Introduction to Nvivo: Qualitative Coding for Text Analysis

Cara Marta Messina & Garrett Morrow
Research Methods
Ineke Marshall
Fall 2019

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Activity: Highlighting Themes

With a partner:

- read the sample transcript excerpt on your handouts
- come up with three themes you might want to highlight from this text; these themes should be about 1-3 words (ex: expenses, resource access)
- underline the moments in the passage that reflect these themes

We will then have a discussion about what themes you highlighted and why.

Feel free to ask questions at any point during the presentation!

Workshop Agenda

- Workshop objectives
- Qualitative Coding: annotating and highlighting sources
- What is NVivo?
- Important vocabulary and functions
- NVivo demonstration
- Hands-on activity

Slides & handouts at **http://bit.ly/dti-fall2019-marshall-2**

Feel free to ask questions at any point during the presentation!

Workshop Objectives

- Define qualitative coding and why it can be useful while doing research
- Understand what NVivo is as a research tool and what it can do
- Learn important NVivo-specific vocabulary to aid independent research

Feel free to ask questions at any point during the presentation!

Qualitative Coding

In our beginning activity, we practiced a form of **qualitative coding** together.

Qualitative coding is when you create a list of themes, or a **schema**, that you want to analyze in a primary/secondary source. Then, you review those sources and highlight particular moments from the text according to those themes.

Feel free to ask questions at any point during the presentation!

What is NVivo?

NVivo is a **text analysis** and **research organization** software that is available through MyNU. NVivo provides methods for you to annotate and code documents using user-created tags (nodes/codes), summarize and visualize these codes, and organize research materials.

NVivo is particularly helpful for organizing and annotating research materials such as:

- secondary sources: scholarly articles you read for the literature review, newspaper articles, book chapters.
- primary sources: any primary sources you may be analyzing such as interview transcripts, texts, or field notes
- your own notes about your project (you can even compose in NVivo)

Feel free to ask questions at any point during the presentation!

What can NVivo do?

NVivo is designed for qualitative coding research materials, such as survey results, interviews, audio recording, text documents, articles, and other data formats. It also has other functions:

- create projects that store, organize, and code documents/files
- provide a method for you to code your documents with a user-created coding schema (nodes)
- query, summarize, organize, and visualize information about your coding
- conduct forms of computational text analysis, like word counts, on the documents themselves

Feel free to ask questions at any point during the presentation!

Nvivo for Annotating & Coding Research

With NVivo, you can store and organize your **primary** and **secondary** sources together (most file types work, including images). You can also separate your different types of research materials. For this project, your research materials are your interview transcriptions and survey results.

NVivo also allows you to **annotate** texts and use **qualitative coding** methods to highlight specific texts/images/pieces under themes.

Then you can **summarize** and **visualize** these annotations and codes.

Feel free to ask questions at any point during the presentation!

NVivo is NOT cross-platform friendly

The Mac and PC versions of Nvivo–as well as the version numbers–are different and have different file types.

- Mac NVivo projects end in .npvx and can only open that file project type
- Windows NVivo projects end in .npv, but can open both .npv *and* .npvx
- Version numbers (10, 11, 12) also impact which projects can be opened on which platform

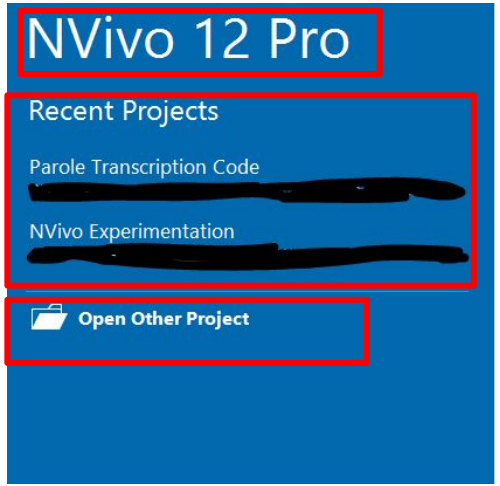
Feel free to ask questions at any point during the presentation!

Anatomy of NVivo: Opening on Windows

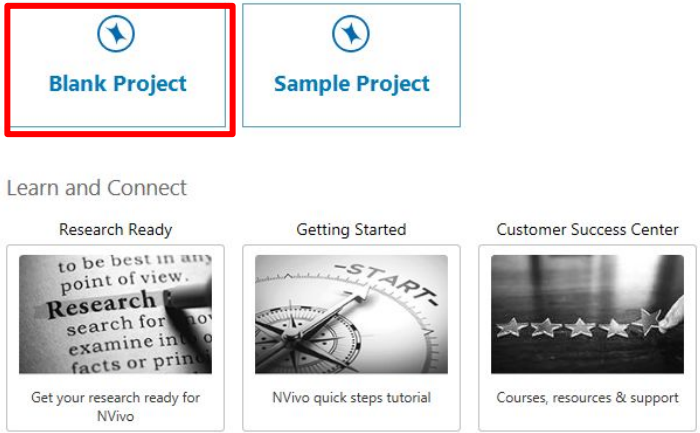
Your version number (you should have version **11** or **12**)

The recent projects you opened

Open another project that is not recent



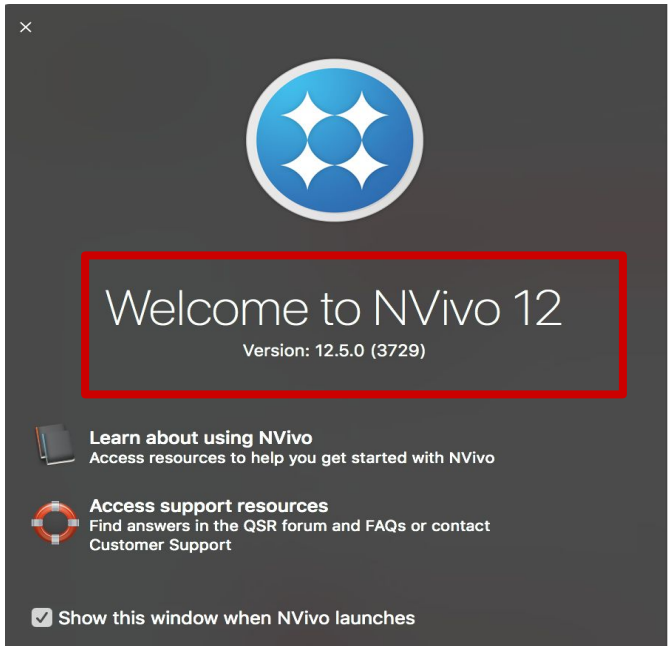
Create a new **project** (stores all your documents, codes, etc)

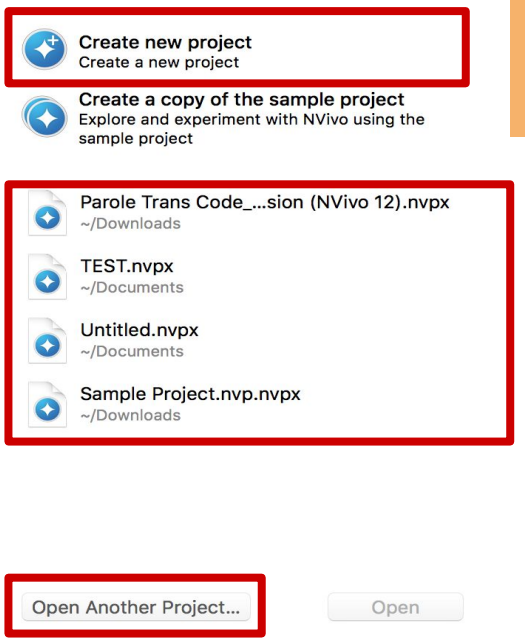


Feel free to ask questions at any point during the presentation!

Anatomy of NVivo: Opening on Macs

Your version number (you should have version **11** or **12**)





Create a new **project** (stores all your documents, codes, etc)

The recent projects you opened

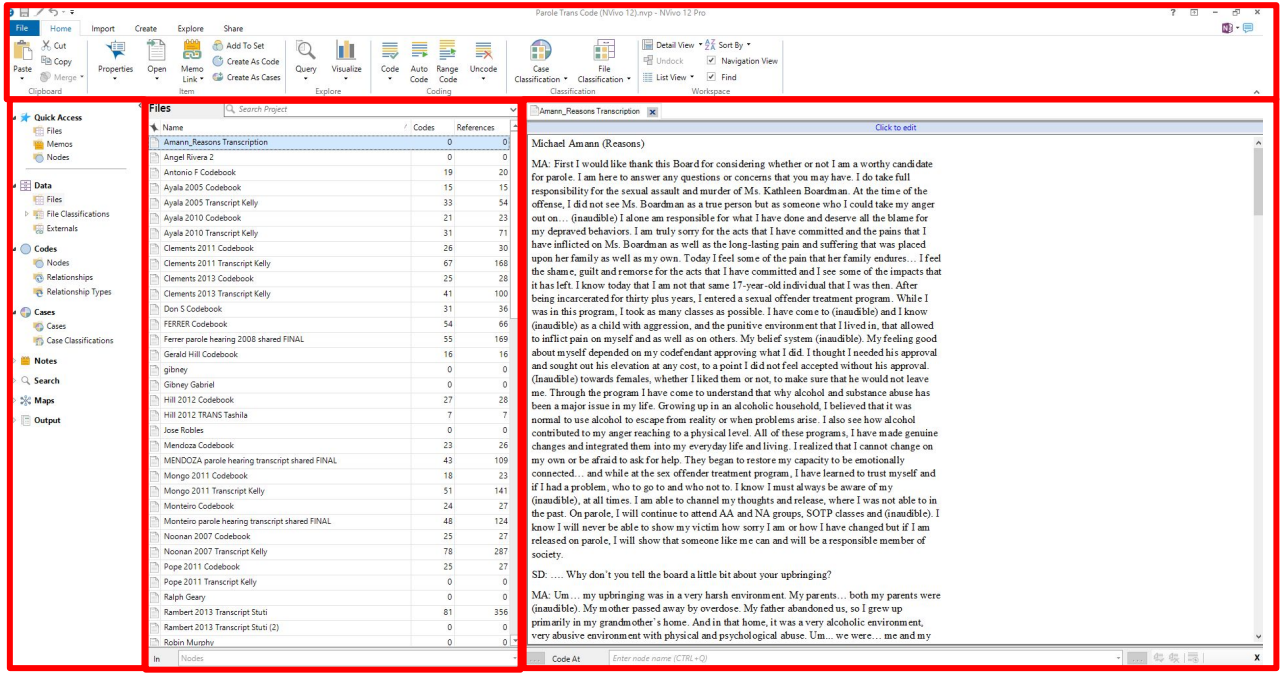
Open another project that is not recent

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Anatomy of NVivo: Projects on Windows

Toolbar to access functions



Menu to access files, nodes, cases, notes, etc.

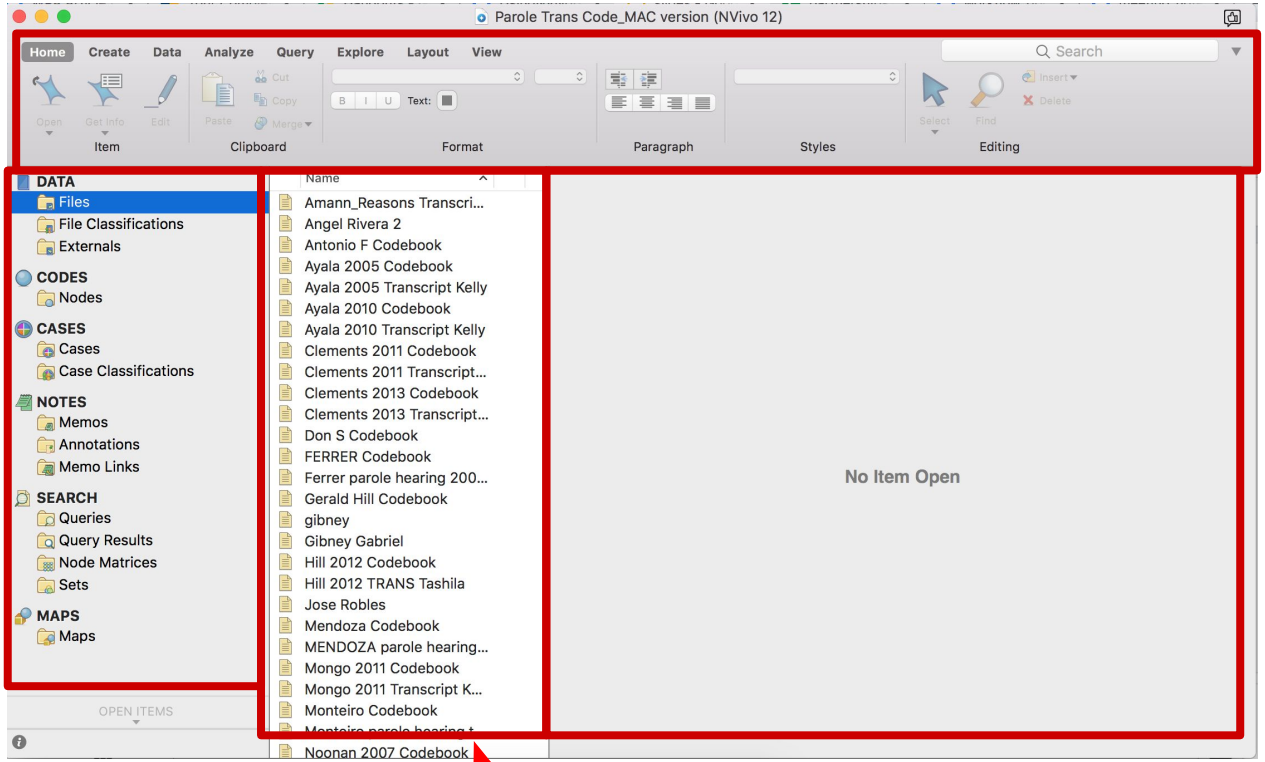
The window that will open the files, queries, etc. You can annotate documents here.

List of nodes, files, etc.

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Anatomy of NVivo: Projects on Macs



Toolbar to access functions

Menu to access files, nodes, cases, notes, etc.

The window that will open the files, queries, etc. You can annotate documents here.

List of nodes, files, etc.

Feel free to ask questions at any point during the presentation!

NVivo Vocabulary

Full definitions available on the handout

- **Data**: your research documents & files
- **Codes**: the method to annotate the themes/concepts
- **Nodes**: the actual themes/concepts that you create
- **Relationships**: coding connections between two data items
- **Cases:** units of analysis for your research.
- **Maps**: visualization tool to see connections between the cases and nodes
- **Query**: a flexible way to explore and analyze your files, cases, and nodes

Feel free to ask questions at any point during the presentation!

Demonstration

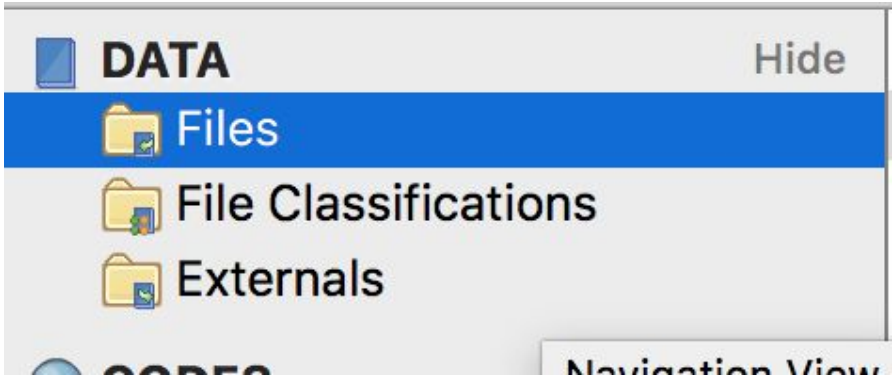
Using the sample transcript from the handout and another sample transcript excerpt , we will quickly show you how to input the documents, code, and visualize your codes!

You don't need to follow along at this moment–you will have a chance to explore NVivo later. If you would like, though, the transcripts are available for download at **http://bit.ly/dti-fall2019-marshall-2**

Feel free to ask questions at any point during the presentation!

Data

The “Data” in NVivo are all the research materials you are using (scholarly articles, transcriptions, newspapers, research notes, etc.).



“Files” will be where you can access all the research materials you have imported into this project.

Feel free to ask questions at any point during the presentation!

Important Reminders

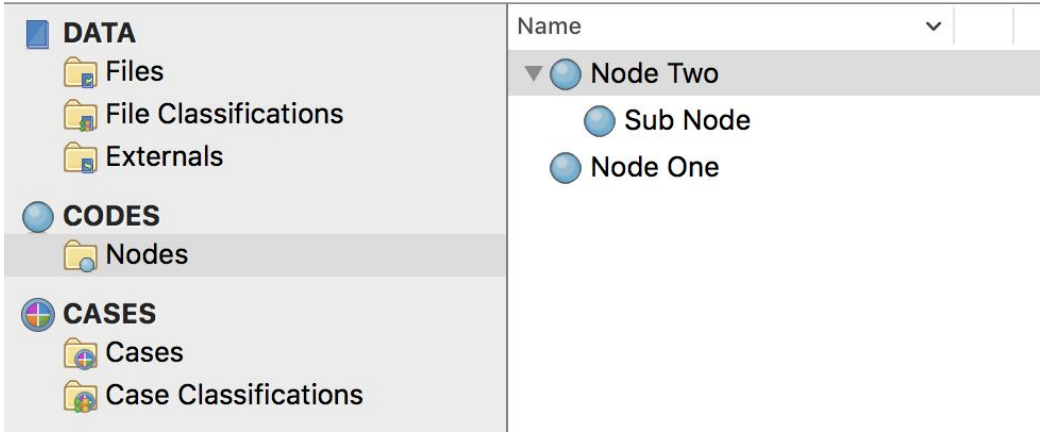
NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.

You should always **save** your original documents on your local computer or in cloud storage, even if these documents are imported into NVivo. NVivo can store documents, but it is more of an organization and analysis tool, rather than a storage option.

Feel free to ask questions at any point during the presentation!

Codes and Nodes

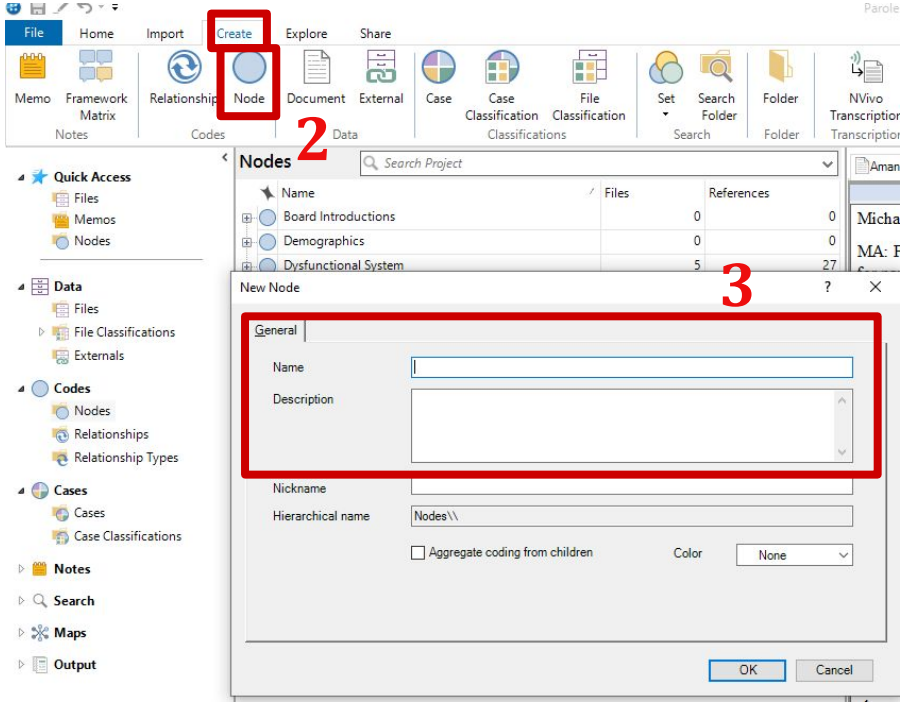
The list of nodes you will use to code your files. The “nodes” folder will be empty until you add your own! You can add nodes and sub-nodes



Feel free to ask questions at any point during the presentation!

Creating Nodes (Windows)

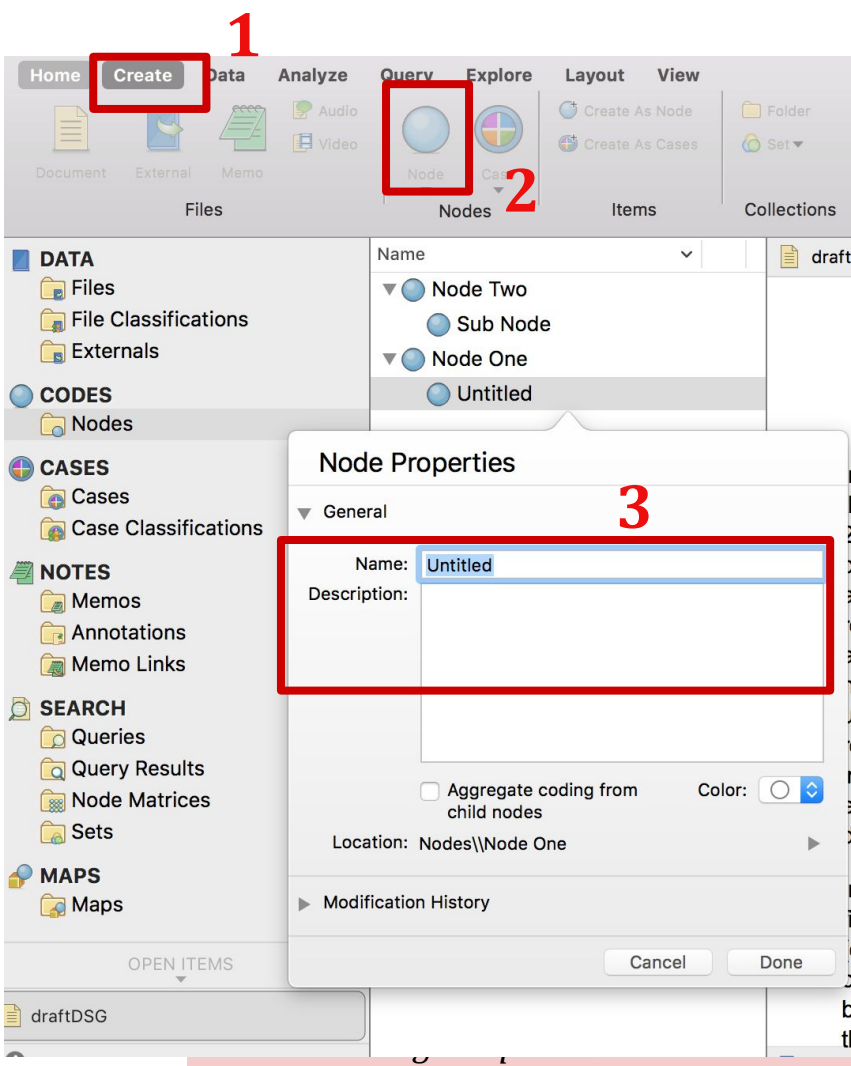
1. Go to “Create” in the toolbar
2. Click “Node”
3. Your new node will pop up and ask for a name and description
   a. To add a *subnode*, follow the same steps, but click on the original node where you want to add the subnode



Feel free to ask questions at any point during the presentation!

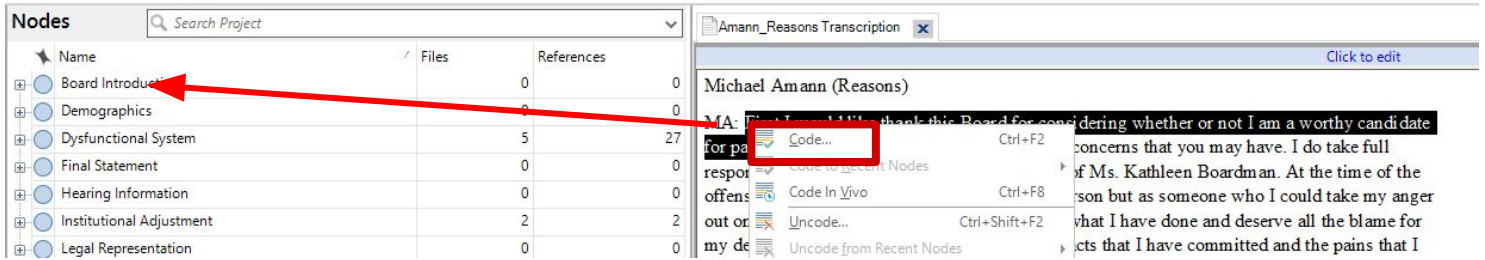
Creating Nodes (Macs)

1. Go to “Create” in the toolbar
2. Click “Node”
3. Your new node will pop up and ask for a name and description
   a. To add a *subnode*, follow the same steps, but click on the original node where you want to add the subnode



Coding Files/Documents (Windows)

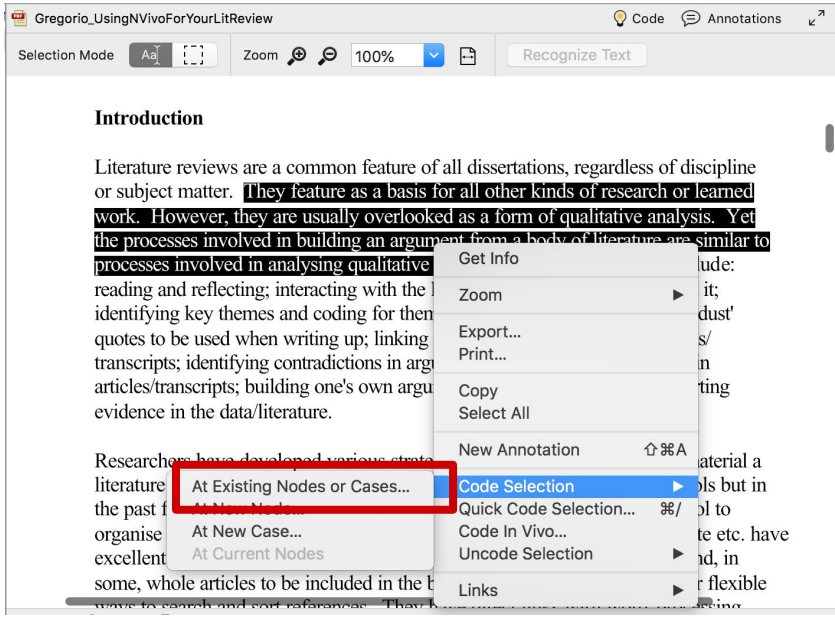
1. Open the file you would like to annotate
2. Highlight the text you want to code
3. Drag and drop the selection onto a node
4. Alternatively, you can Command/Control+click and select “Code”
5. You can also add new nodes/cases as you annotate



Feel free to ask questions at any point during the presentation!

Coding Files/Documents (Macs)

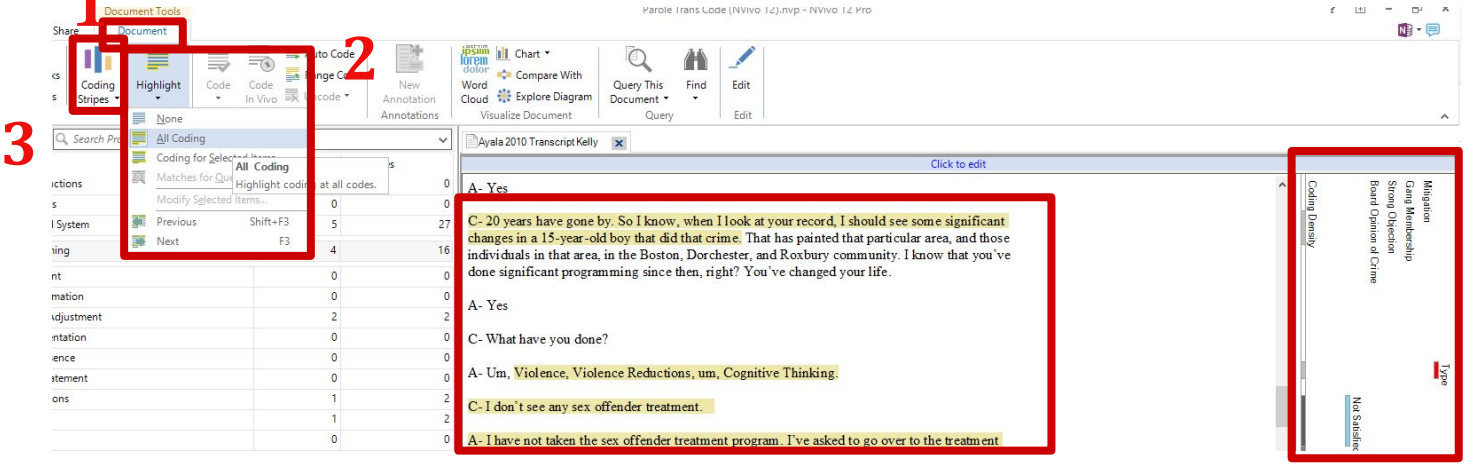
1. Open the file you would like to annotate
2. Highlight the text you want to code
3. Command/Control+click and go to “Code Selection”
4. Click “At Existing Nodes or Cases”
   a. Once you use nodes, the nodes will show up when you click “Code Selection”
   b. You can also add new nodes/cases as you annotate



Feel free to ask questions at any point during the presentation!

View Your Codes (Windows)

1. Go to “Document” in the toolbar
2. Click “Highlight” then “All Coding”
3. Click “Coding Stripes” and “All Coding” to see the code names and where they appear in the document.
    a. If you have tagged an entire file as a “case,” everything will be highlighted. Simply choose “Coding for Selected Items”



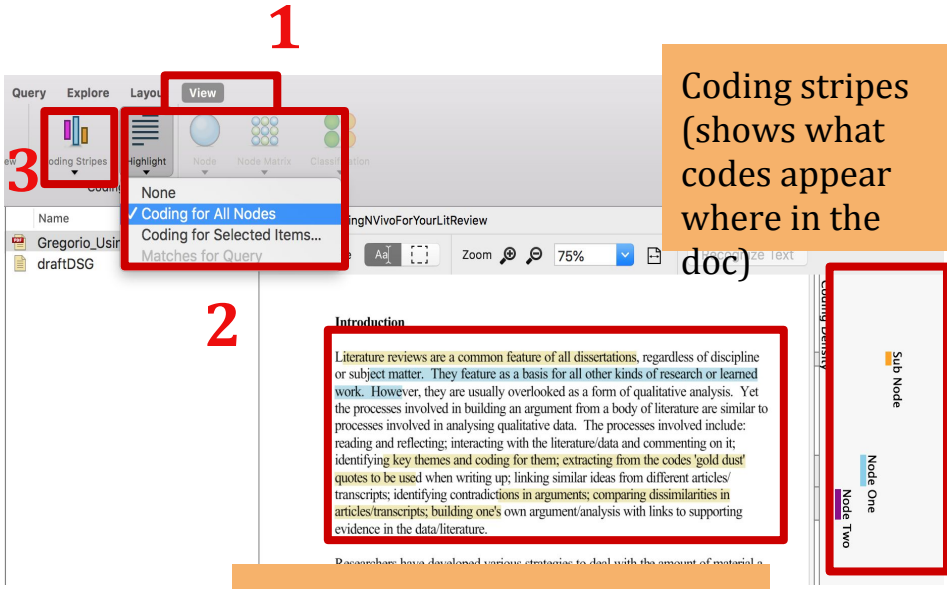
Coding stripes (shows what codes appear where in the doc)

The document you are coding and annotations

Feel free to ask questions at any point during the presentation!

View Your Codes (Macs)

1. Go to “View” in the toolbar
2. Click “Highlight” then “Coding for All Nodes”
3. Click “Coding Stripes” and “All Nodes Coding” to see the code names and where they appear in the document.
    a. If you have tagged an entire file as a “case,” everything will be highlighted. Simply choose “Coding for Selected Items”



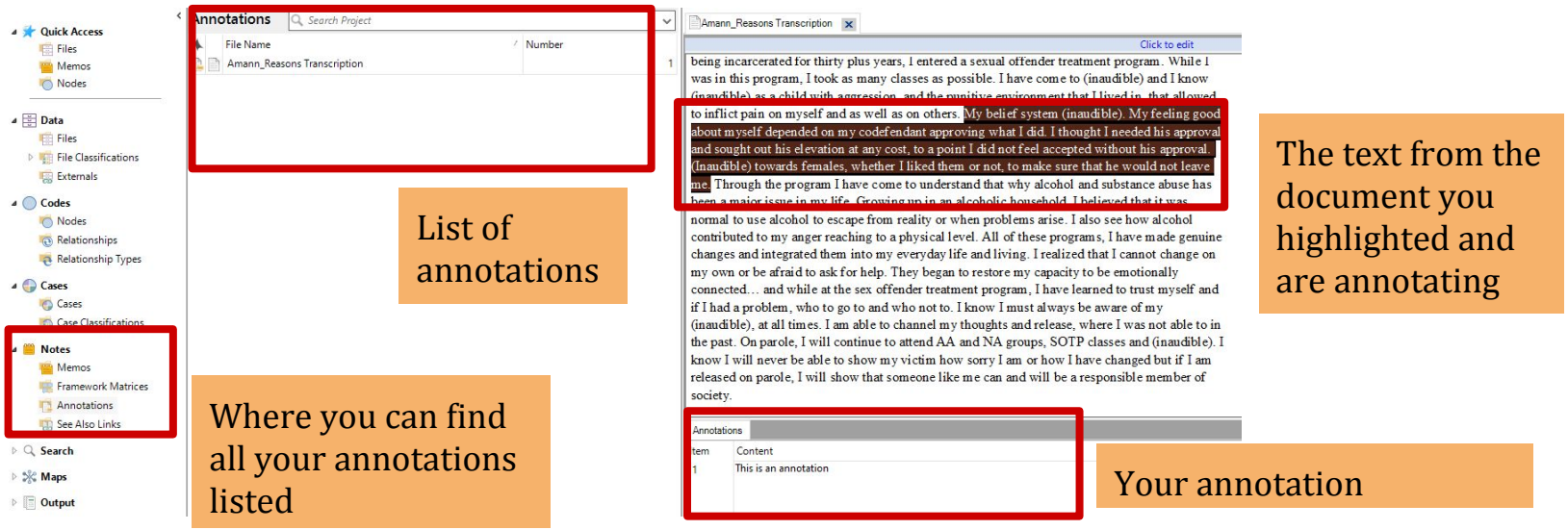
Coding stripes (shows what codes appear where in the doc)

Your document you are coding and annotation (yellow = codes, blue = annotations)

Feel free to ask questions at any point during the presentation!

Annotating Files (Windows)

To annotate (comment), follow the same steps as coding except click "New Annotation" instead after you highlight and Command/Control click. Find all your annotations in the "Notes/Annotations" section in the left menu

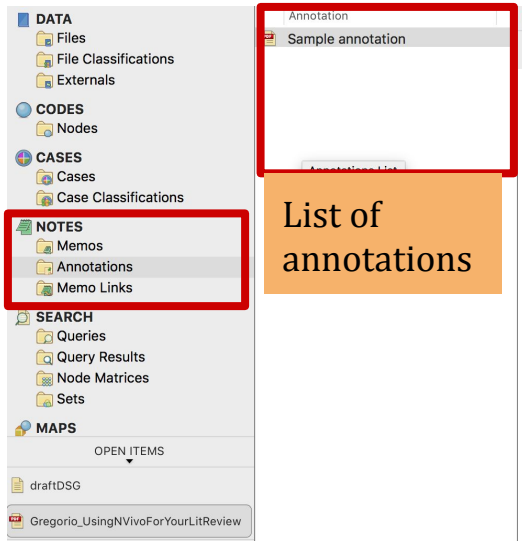


Feel free to ask questions at any point during the presentation!

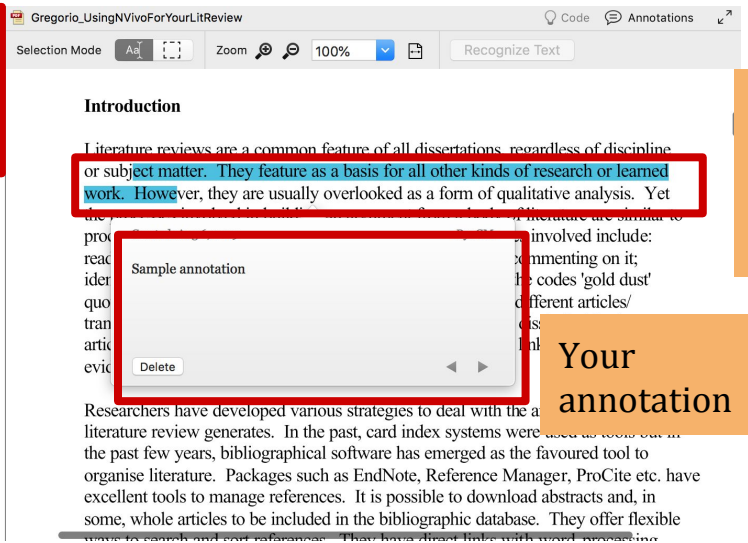
Annotating Files (Macs)

To annotate (comment), follow the same steps as coding except instead click “New Annotation” after you highlight and Command/Control+click. Find all your annotations in the “Notes/Annotations” section in the left menu

Where you can find all your annotations listed



List of annotations



The text from the document you highlighted and are annotating

Your annotation

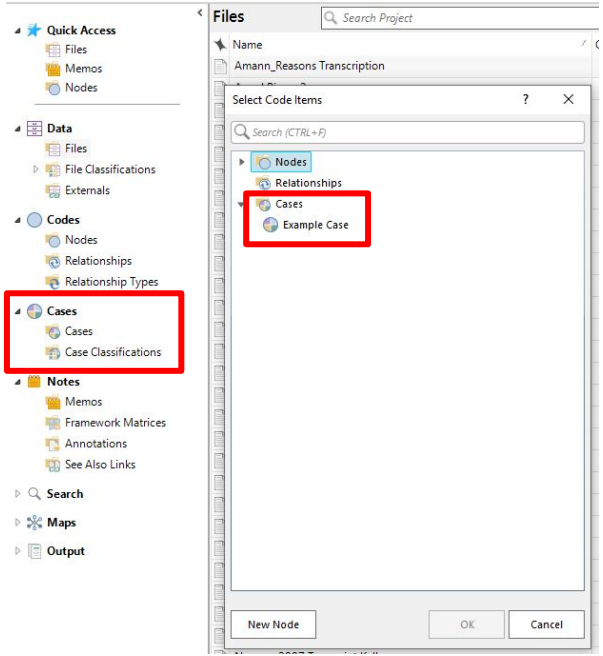
Feel free to ask questions at any point during the presentation!

Cases (Windows)

Cases are the types of research texts in your project; they can be organized based on your selections. "**They might represent people, places, events, organizations or other entities that you want to analyze and compare.**" For example, if you have several transcripts from different trials, but want to categorize the type of trial for each text, you would use cases to do so.

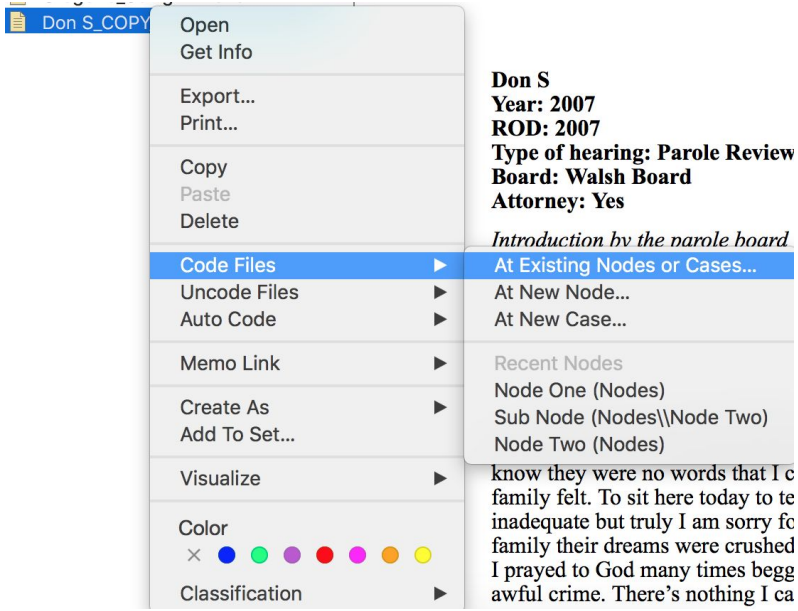
-"About Cases", NVivo

To add a "case" to a file, it's the same method as adding a node, except you choose the "Cases" folder and the proper case.



Feel free to ask questions at any point during the presentation!

To add a “case” to a file, it’s the same method as adding a node, except you choose the “Cases” folder and the proper case.



Cases (Macs)

Feel free to ask questions at any point during the presentation!

Querying

Querying, or asking something from your data, in NVivo provides multiple ways to explore both your codes and your texts.

- **Word Frequency**: Counts the number of times words (with stopwords removed) appear in one or more files
- **Coding**: Shows the number of codes, the text that was coded, and the files
- **Crosstab**: cross-references nodes and case classifications. For example, you might want to know how often a particular node appears in both scholarly articles and your primary texts.

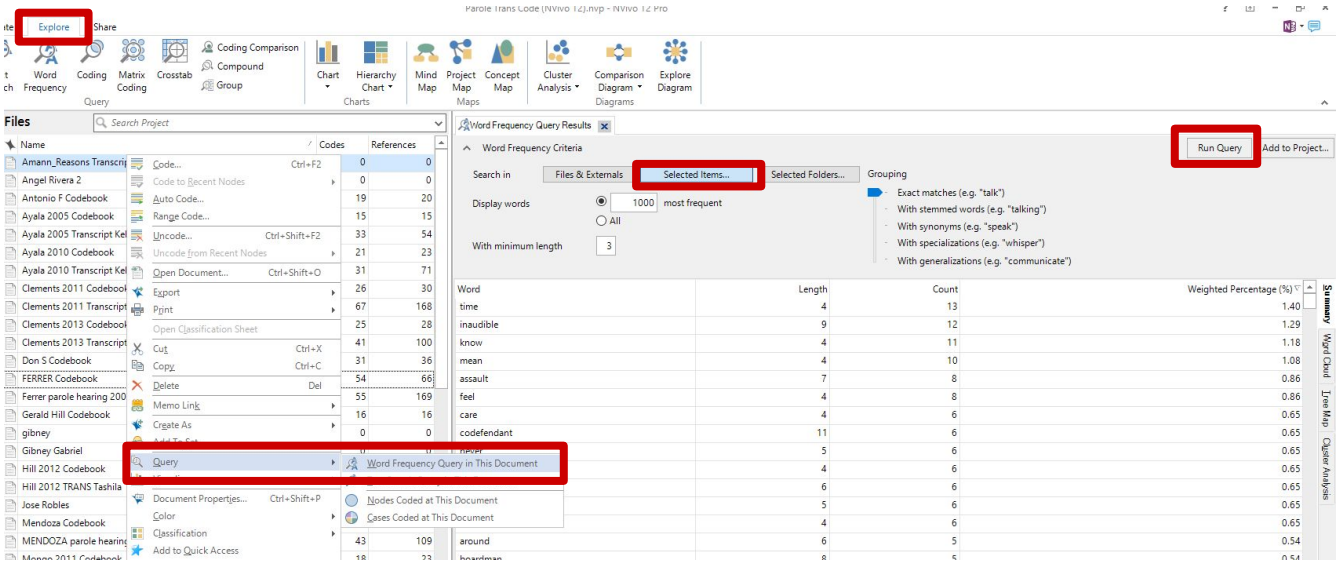
Feel free to ask questions at any point during the presentation!

Word Frequency Example (Windows)

"Query" can be found in the "Explore" Tab

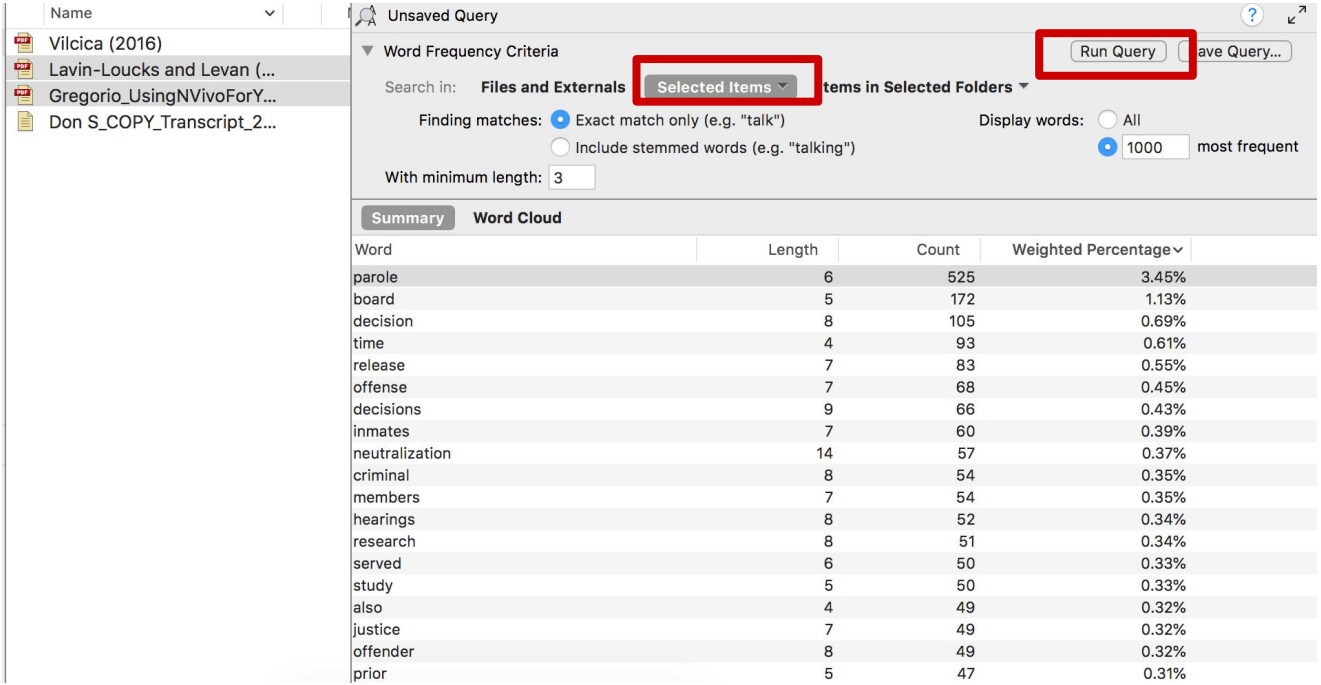
Alternatively, you can Command/Control+click on a file and select "Query"

To query multiple items, select the items you would like to query in the "Selected Items" tab and then click "Run Query"



Word Frequency Example (Mac)

Select the items you would like to query in the "Selected Items" tab and then click "Run Query"

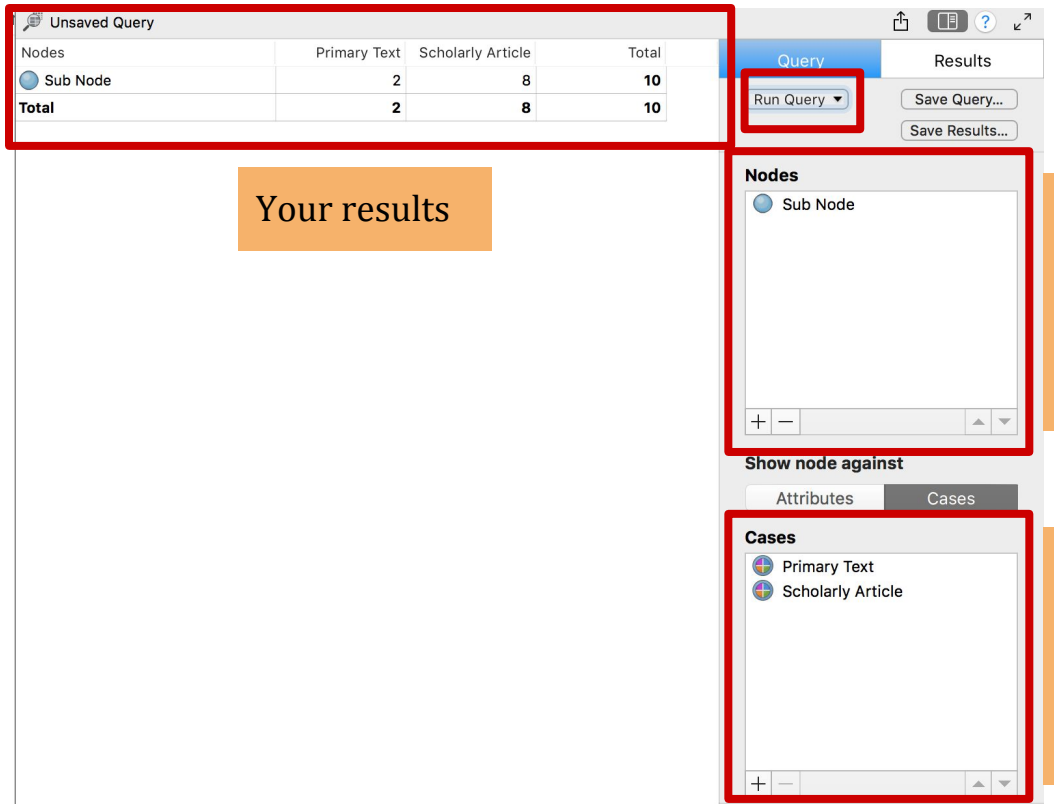


Word	Length	Count	Weighted Percentage
parole	6	525	3.45%
board	5	172	1.13%
decision	8	105	0.69%
time	4	93	0.61%
release	7	83	0.55%
offense	7	68	0.45%
decisions	9	66	0.43%
inmates	7	60	0.39%
neutralization	14	57	0.37%
criminal	8	54	0.35%
members	7	54	0.35%
hearings	8	52	0.34%
research	8	51	0.34%
served	6	50	0.33%
study	5	50	0.33%
also	4	49	0.32%
justice	7	49	0.32%
offender	8	49	0.32%
prior	5	47	0.31%

Feel free to ask questions at any point during the presentation!

Cross Tab Example

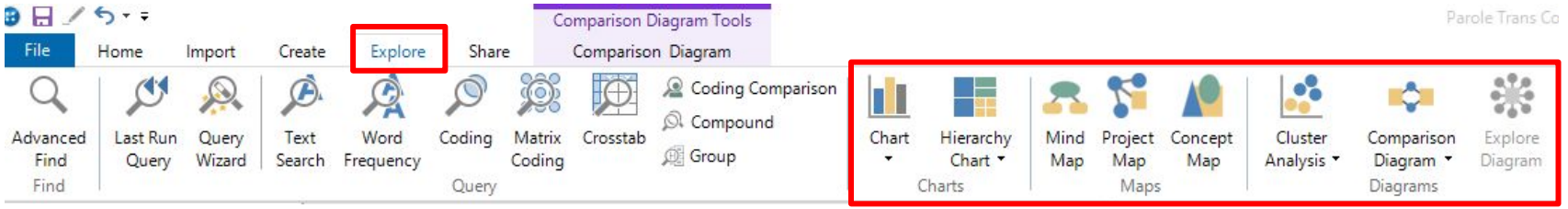
Select the nodes you would like to cross reference with the cases or attributes, then click “Run Query.”



Feel free to ask questions at any point during the presentation!

Exploring Codes (Windows)

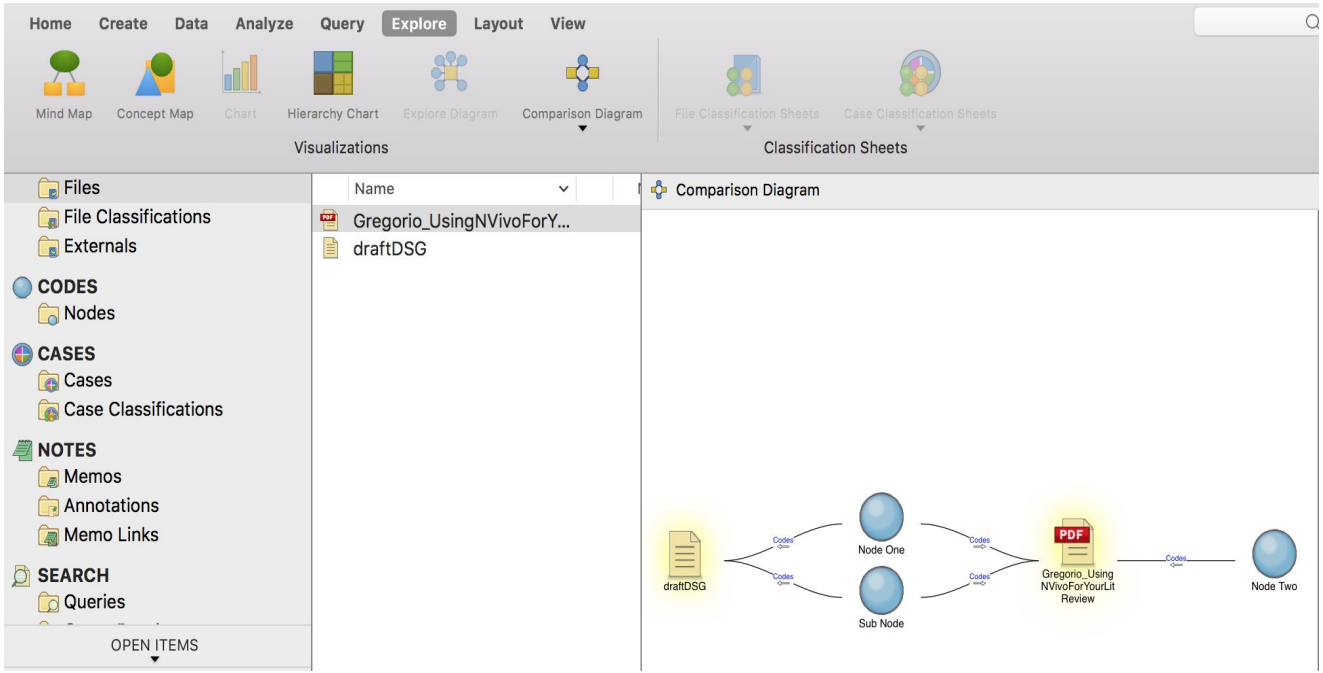
Chart: bar chart of the number of times codes were used in a file
Hierarchy chart: visualizes number of codes used in a file
Explore Diagram: explore the codes used in a file
Comparison Diagram: compare the nodes used in multiple files



Feel free to ask questions at any point during the presentation!

Exploring Codes (Macs)

Comparison diagram example



Feel free to ask questions at any point during the presentation!

Qualitative Coding is about *Interpretation* and *Arguments*

The nodes you create are **arguments** themselves; you are choosing what information you value and want to extract from the transcripts

Feel free to ask questions at any point during the presentation!

Showing and Interpreting your work

You can take **screenshots** or save your results from queries to show your work as you're researching, organizing, annotating, and coding your sources.

Use these results to emphasize your argument.

For example, if you're interested in understanding food access at Northeastern, you might look at how often did your interviewee mention food. How is food mentioned? What are the connections between food and first year experiences?

Feel free to ask questions at any point during the presentation!

Your Turn

Using your interview transcripts, practice:

- inputting the documents
- creating nodes/cases
- coding the documents
- visualizing your codes

Find these slides at **http://bit.ly/dti-fall2019-marshall-2**

Feel free to ask questions at any point during the presentation!

Group Discussion

- What did you find surprising or interesting in your exploration of the tool?
- What are some challenges you faced? How might you work with these as you move forward?
- How else might you use NVivo in your future studies/career?

Feel free to ask questions at any point during the presentation!

Thank you!

If you have any questions, contact us at:

Cara Marta Messina
Digital Teaching Integration
DTI Assistant Director
messina.c@husky.neu.edu

Garrett Morrow
Digital Teaching Integration
DTI Research Fellow
morrow.g@husky.neu.edu

Slides, handouts, and data available at **http://bit.ly/dti-fall2019-marshall-2**

Office hours for help with NVivo: **Tuesdays, 1–3PM in 401 Nightingale Hall**

Feel free to ask questions at any point during the presentation!