

# Introduction to NVivo: Qualitative Coding for Text Analysis

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CRIM 6200: Criminology Capstone Project

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Northeastern University  
*NULab for Texts, Maps, and Networks*

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

# Workshop Agenda

- Qualitative Coding: annotating and highlighting sources
- What is NVivo?
- Important vocabulary and functions
- NVivo demonstration

Slides & handouts at: <https://bit.ly/diti-spring2022-singer>



# 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

Note: NVivo is massive, so we will cover only the essentials



# Qualitative Coding

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 instances in the text according to those themes.



# Coding in practice

key, at that point.

M: Sure sure, so I did not understand, what was the comparison with other five, with other locals, did they have more issues or less, or did they also have that similar experiences like you, across all those different locals [26]

R1: They had, you know, similar experiences that I did. Very strong, present, you know, walking. I didn't see hear, early on, anyways for the initial, when we pulled them that day, the Thursday, that anyone was saying "i'm not going". Didn't hear that from anybody. Didn't hear it from my local, didn't hear it, you know because all the locals have facebook pages too. You know, they have, social pages, so you can also keep in touch that way, and, you know, between reading and [unclear], you know talking to [unclear] and stuff like that, we were hearing nothing but positive feedback, on on, people walking. People were ready. They were angry, with the contract that was being presented, and they were ready, they were ready to take it, to go to the sidewalk [27] so to speak. And then, and to state their point, yep.

M: Can I maybe ask you yes, related to that anger, like, how did people, hm how to say, how did they precisely rationalize their anger, or, how did they justify their anger. What did they say, who, or how did they understand, why that injustice was being done to them. How did they understand why the managers at all decided to offer them such a bad contract, how did they think about that anger?

R1: Sure. So, with that, when we, when we, with the organizer, we met earlier, weeks earlier to, so, we met up in [unclear], the organizer brought as many - you know, every, its open invitation, to any local member of the store, to come to this, rather large gathering of people [28] where he broke down the contract. So, not only if you couldn't make, these contract breakdowns came back to the store, and were handed out to, individuals to read, and were posted on the union board. So, the people had time to see, what the contract, you know, here



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# 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.

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.



# NVivo Vocabulary

Full definitions are 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



# NVivo is NOT cross-platform friendly

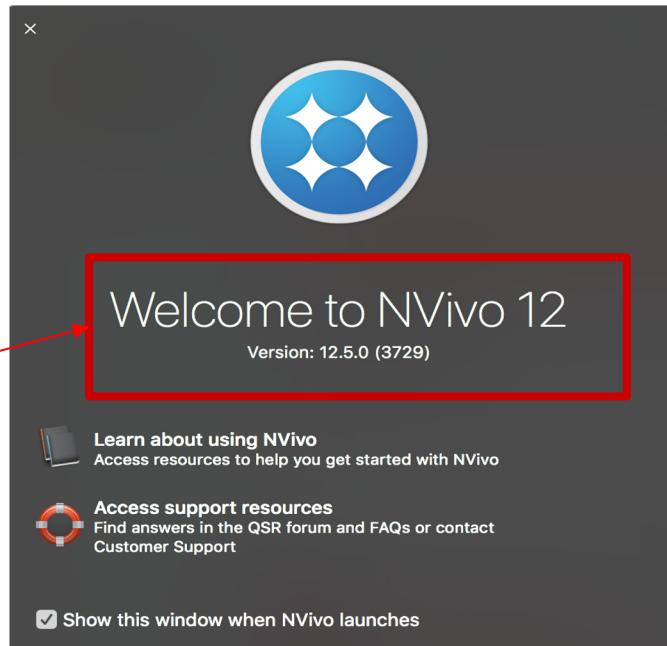
The Mac and PC versions of NVivo—as well as the version numbers—are different and have different file types.

- 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 affect which projects can be opened on which platform



# Anatomy of NVivo: Opening on Macs

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



 Create new project  
Create a new project

 Create a copy of the sample project  
Explore and experiment with NVivo using the sample project

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

 Parole Trans Code...ision (NVivo 12).nvpix  
~/Downloads

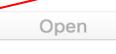
 TEST.nvpix  
~/Documents

 Untitled.nvpix  
~/Documents

 Sample Project.nvp.nvpix  
~/Downloads

The recent projects you opened

 Open Another Project...

 Open

Open another project that is not recent



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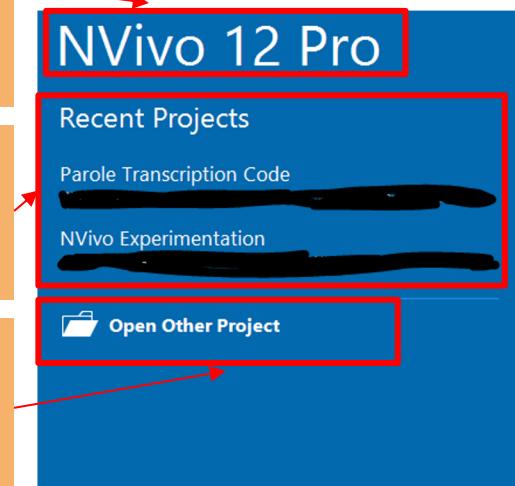
*Feel free to ask questions at any point during the presentation!*

# 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)



## Learn and Connect

### Research Ready

to be best in any point of view.  
**Research** search for, not examine into facts or principles

Get your research ready for NVivo

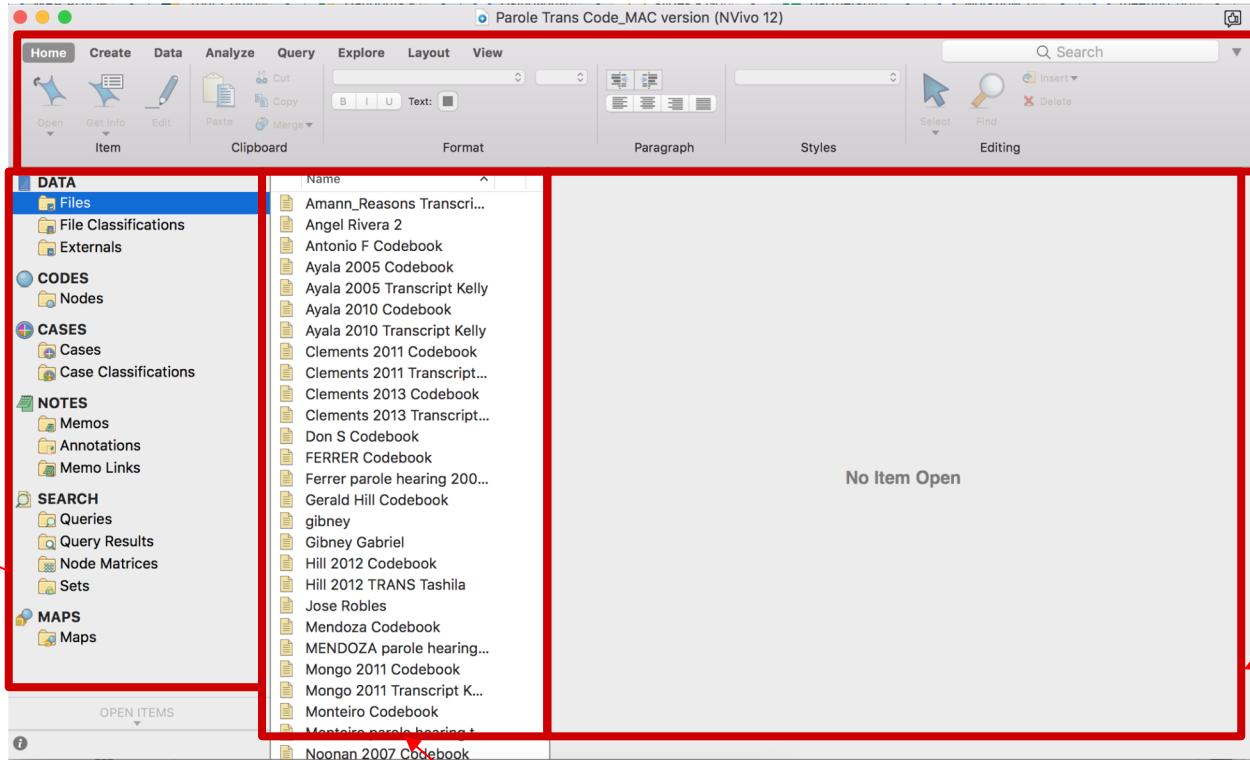
### Getting Started



### Customer Success Center



# Anatomy of NVivo: Projects on Macs



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

Toolbar to access functions

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!



# Anatomy of NVivo: Projects on Windows

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

The screenshot shows the NVivo 12 Pro application window. At the top is the menu bar with File, Home, Import, Create, Explore, Share, and various toolbars for Properties, Open, Merge, Create As Code, Query, Visualize, Code, Auto Code, Range Coding, Case Classification, File Classification, Detail View, Sort By, Case List View, Find, and Workspace. On the left is the Quick Access sidebar with icons for Files, Memos, and Nodes. Below it is the Data sidebar with sections for Files, File Classifications, Externals, Codes, Nodes, Relationships, Relationship Types, Cases, Case Classifications, Notes, Search, Maps, and Output. The main workspace on the right displays a list of files under the 'Files' tab, showing columns for Name, Codes, and References. A specific file, 'Amann\_Reasons Transcription', is selected. The right pane shows the transcription content with annotations. A red box highlights the 'List of nodes, files, etc.' sidebar, and another red box highlights the 'Toolbar to access functions' at the top.

List of nodes, files, etc.

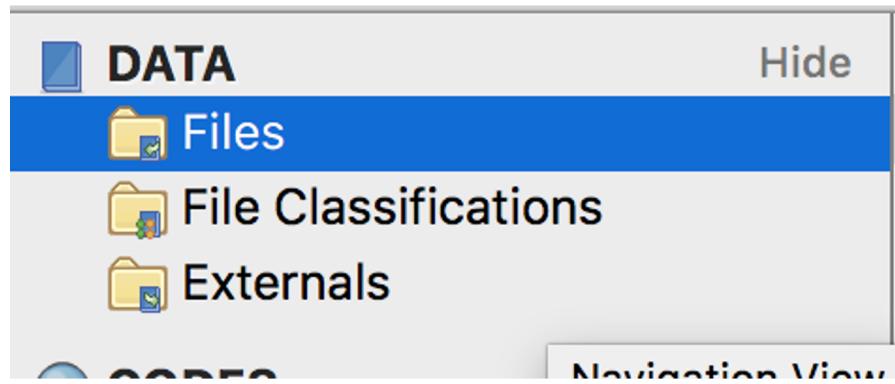
The window that will open the files, queries, etc. You can annotate documents here.

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.



# Important Reminders

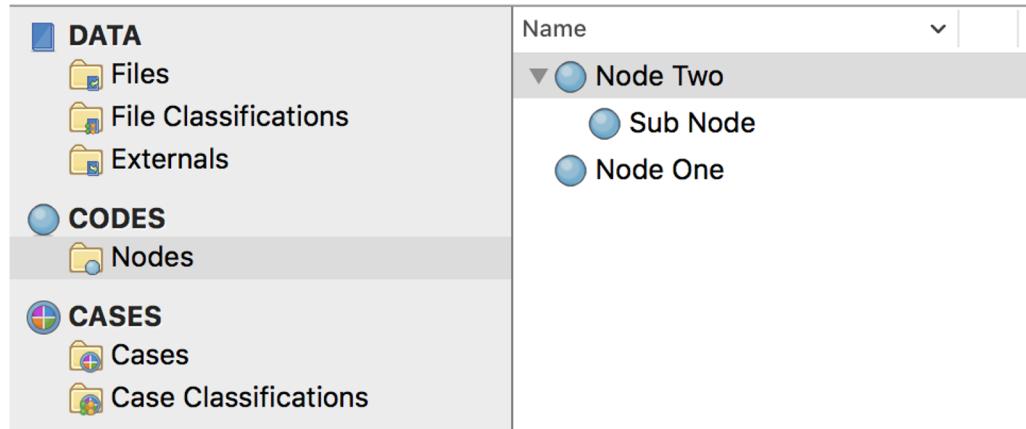
NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.

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.



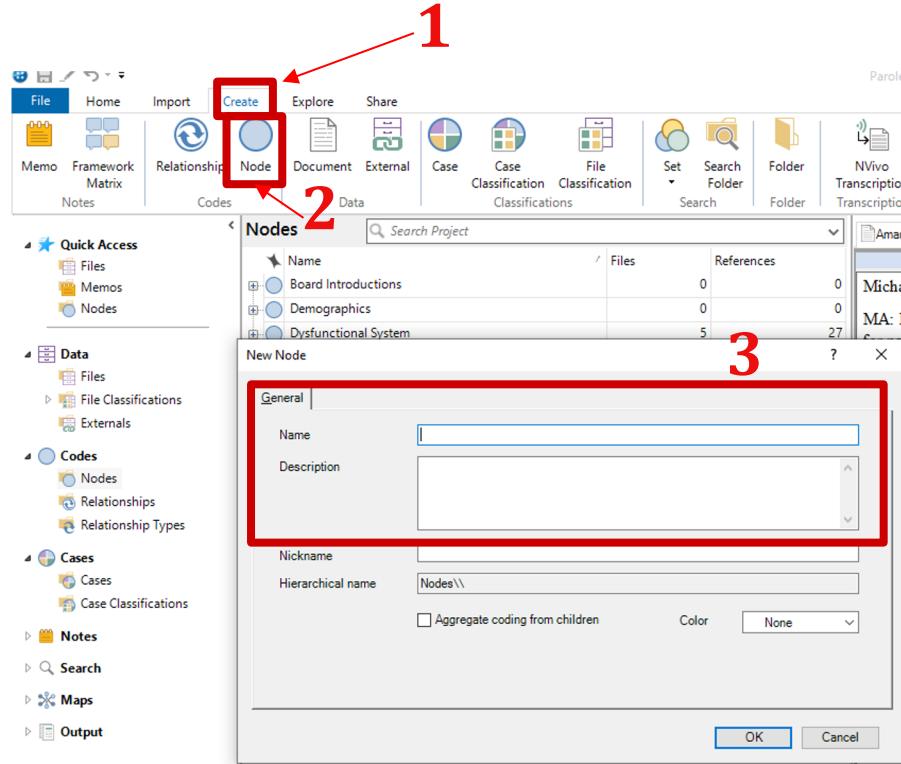
# Codes and Nodes

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



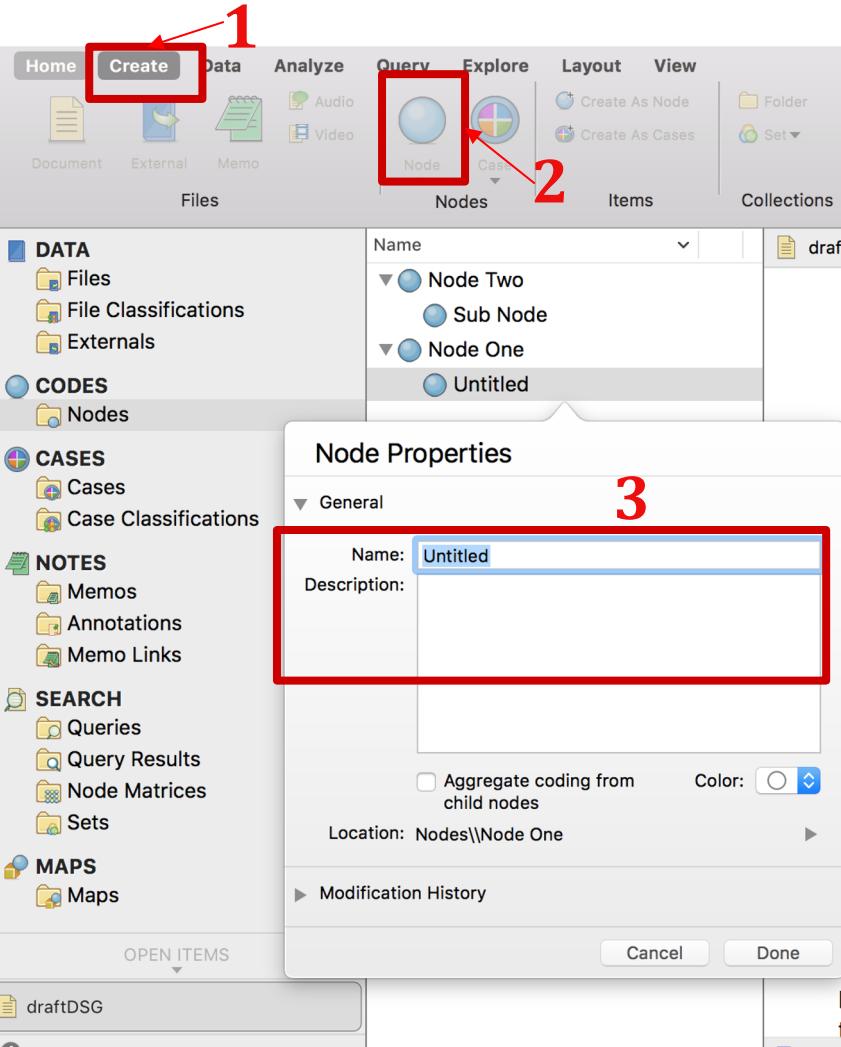
# Creating Nodes

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



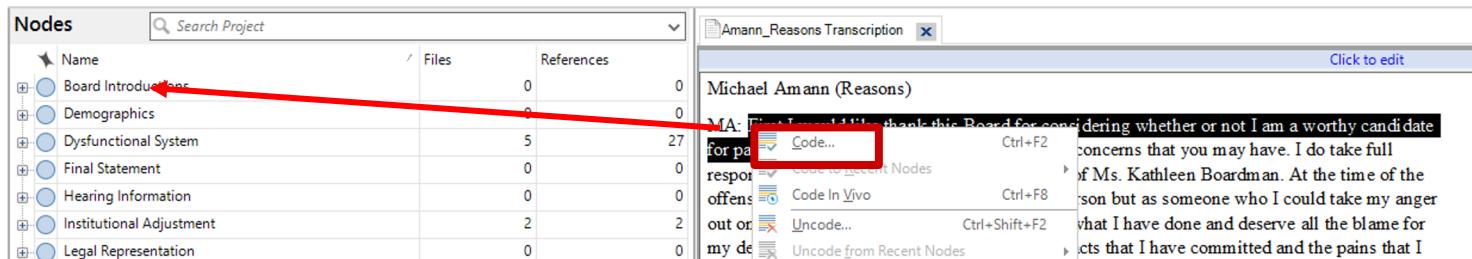
# Creating Nodes (Macs)

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



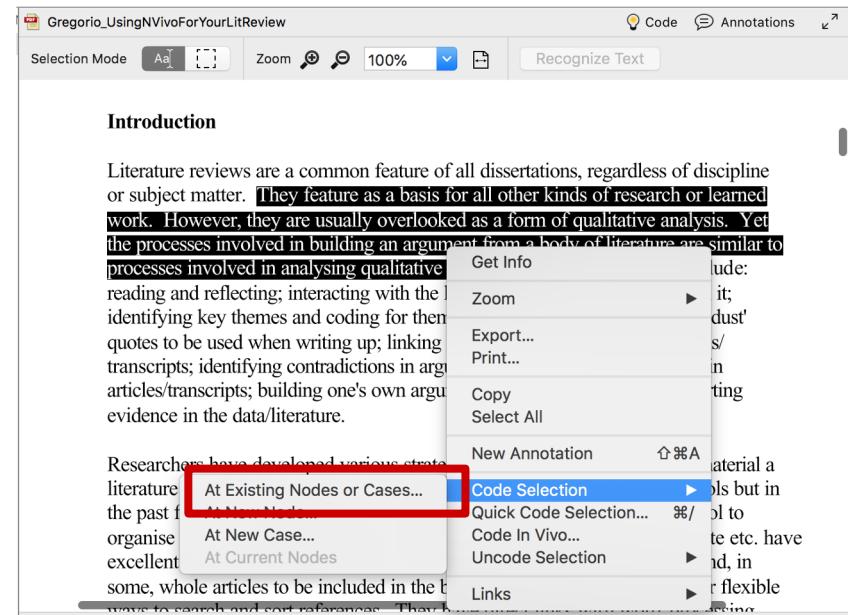
# Coding Files/Documents (Windows)

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



# 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



# 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”

The screenshot shows the NVivo 12 Pro interface. The toolbar at the top has a 'Document Tools' tab selected. A red arrow labeled '1' points to the 'Document' tab. A red box labeled '2' highlights the 'Highlight' dropdown menu, which is open to show options like 'None', 'All Coding', 'Coding for Selected Items', and 'All Coding'. A red box labeled '3' highlights the 'Coding Stripes' button in the toolbar. The main window displays a transcript from 'Ayala 2010 Transcript Kelly'. A red box highlights a section of the transcript where the word 'Mitigation' is highlighted in yellow. To the right, a vertical panel titled 'Coding Density' shows a bar chart with categories like 'Mitigation', 'Gang Membership', 'Strong Direction', and 'Board Opinion of Crime'. The bottom of the interface shows a timeline and a 'Not Satisfying' status.

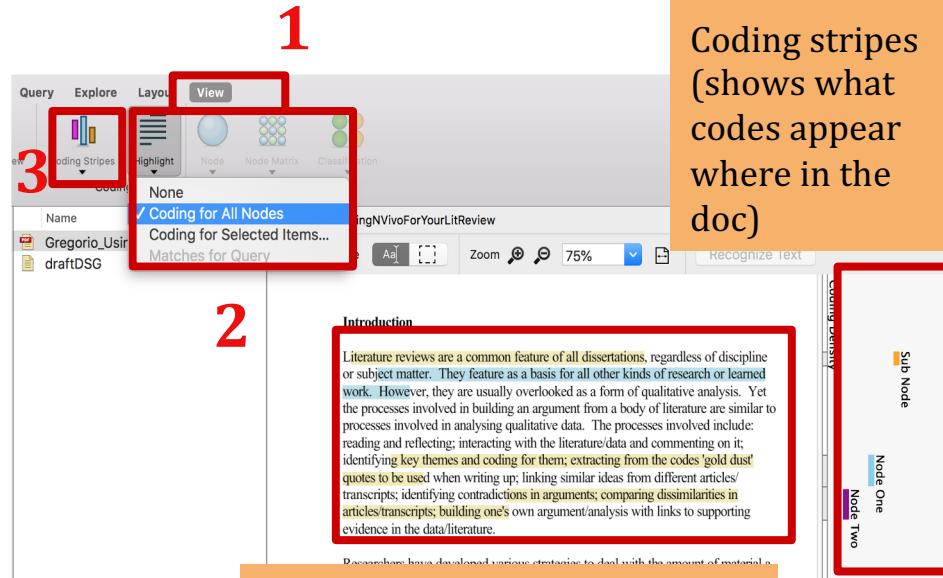
The document you are coding and annotations

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

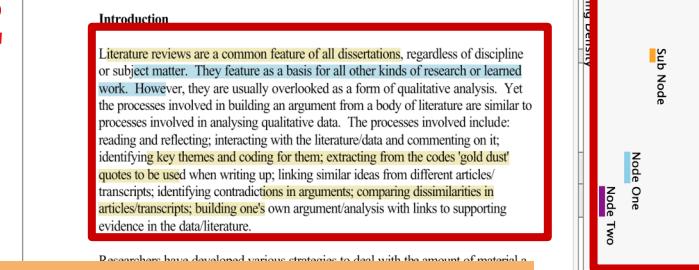


# View Your Codes (Macs)

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.

The screenshot shows the NULab software interface. On the left, there is a sidebar with various project management sections like Quick Access, Data, Codes, Cases, and Notes. The 'Notes' section is highlighted with a red box and has an arrow pointing to a callout box that says "Where you can find all your annotations listed". In the main workspace, there is a list of annotations under the heading "Annotations". One annotation is selected, showing its content in a larger window. This window has a red border and contains the text: "being incarcerated for thirty plus years, I entered a sexual offender treatment program. While I was in this program, I took as many classes as possible. I have come to (inaudible) and I know (inaudible) as a child with aggression, and the punitive environment that I lived in, that allowed to inflict pain on myself and as well as on others. My belief system (inaudible). My feeling good about myself depended on my codefendant approving what I did. I thought I needed his approval and sought out his elevation at any cost, to a point I did not feel accepted without his approval. (Inaudible) towards females, whether I liked them or not, to make sure that he would not leave me. Through the program I have come to understand that why alcohol and substance abuse has been a major issue in my life. Growing up in an alcoholic household, I believed that it was normal to use alcohol to escape from reality or when problems arise. I also see how alcohol contributed to my anger reaching to a physical level. All of these programs, I have made genuine changes and integrated them into my everyday life and living. I realized that I cannot change on my own or be afraid to ask for help. They began to restore my capacity to be emotionally connected... and while at the sex offender treatment program, I have learned to trust myself and if I had a problem, who to go to and who not to. I know I must always be aware of my (inaudible), at all times. I am able to channel my thoughts and release, where I was not able to in the past. On parole, I will continue to attend AA and NA groups, SOTP classes and (inaudible). I know I will never be able to show my victim how sorry I am or how I have changed but if I am released on parole, I will show that someone like me can and will be a responsible member of society." An arrow points from this window to a callout box that says "The text from the document you highlighted and are annotating". At the bottom of the annotations list, there is a table titled "Annotations" with one item: "Item Content 1 This is an annotation". An arrow points from this table to a callout box that says "Your annotation".



# 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.

The screenshot shows the NVivo software interface. On the left, there's a sidebar with several categories: DATA (Files, File Classifications, Externals), CODES (Nodes), CASES (Cases, Case Classifications), NOTES (Memos, Annotations, Memo Links), SEARCH (Queries, Query Results, Node Matrices, Sets), and MAPS (OPEN ITEMS). Below the sidebar is a file list: draftDSG and Gregorio\_UseNVivoForYourLitReview. The main area is titled "Annotation" and contains a list with "Sample annotation". A red box highlights this list, and an orange box labeled "List of annotations" points to it. In the center, there's a document view with the title "Introduction". A blue box highlights a paragraph of text: "Literature reviews are a common feature of all dissertations, regardless of discipline or subject matter. They feature as a basis for all other kinds of research or learned work. However, they are usually overlooked as a form of qualitative analysis. Yet the process of writing a literature review is similar to that of qualitative analysis. The procedures involved include: reading, identifying, quoting, translating, articulating, and evidencing." Another red box highlights the word "learned" in the first sentence. A red box also highlights the "Delete" button at the bottom of the annotation list. An orange box labeled "Your annotation" points to the annotation list. To the right, a large orange box contains the text: "The text from the document you highlighted and are annotating".

Where you can find all your annotations listed



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# Memos (Windows)

- Memos are more extended write-ups of your analytical insights
- They can stand alone, but also be linked
- “Memo link”: linking memo to a particular file, case, or node

The screenshot shows the NULab software interface with the 'File' tab selected. On the left, there's a sidebar with sections like 'Quick Access', 'Data', 'Codes', 'Cases', and 'Notes'. The 'Notes' section is highlighted with a red box and contains a 'Memos' folder. A context menu is open over a node in the main workspace, with the 'Memo Link' option highlighted in blue and a red arrow pointing to it from the text 'Option to link the memo to a node'. Another red arrow points from the text 'Menu where memos are located' to the 'Memos' folder in the sidebar.

File Home Import Create Explore Share

Memo Framework Matrix Notes Relationship Node Document External Case Case Classification File Classification Classifications Set Search Folder NVivo Transcription Transcription

Quick Access

- Files
- Memos
- Nodes

Data

- Files
- File Classifications
- Externals

Codes

- Nodes
- 1st cycle
- Relationships
- Relationship Types

Cases

- Cases
- Case Classifications
- Person

Notes

- Memos
- Framework Matrices
- Annotations
- See Also Links

Search

Maps

Output

- Reports
- Extracts

1st cycle

Name	Files	References
00beginning and prepping of the strike	1	6
00maintenance of the strike	1	9
01end of the strike	1	4
company	1	7
confider	1	5
contract	1	6
customer	1	3
dissent	1	9
effects a	1	10
ego	1	2
long term	1	2
manager	1	2
negotiate	1	5
new employee	1	2
politician	1	3
previous	1	2
public	1	3
relations	1	2
relations	1	1
right	1	4
rumours	1	13
strike	1	1

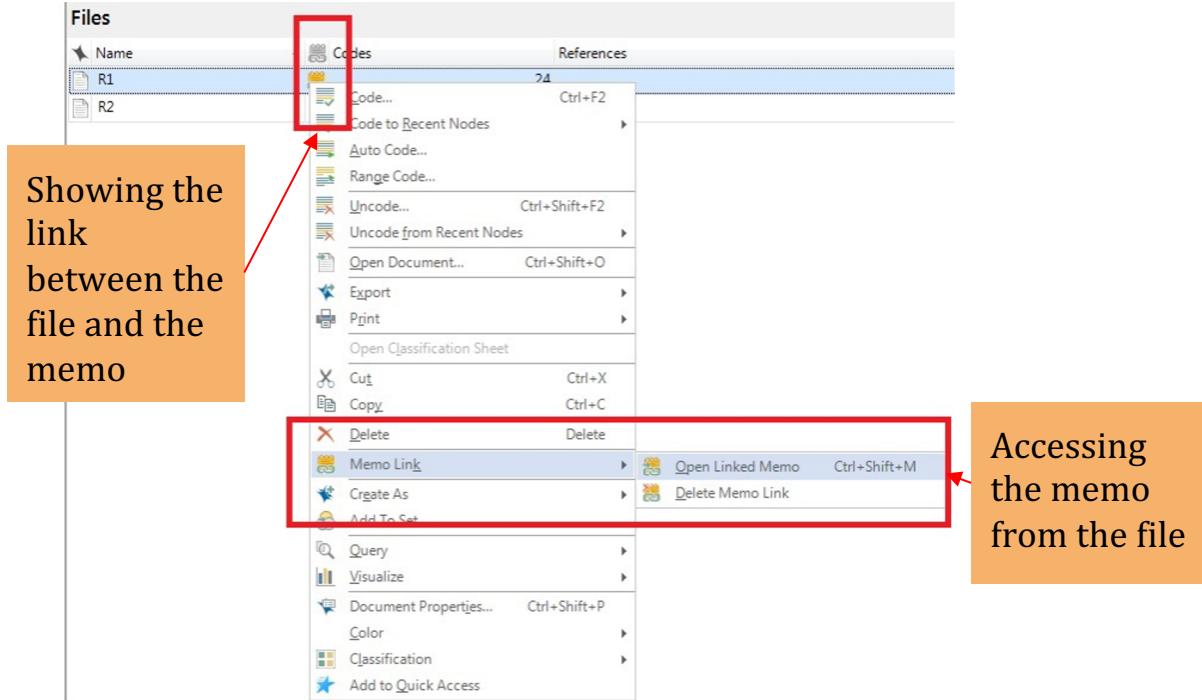
test memo  
bla bla bla

Option to link the memo to a node

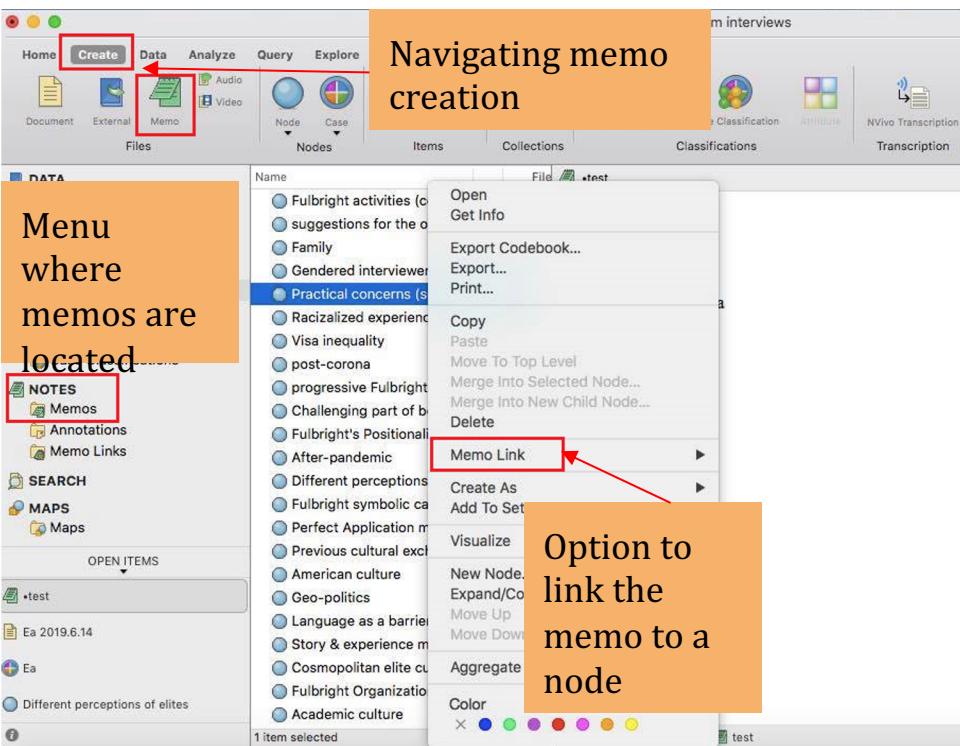
Menu where memos are located



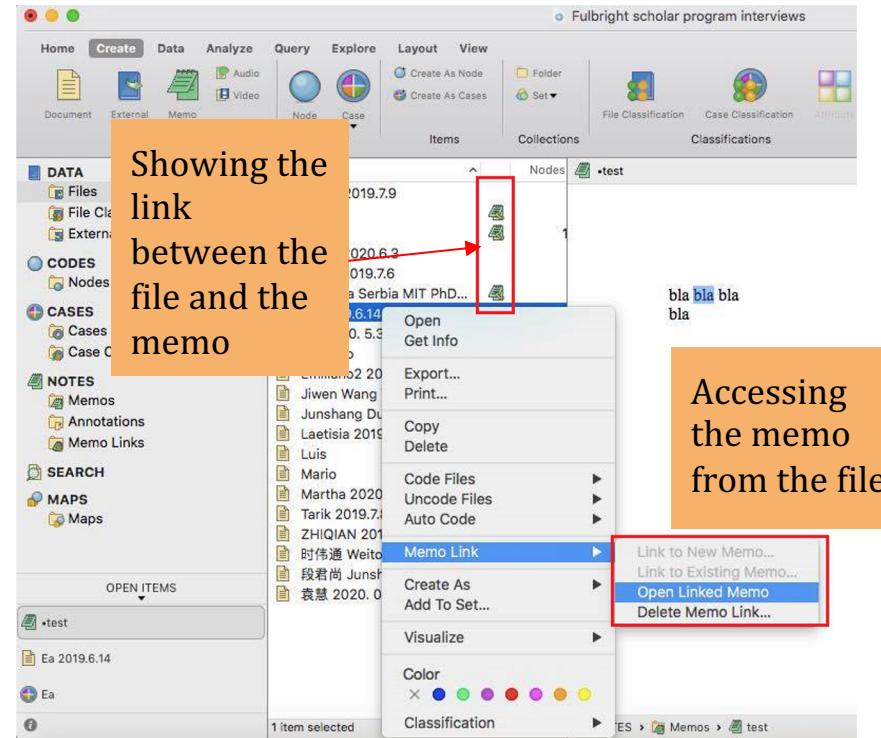
# Memo Links (Windows)



# Memos and Memo Links (Macs)



Option to link the memo to a node



## Accessing the memo from the file

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

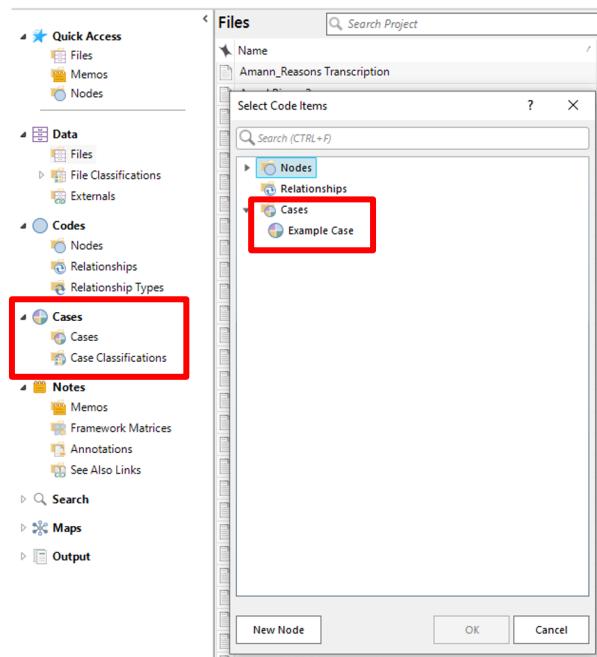


# Cases (Windows)

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](#)

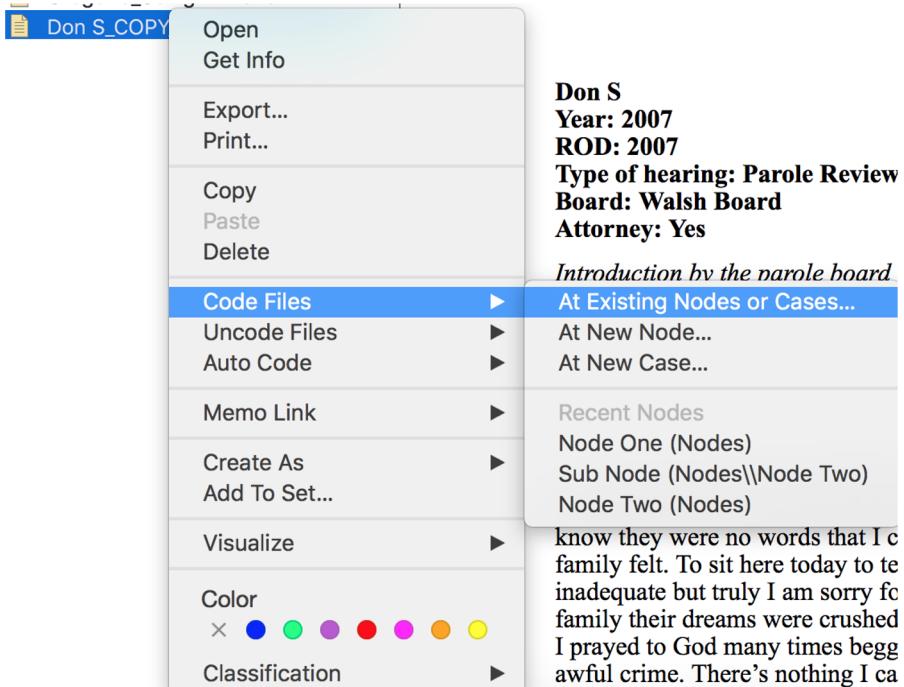
To add a “case” to a file, it’s the same method as adding a node, except you choose the “Cases” folder and the proper case.



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



# Cases (Macs)



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.



# Let's Take a Quick Break!



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# 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.



# Word Frequency Example (Windows)

“Query” can be found in the “Explore” Tab

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

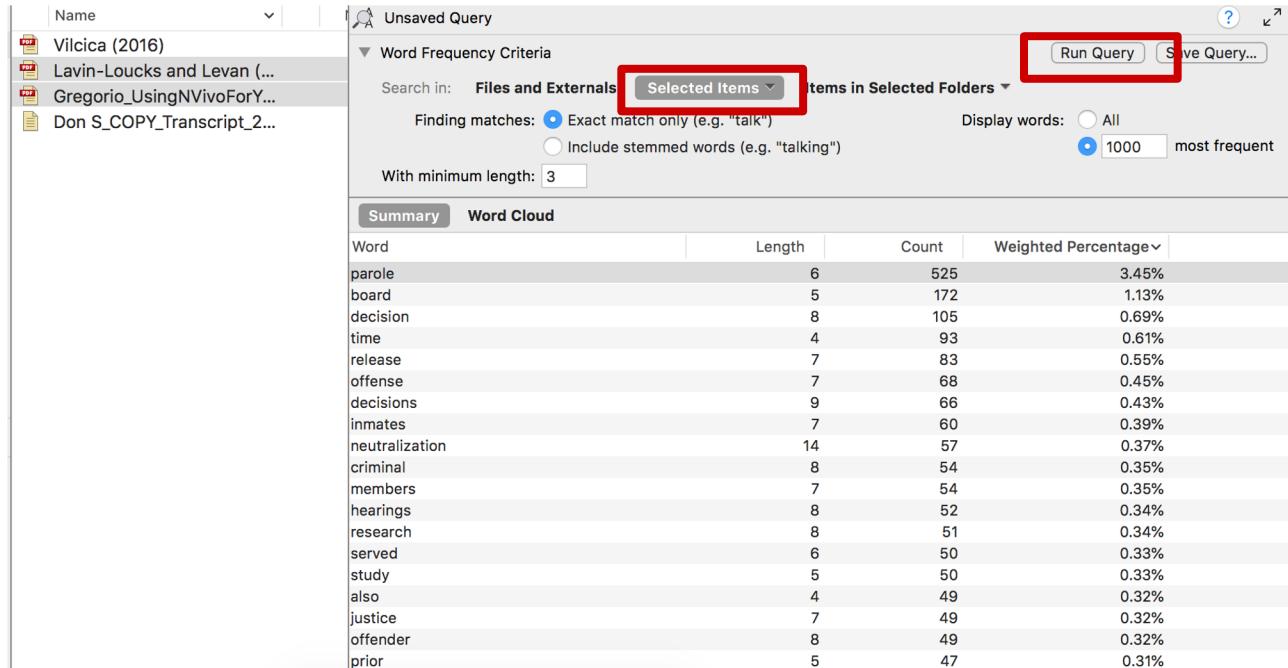
To query multiple items, select the items you would like to query in the “Selected Items” tab and then click “Run Query”

The screenshot shows the NULab software interface with the "Explore" tab selected. In the center, the "Word Frequency Query Results" window is open, displaying a list of words and their frequencies. The "Selected Items..." tab in the criteria panel is highlighted with a red box. The "Run Query" button at the top right is also highlighted with a red box. A context menu is open over a selected item in the file list, with the "Word Frequency Query in This Document" option highlighted with a red box.

Word	Length	Count	Weighted Percentage (%)
time	4	13	1.40
inaudible	9	12	1.29
know	4	11	1.18
mean	4	10	1.08
assault	7	8	0.86
feel	4	8	0.86
care	4	6	0.65
codefendant	11	6	0.65
never	5	6	0.65
	4	6	0.65
	6	6	0.65
	5	6	0.65
	4	6	0.65
	6	5	0.54
	4	4	0.44

# Word Frequency Example (Mac)

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



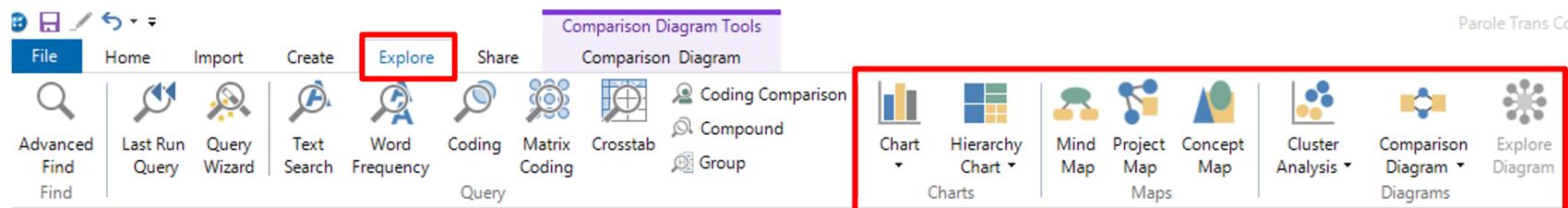
The screenshot shows the NVivo Word Frequency Criteria dialog box. The 'Selected Items' tab is selected in the 'Search in:' dropdown. The 'Run Query' button is highlighted with a red box.

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%



# 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



# Exploring Codes (Macs)

Comparison diagram example

The screenshot shows the NVivo software interface with the 'Explore' tab selected in the top menu bar. The left sidebar contains categories like 'Files', 'CODES', 'CASES', 'NOTES', and 'SEARCH'. The main workspace displays a 'Comparison Diagram' showing relationships between nodes and files. A file named 'draftDSG' is connected to two nodes: 'Node One' and 'Sub Node'. 'Node One' is connected to a PDF document titled 'Gregorio\_UsingNVivoForYourLitReview'. 'Node Two' is also connected to this same PDF document. Arrows labeled 'Codes' indicate the connection between the file and the nodes.



# Qualitative Coding is about *Interpretation and Arguments*

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



# Demonstration of Tool

Using our own examples, we will quickly show you how to input the documents, code, and visualize your codes.

We will do this both for interviews and social media examples.

You will be doing this on your own in a minute, so take this time to watch and ask questions!



# Thank you!

If you have any questions, contact us:

DITI/NULab team

[nulab.info@gmail.com](mailto:nulab.info@gmail.com)

Slides, handouts, and data available at

<https://bit.ly/diti-spring2022-singer>

Office hours for help with NVivo: <https://calendly.com/diti-nu/>



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