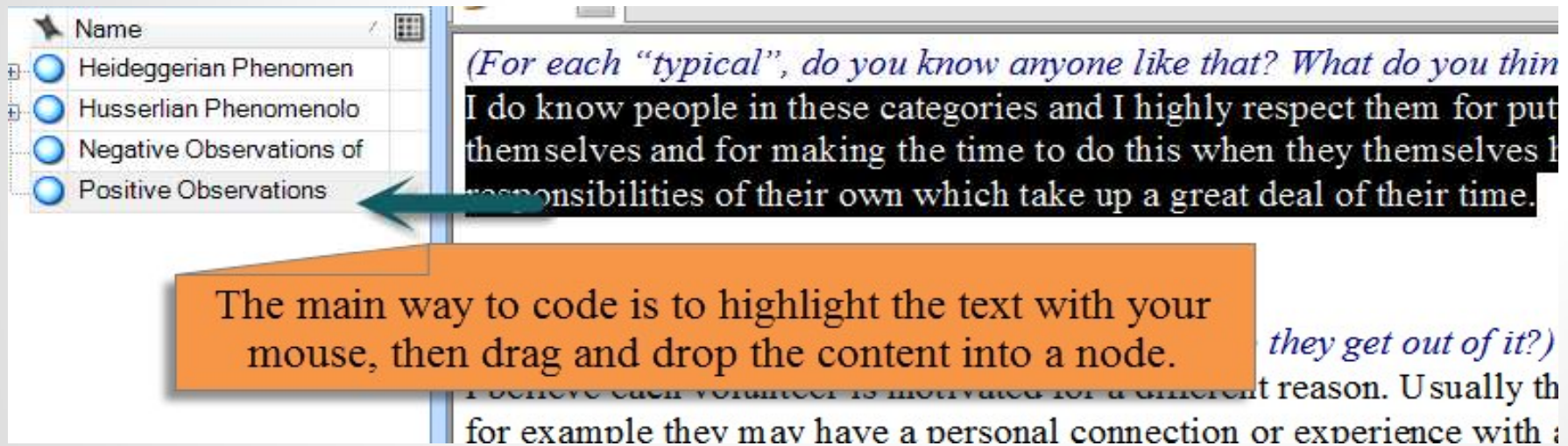
Notice that you can create sub-folders to store your nodes (on the left) and create sub-Nodes for your content (on the right).

▶ These are *thematic categories* you generate

- Persons
  - Organizations
  - Emotions
  - Subjects
  - Memorable Quotes
- 
- What is important to your work?

# The Basics: Coding to Nodes

Nodes are the way you code your qualitative data



The screenshot shows a software interface for qualitative data analysis. On the left, there is a 'Name' column with a list of nodes: 'Heideggerian Phenomenon', 'Husserlian Phenomenology', 'Negative Observations of', and 'Positive Observations'. On the right, a text document is open, showing a paragraph of text. A black text box highlights a portion of this text: '(For each "typical", do you know anyone like that? What do you think I do know people in these categories and I highly respect them for putting themselves and for making the time to do this when they themselves have responsibilities of their own which take up a great deal of their time.)'. A green arrow points from this highlighted text to the 'Positive Observations' node in the list. An orange callout box with a white border contains the text: 'The main way to code is to highlight the text with your mouse, then drag and drop the content into a node.'

The main way to code is to highlight the text with your mouse, then drag and drop the content into a node.

- ▶ There are other ways to code data such as:
  - Auto-coding: Setting up coding structures in MS Word which automatically organize themselves into Nodes.
  - Query Coding: Query your data, and turn the results of your question into a Node to be reviewed.

# The Basics: Reviewing a Node

The Node can be Reviewed in the Software or Printed

The screenshot shows the Nvivo software interface. On the left, a tree view under 'Phenomenology' lists nodes: 'Heideggerian Pheno', 'Husserlian Phenome', 'Negative Observation', and 'Positive Observations'. The 'Positive Observations' node is selected. The main window displays a node review for 'Positive Observations' with a tab labeled 'Positive Observations'. The node path is '<Internals\\Interviews\\Anna>' with 1 reference and 3.71% coverage. Below this, the text 'Q.7b Housing in Hondura' is shown, followed by a quote: 'Your thoughts about Ross and the... Ross is making a tangible impact, a passion for helping the poor and u... development of third world countries.' Below the quote, another node path is shown: '<Internals\\Interviews\\Bernadette>' with 1 reference and 5.72% coverage. Red arrows point from a text box to the node paths.

**Phenomenology**

- Name
- Heideggerian Pheno
- Husserlian Phenome
- Negative Observation
- Positive Observations

**Positive Observations**

<Internals\\Interviews\\Anna> - § 1 reference co

Reference 1 - 3.71% Coverage

**Q.7b Housing in Hondura**

*Your thoughts about Ross and the*

Ross is making a tangible impact, a passion for helping the poor and u development of third world countries.

<Internals\\Interviews\\Bernadette> - § 1 referen

Reference 1 - 5.72% Coverage

To review what you've coded, double click on the Node and review the material in the window on the right.

▶ Notice that Nvivo separates the content of the different participants

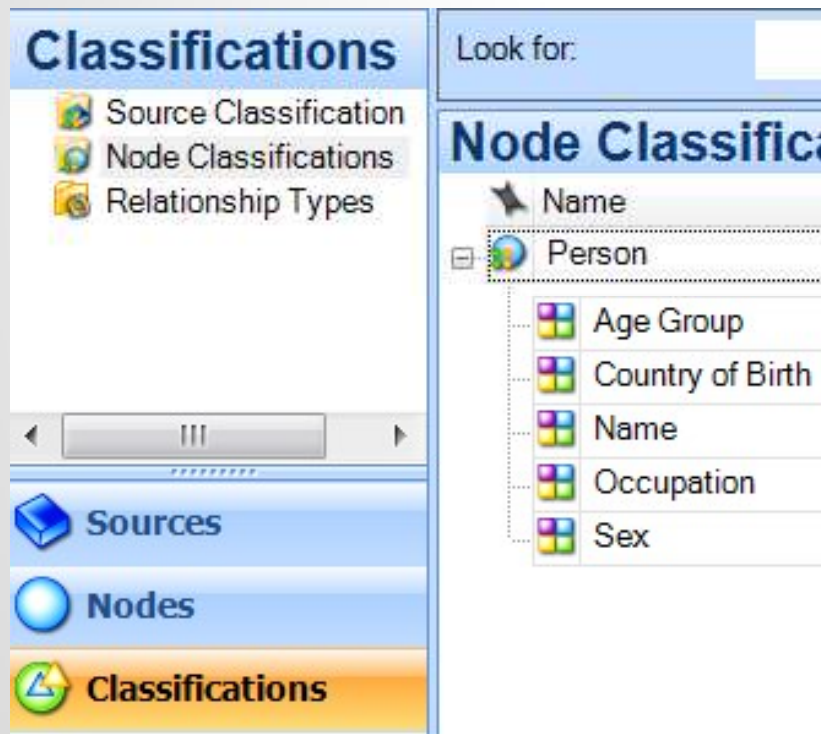
# Review: What are the Basics?

This is the most basic functioning of Nvivo

- ▶ Import or create an Internal (e.g., Interview saved in MS Word)
- ▶ Save that to an appropriate folder, perhaps named “Interviews”.
- ▶ Create Nodes which are the themes or categories for storing your coding.
- ▶ Double click an Internal (Interview with Paul), select content with mouse, drop and drag to Node.
- ▶ When done, you can double click the Node to review it... you can print it off or export it to MS word to work with it further.

# Intermediate / Advanced Functions

Cases or Case Nodes are the Fundamental Unit of Analysis



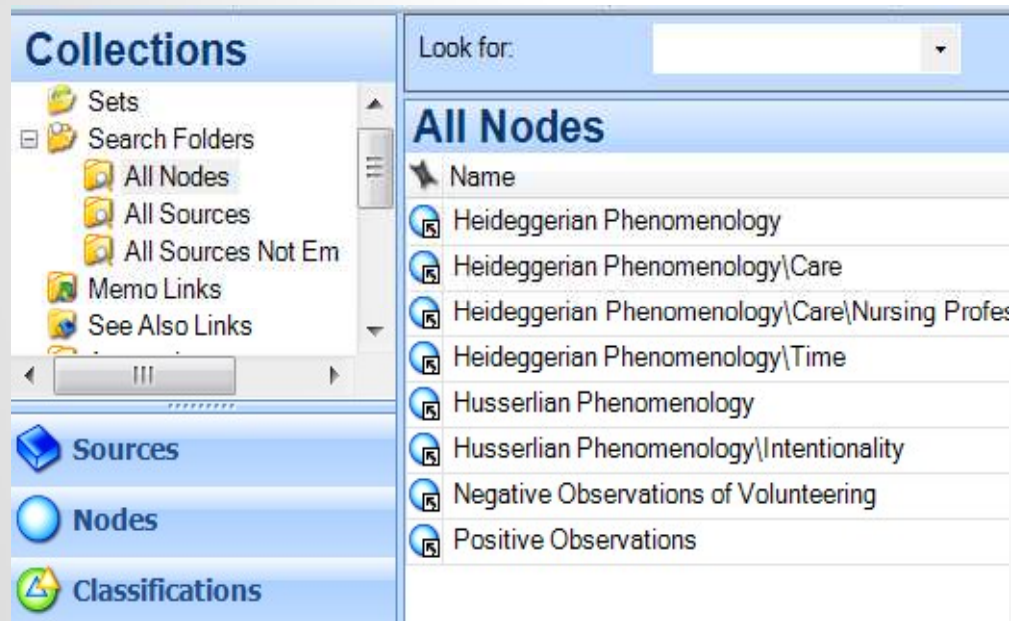
You can use Nvivo's template for "Person" or create your own.

- ▶ Let's Imagine we were Interviewing "Paul"
  - The Case is a Person
  - The Person is "Paul"
  - We upload the interview of "Paul" into Sources
  - We can assign attributes to Paul's Case such as:
    - Male, College Education, Plays Guitar, Modestly Intelligent, born in New Brunswick, etc. etc.



# Intermediate / Advanced Functions

COLLECTIONS provide an overall view of your Project

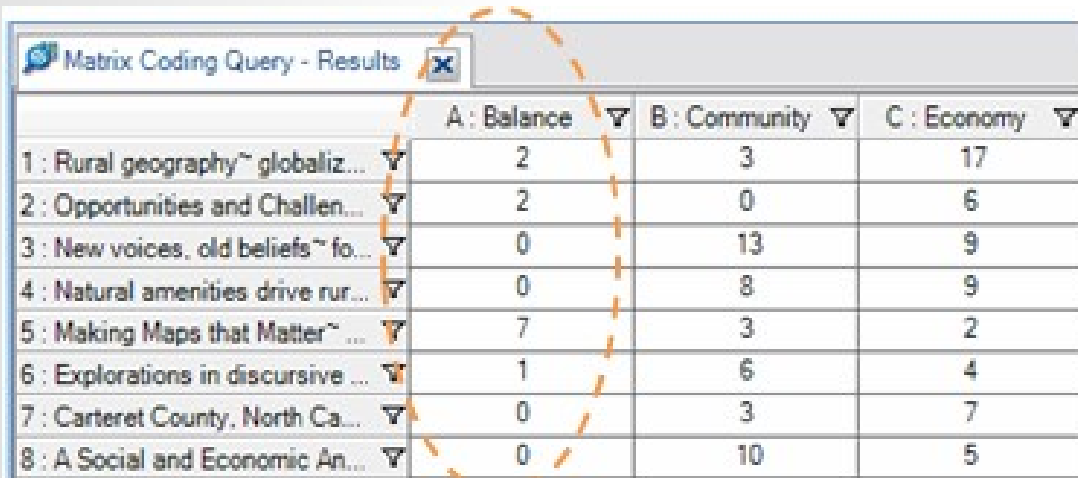


- ▶ Collections are views (or groupings) of project items that are stored elsewhere in your project.
- ▶ Very useful for keeping track of a large project, identifying gaps in your project.

You can create 'Alerts' such as identifying whenever a Male in a certain age range is added to the project.

# Intermediate/Advanced Functions

QUERIES are excellent ways to code large amounts of data



	A: Balance	B: Community	C: Economy
1: Rural geography~ globaliz...	2	3	17
2: Opportunities and Challen...	2	0	6
3: New voices, old beliefs~ fo...	0	13	9
4: Natural amenities drive rur...	0	8	9
5: Making Maps that Matter~ ...	7	3	2
6: Explorations in discursive ...	1	6	4
7: Carteret County, North Ca...	0	3	7
8: A Social and Economic An...	0	10	5

One of the most useful Queries is the 'Matrix Query' which allows you to cross-tab what you've coded against various other project items. This helps you identify coding trends.

- ▶ Types of Queries
  - Text
  - Word Frequency
  - Coding
  - Matrix
  - Compound
  - Coding Comparison
  - Group
- ▶ Queries are complicated, and it takes practice and planning to use them correctly.



# Intermediate / Advanced Functions

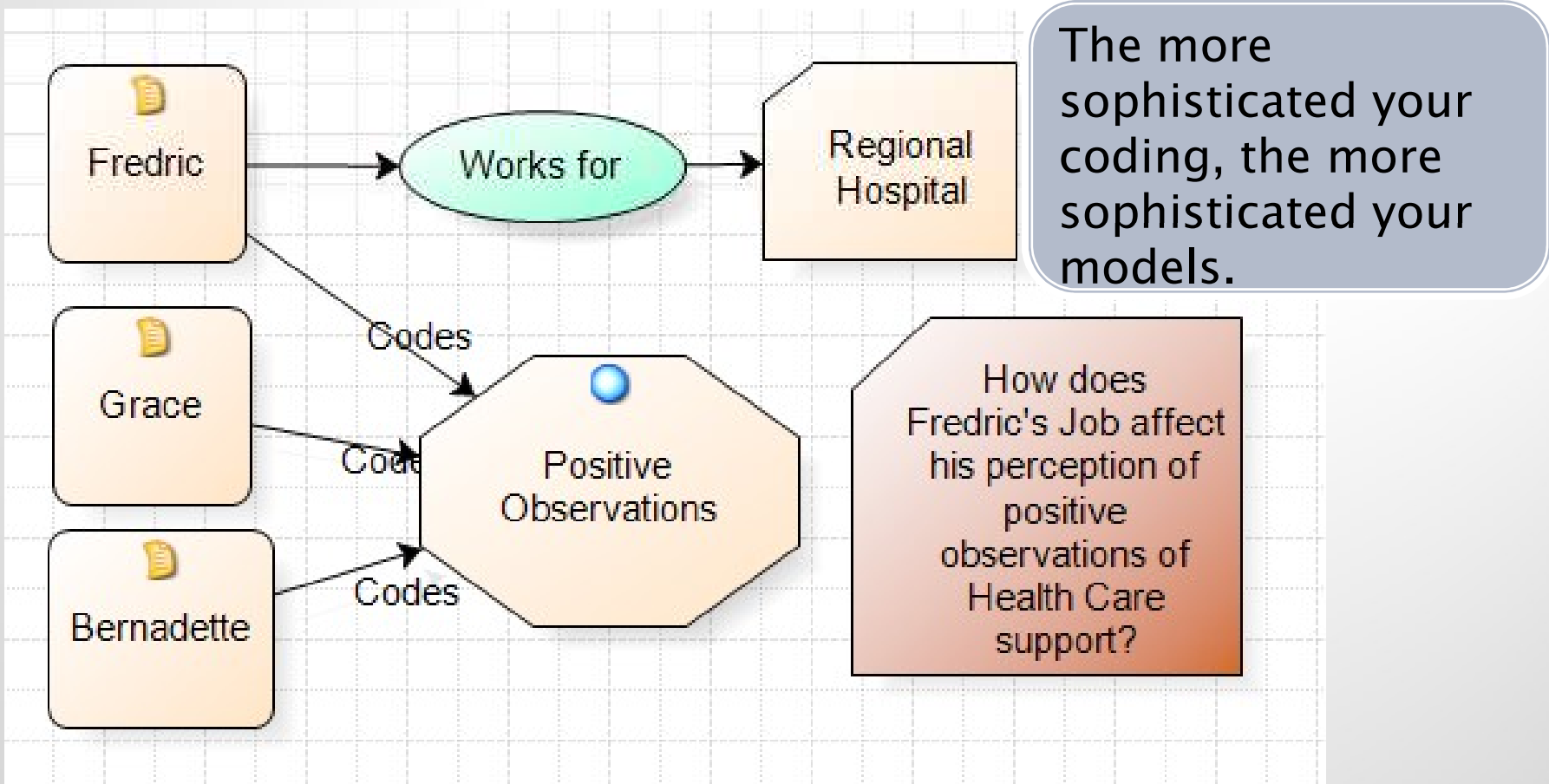
REPORTS are key to identifying your progress using Nvivo

Aggregate	Classification	Coverage	Number Of Coding References	Reference Number	Coded By Initials	Modified On
<b>Node</b>						
Nodes\\Phenomenology\\Positive Observations						
<b>Document</b>						
Internals\\Interviews\\Anna						
No		0.0371	1			
				1	PJG	27/10/2013 10:12 PM
Q.7b Housing in Honduras Your thoughts about Ross and the work he is doing? Ross is making a tangible impact, and the impact is immediately apparent. Ross appears to have a passion for helping underprivileged and an interest in global issues or the development of third world countries.						
Internals\\Interviews\\Bernadette						
No		0.0572	1			
				1	PJG	27/10/2013 10:12 PM
Work? I'm retired now. But no, I guess I see my volunteer work as work Family? Now my children have all grown up my family responsibilities are fairly small. All my grandchildren live in other cities, so I'm not roped into baby sitting and the like. Yes – there's still shopping, housework etc – keeping a home. But I'm not too fussy about that. Maybe amounts						

A report allows you to identify how much you've coded in your project...presented in various ways. For example, a coding summary by Node.

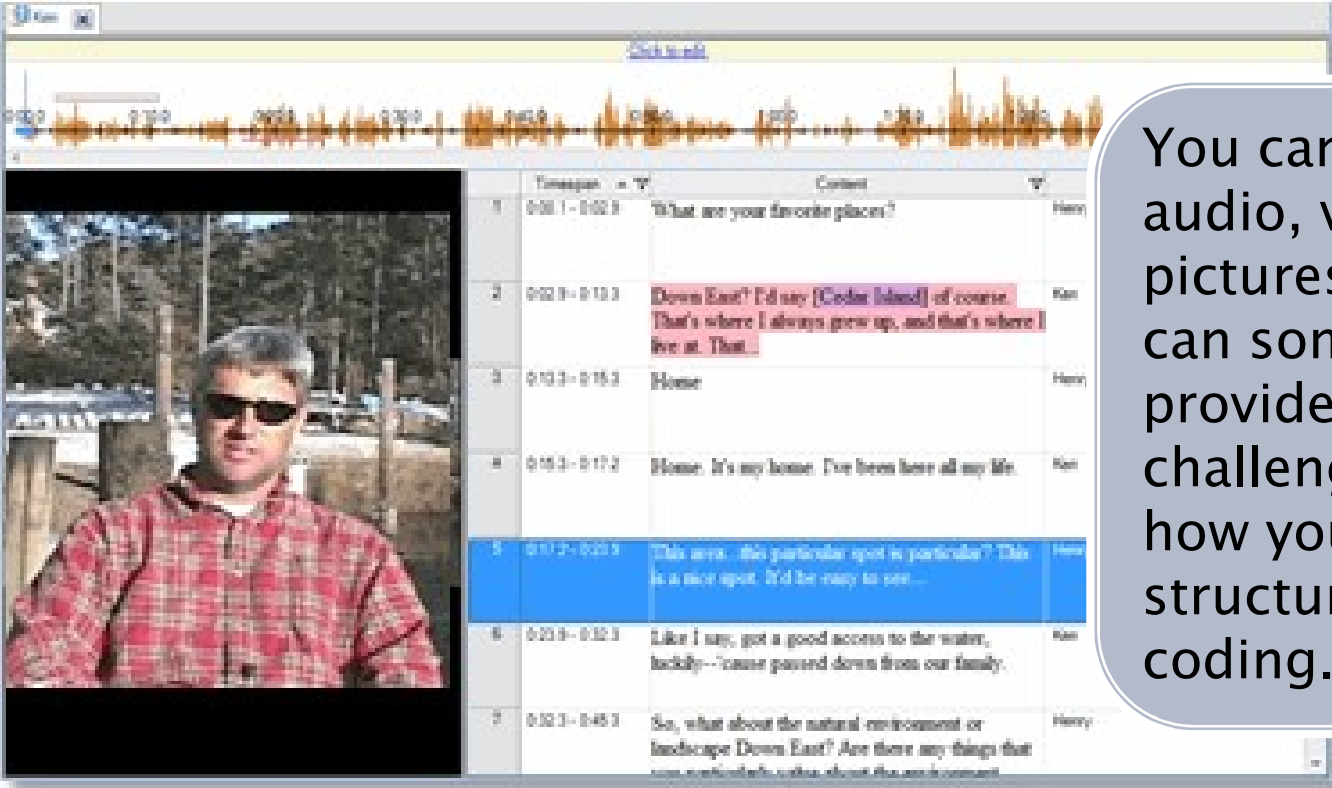
# Intermediate/Advanced Functions

Models provide ways to conceptualize your data



# Intermediate/Advanced Functions

Multimedia Coding allows for dynamic options



The screenshot displays a multimedia coding interface. At the top, there is an audio waveform. Below it, a video frame shows a man in a red plaid shirt and sunglasses. To the right of the video is a table with columns for 'Timespan', 'Content', and 'Type'. The table contains seven rows of data, with the fifth row highlighted in blue.

	Timespan	Content	Type
1	0:01.1 - 0:02.3	What are your favorite places?	Henry
2	0:02.9 - 0:13.3	Down East? I'd say [Cedar Island] of course. That's where I always grew up, and that's where I live at. That...	Ken
3	0:13.3 - 0:15.3	Home	Henry
4	0:16.3 - 0:17.2	Home. It's my home. I've been here all my life.	Ken
5	0:17.2 - 0:23.3	This area... this particular spot is particular? This is a nice spot. It'd be easy to see...	Henry
6	0:23.9 - 0:32.3	Like I say, got a good access to the water, backly--house passed down from our family.	Ken
7	0:32.3 - 0:45.3	So, what about the natural environment or landscape Down East? Are there any things that you particularly like about the area's content?	Henry

You can code audio, video, and pictures. These can sometimes provide further challenges as to how you should structure the coding.

# Intermediate/Advanced Functions

Social Media Coding can take place via NCapture

The screenshot displays the Nvivo software interface. On the left, a sidebar contains a 'Sources' panel with a tree view including 'Internals', 'Interviews', 'Social Media', 'Externals', 'Memos', and 'Framework Matrices'. Below this are buttons for 'Sources', 'Nodes', 'Classifications', 'Collections', 'Queries', 'Reports', 'Models', and 'Folders'. The main workspace is titled 'Social M' and shows a web capture of a Twitter profile for 'The Bookseller' (@thebooksel...). The profile page includes statistics (285 tweets, 61 following, 56 followers), a 'Compose new Tweet...' box, and a 'Who to follow' section with users like 'edutopia', 'APA PsycNET', and 'The Bookseller'. On the right, a 'tweets' panel displays a list of tweets from various sources, including 'HuffPostEducation', 'The Guardian', 'Scotiabank', 'APAHelpCenter', and 'Ed Week Teacher'. Each tweet includes the user's name, handle, text, and time relative to the capture.

This is a web capture of Twitter which can be coded and analyzed in Nvivo. You capture the results as an Internal, then code to appropriate nodes.

# Other uses for Nvivo

Consider the different ways you can use Nvivo

- **Literature Reviews:** You can use Nvivo to help organize your literature reviews. Not only can you code PDFs, but you can organize all your research themes using Nvivo nodes... you can organize them all at once using Nvivo.
- **Learning/Work Journals:** I update my work journal using Nvivo once every 2 weeks to keep track of my progress on certain committees.
- **Practical Work:** I recently provided advice to a health organization. They needed to use Nvivo to track complaints about different departments and/or services.

# Overall Conclusions

## Things to Remember

- ▶ Consider your software options.
- ▶ Be prepared to spend at least 25–30 hours of training time to feel minimally comfortable with Nvivo.
- ▶ Understand the limitations of the software and of doing computer assisted coding



Remember, using Nvivo software doesn't mean you can't print out your materials, and analyze the data via print. A hybrid approach is perfectly logical.