

Introduction to Nvivo: Qualitative Coding for Text Analysis

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CRIM 3600 Research Methods
Stacie St. Louis
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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

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

Slides & handouts at http://bit.ly/diti_fall2020-st_louis2



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



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

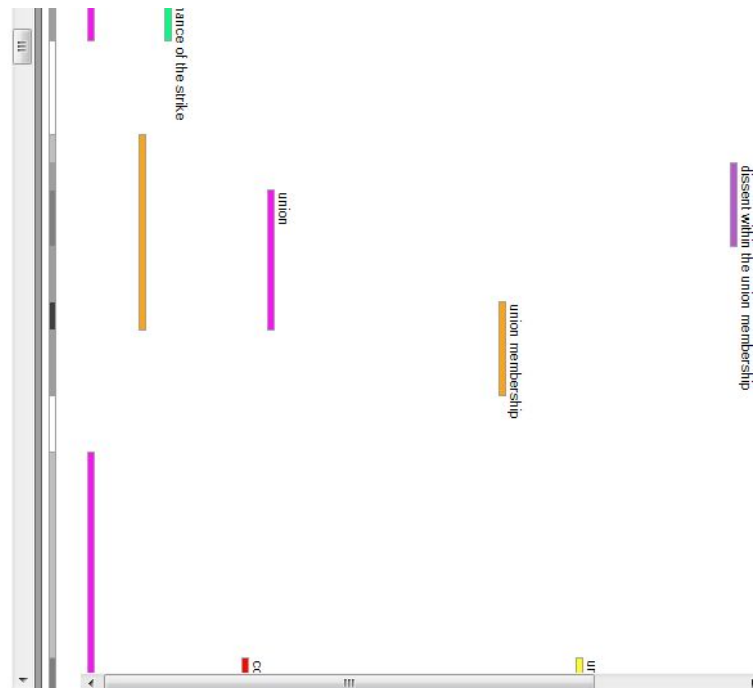
key, at that point.

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 Tim, we met earlier, weeks earlier to, so, we met up in [unclear], Tim brought as many - you know, every, its open invitation, to any local member of Stop&Shop, 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,



What is NVivo?

NVivo is a **text analysis** and **research organization** software that is available through MyNU. NVivo allows 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)



What can NVivo do?

NVivo is designed for qualitative coding research materials, such as survey results, interviews, audio recordings, 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



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

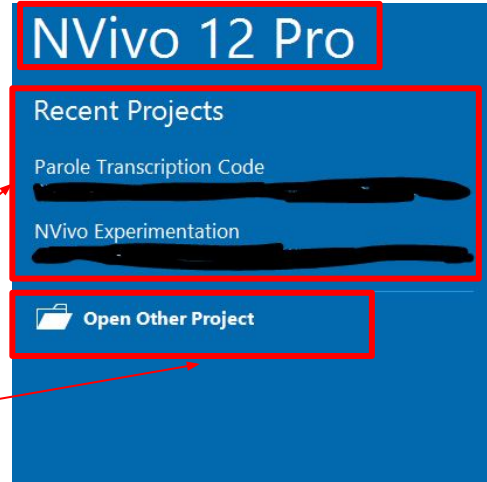


Anatomy of NVivo: Opening on Windows

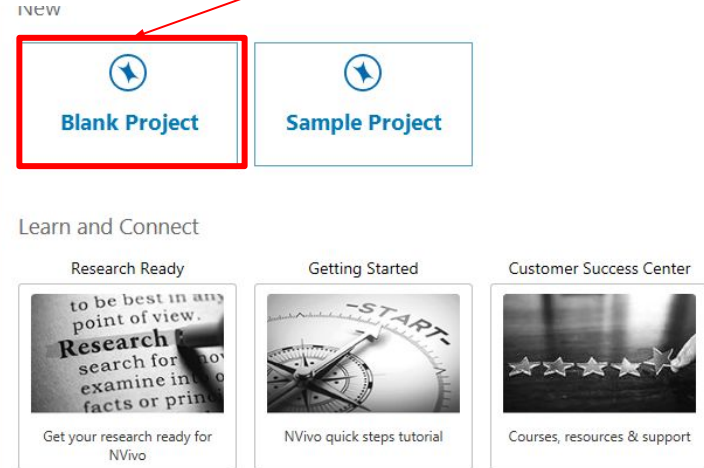
Your version number (you should have version **11** or **12**)

The recent projects you opened

Open another project that is not recent

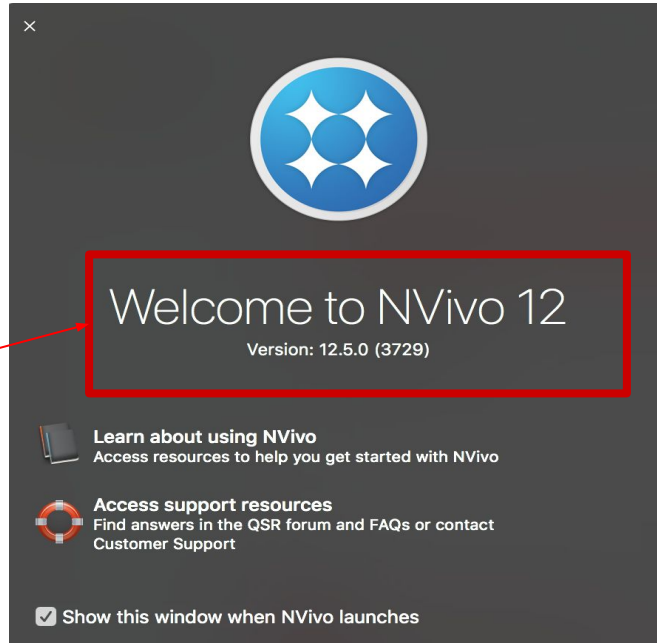


Create a new **project** (stores all your documents, codes, etc)



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_...sion (NVivo 12).nvp
~/Downloads

TEST.nvp
~/Documents

Untitled.nvp
~/Documents

Sample Project.nvp.nvp
~/Downloads

The recent projects you opened

Open Another Project...

Open

Open another project that is not recent



Anatomy of NVivo: Projects on Windows

Toolbar to access functions

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

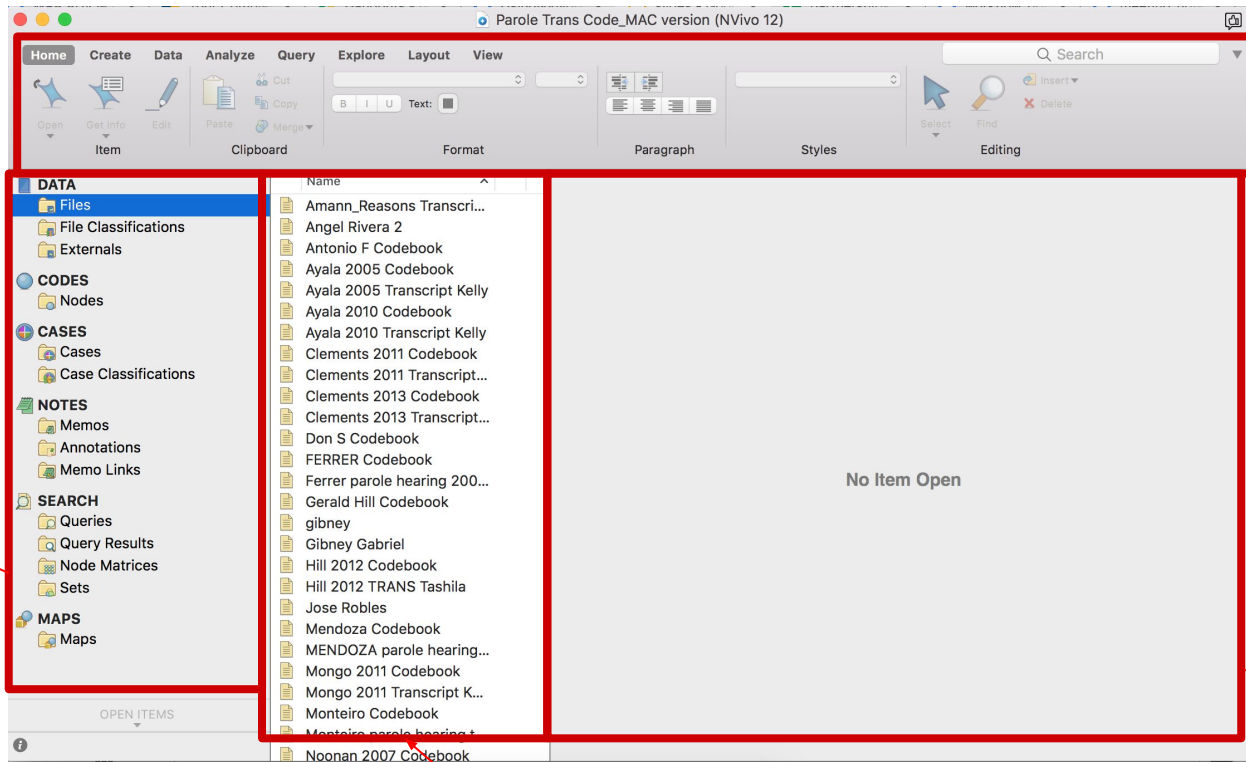
Name	Codes	References
Amann Reasons Transcription	0	0
Angel Rivera 2	0	0
Antonio F Codebook	19	20
Ayala 2005 Codebook	15	15
Ayala 2005 Transcript Kelly	33	54
Ayala 2010 Codebook	21	23
Ayala 2010 Transcript Kelly	31	71
Clements 2011 Codebook	26	30
Clements 2011 Transcript Kelly	67	168
Clements 2013 Codebook	25	28
Clements 2013 Transcript Kelly	41	100
Don S Codebook	31	36
FERRER Codebook	54	66
Terre parole hearing 2008 shared FINAL	55	169
Gerald Hill Codebook	16	16
ghlney	0	0
Gibney Gabriel	0	0
Hill 2012 Codebook	27	28
Hill 2012 TRANS Tashila	7	7
Jose Robles	0	0
Mendoza Codebook	23	26
MENDOZA parole hearing transcript shared FINAL	43	109
Mongo 2011 Codebook	18	23
Mongo 2011 Transcript Kelly	51	141
Monteiro Codebook	24	27
Monteiro parole hearing transcript shared FINAL	48	124
Noonan 2007 Codebook	25	27
Noonan 2007 Transcript Kelly	78	287
Pope 2011 Codebook	25	27
Pope 2011 Transcript Kelly	0	0
Ralph Geary	0	0
Rambert 2013 Transcript Stuti	81	356
Rambert 2013 Transcript Stuti (2)	0	0
Robin Murphy	0	0

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

List of nodes, files, etc.



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.

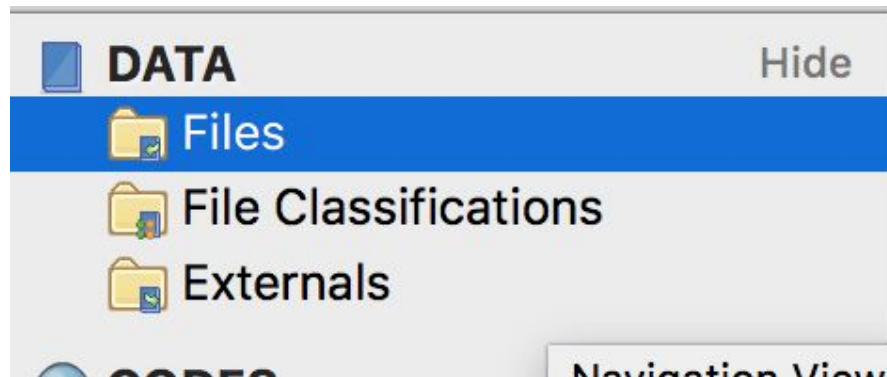
List of nodes, files, etc.

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



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

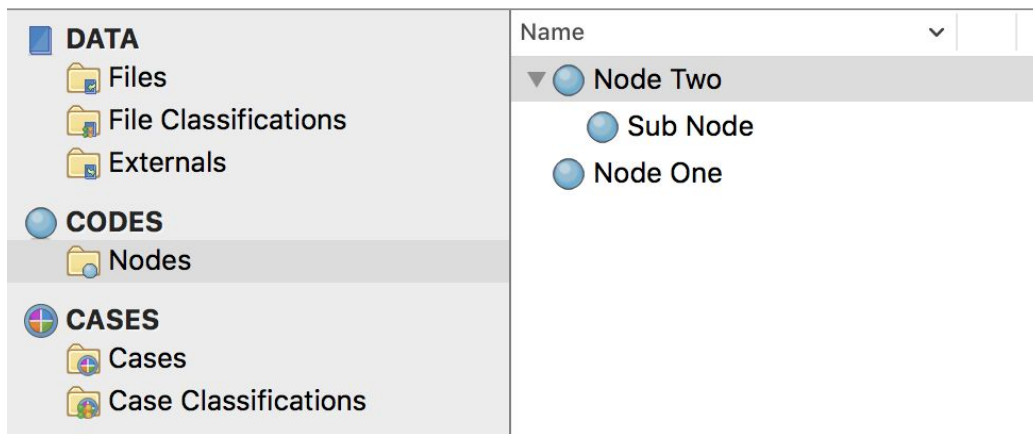
NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.

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.



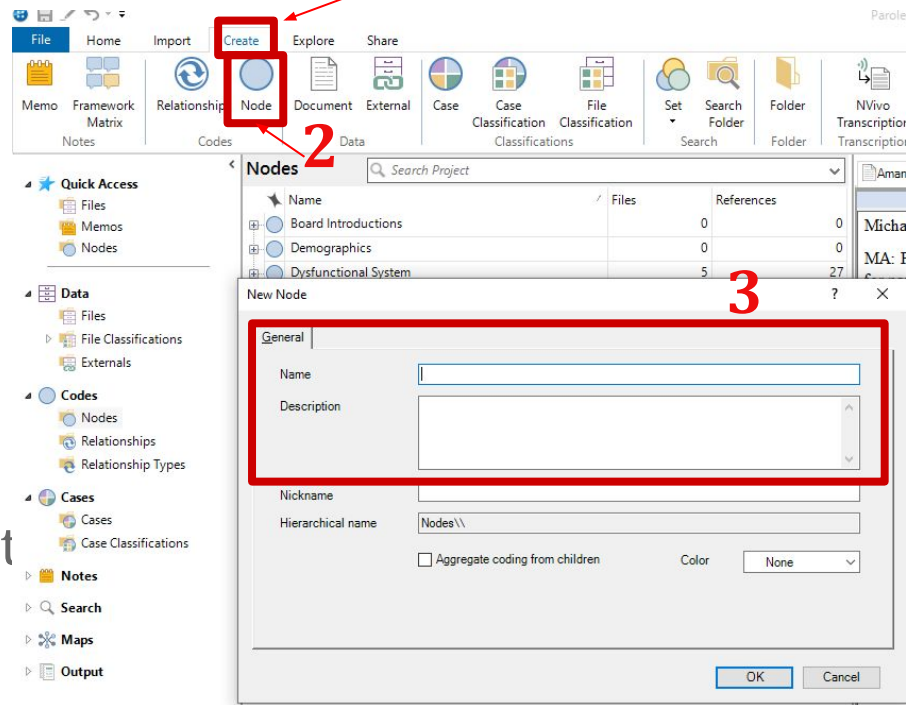
Codes and Nodes

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



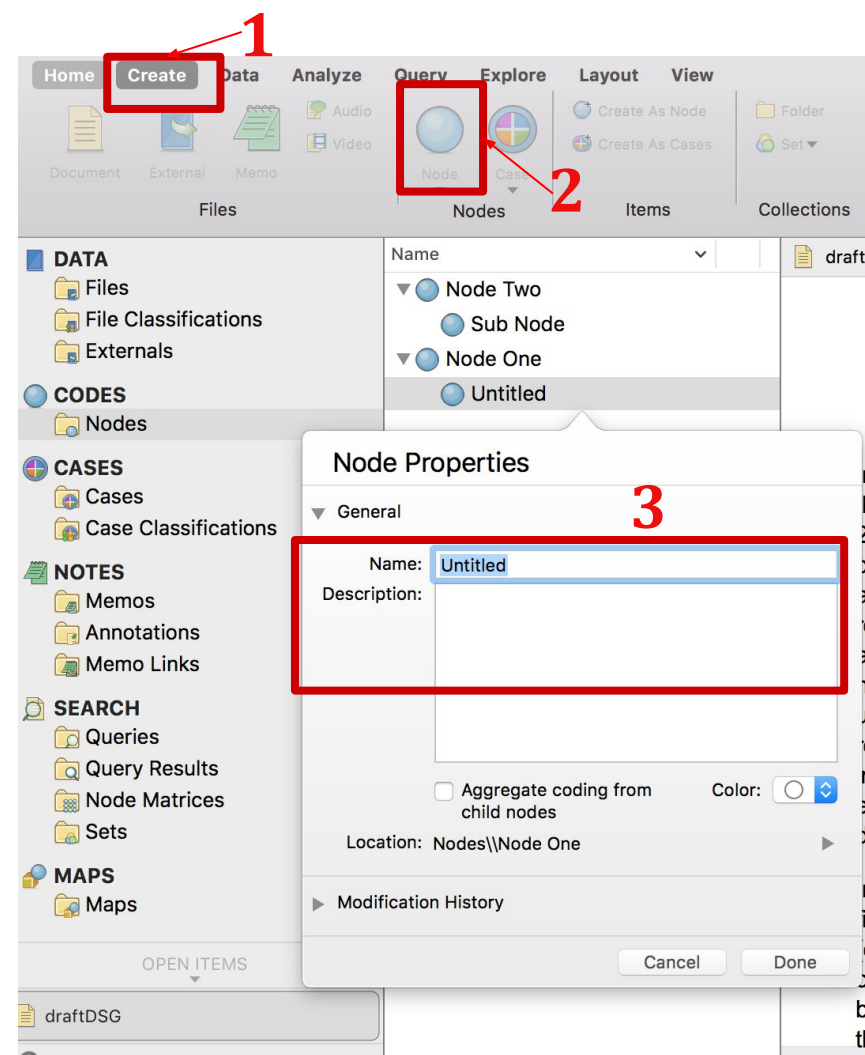
Creating Nodes (Windows)

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



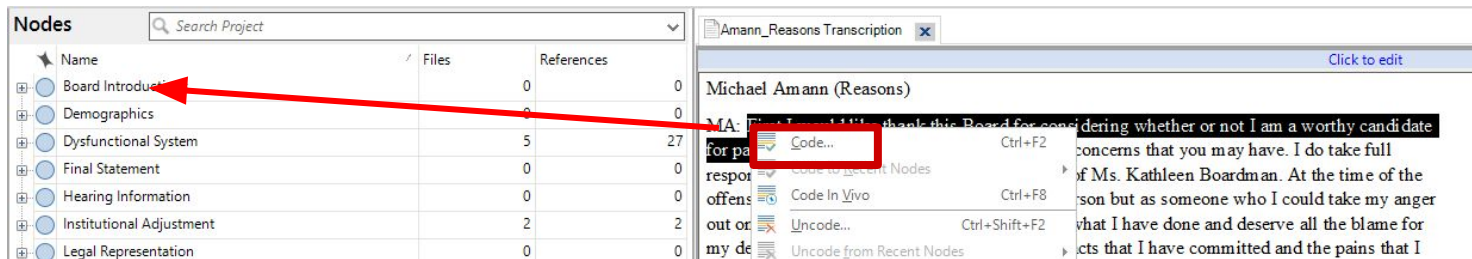
Creating Nodes (Mac)

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



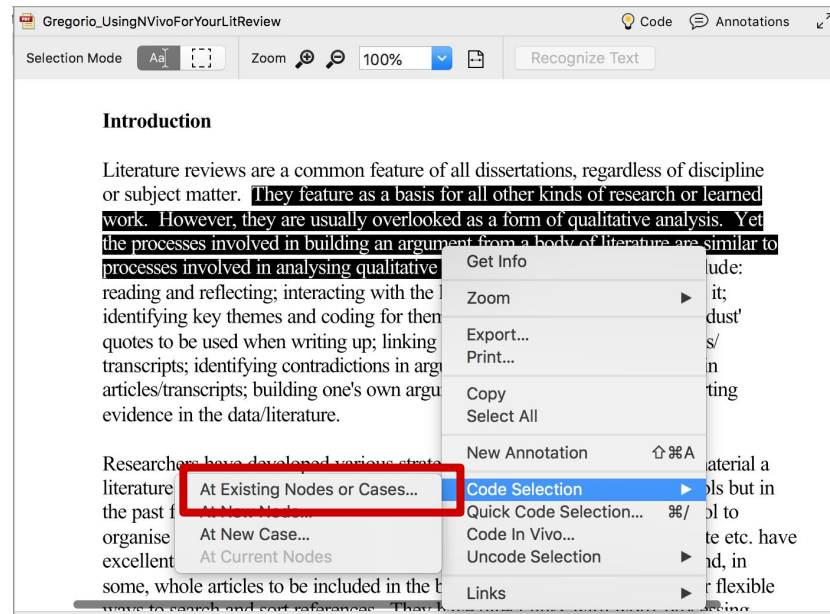
Coding Files/Documents (Windows)

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”

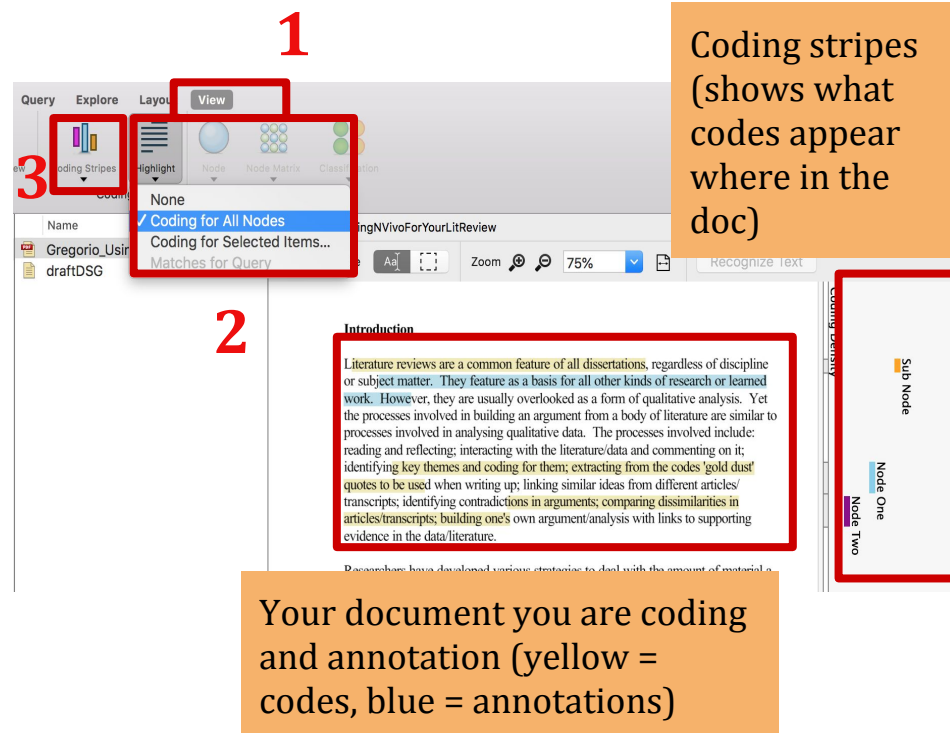
The screenshot shows the NVivo 12 Pro software interface. The 'Document Tools' menu is open, showing options like 'Highlight', 'Code', and 'Coding Stripes'. The 'Coding Stripes' option is selected, and the 'All Coding' option is highlighted. The main document window displays a transcript with several lines of text, some of which are highlighted in yellow. The 'Coding Stripes' sidebar on the right shows a list of codes and their corresponding text segments.

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

The document you are coding and annotations

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.”



The screenshot shows the NVivo software interface. The 'View' menu is open, and the 'Coding Stripes' option is highlighted. The 'Coding Stripes' submenu is also open, showing 'All Nodes Coding' selected. The document content is displayed, showing a text block with yellow highlights and blue annotations. The 'Coding Stripes' sidebar on the right shows the document structure with 'Node One' and 'Node Two' visible.

1

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

2

3

Introduction

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 processes involved in building an argument from a body of literature are similar to processes involved in analysing qualitative data. The processes involved include: reading and reflecting; interacting with the literature/data and commenting on it; identifying key themes and coding for them; extracting from the codes 'gold dust' quotes to be used when writing up; linking similar ideas from different articles/transcripts; identifying contradictions in arguments; comparing dissimilarities in articles/transcripts; building one's own argument/analysis with links to supporting evidence in the data/literature.

Research has developed various strategies to deal with the amount of material a

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



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 software interface with several key components highlighted by red boxes and labeled with orange callouts:

- Annotations Panel:** A table with columns 'File Name' and 'Number'. It lists 'Amann_Reasons Transcription' with the number '1'. A red box highlights this table, with a callout: "List of annotations".
- Notes Section:** In the left sidebar, the 'Notes' section is expanded, showing 'Annotations' as a sub-item. A red box highlights this section, with a callout: "Where you can find all your annotations listed".
- Document Text:** A document titled 'Amann_Reasons Transcription' is open. A paragraph of text is highlighted in orange. A red box highlights this text, with a callout: "The text from the document you highlighted and are annotating".
- Annotations Table:** A table at the bottom right shows the annotation details. A red box highlights this table, with a callout: "Your annotation".

File Name	Number
Amann_Reasons Transcription	1

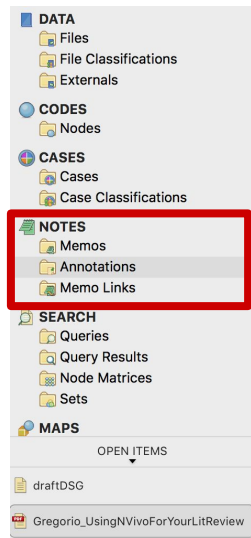
Item	Content
1	This is an annotation



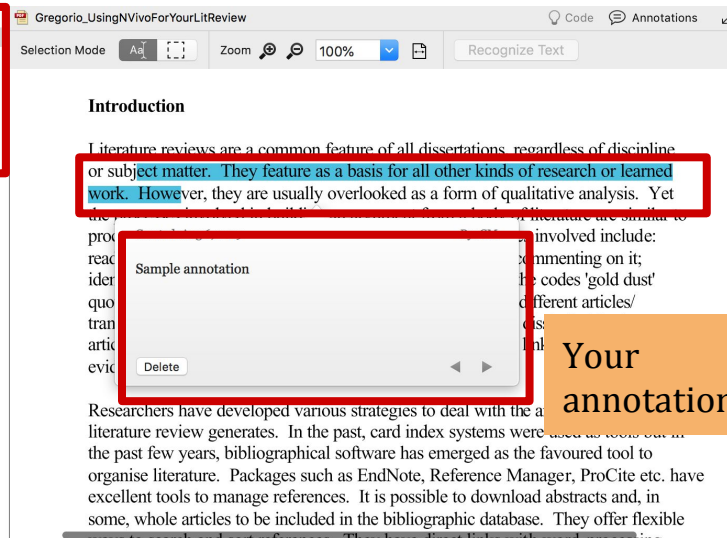
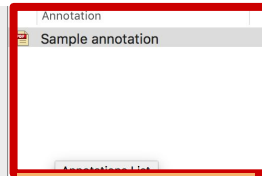
Annotating Files (Macs)

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.

Where you can find all your annotations listed



List of annotations



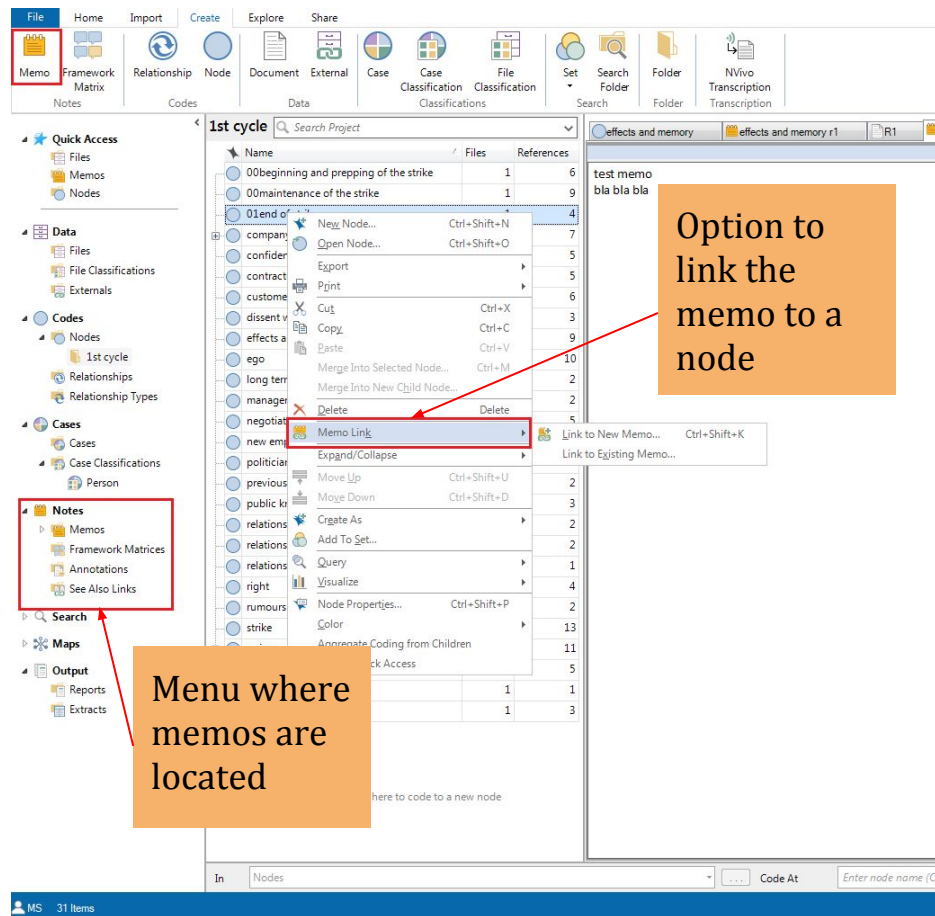
The text from the document you highlighted and are annotating

Your annotation



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



Memo Links (Windows)

Showing the link between the file and the memo

Accessing the memo from the file



Memos and Memo Links (Mac)

Navigating memo creation

Menu where memos are located

Option to link the memo to a node

The screenshot shows the software's top menu bar with 'Create' highlighted. A red box around 'Create' points to an orange callout. Another red box around 'Memo' in the 'Create' dropdown points to the same orange callout. A third red box around 'Memo Link' in the 'Create' dropdown points to an orange callout. The left sidebar shows 'NOTES' with 'Memos' highlighted. The main pane shows a list of nodes, with 'Fulbright activities (c)' selected.

Showing the link between the file and the memo

Accessing the memo from the file

The screenshot shows the software's top menu bar with 'Create' highlighted. A red box around 'Memo Link' in the 'Create' dropdown points to an orange callout. Another red box around 'Open Linked Memo' in the 'Memo Link' submenu points to an orange callout. The left sidebar shows 'NOTES' with 'Memos' highlighted. The main pane shows a list of nodes, with 'Fulbright activities (c)' selected.

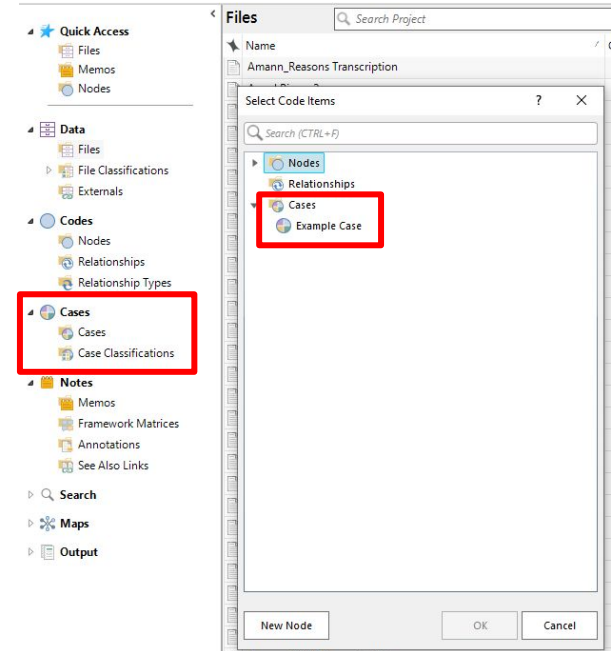


Cases (Windows)

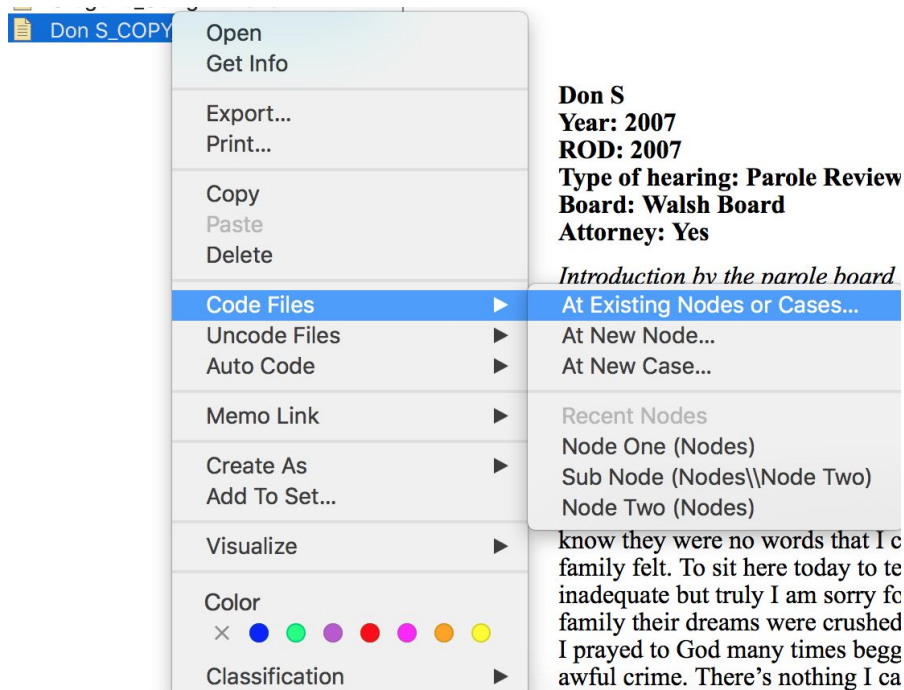
Cases are the types of research texts in your project; they can be organized based on your selections. **“They might represent people, places, events, organizations or other entities that you want to analyze and compare.”** For example, if you have several transcripts from different trials, but want 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.



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.



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”

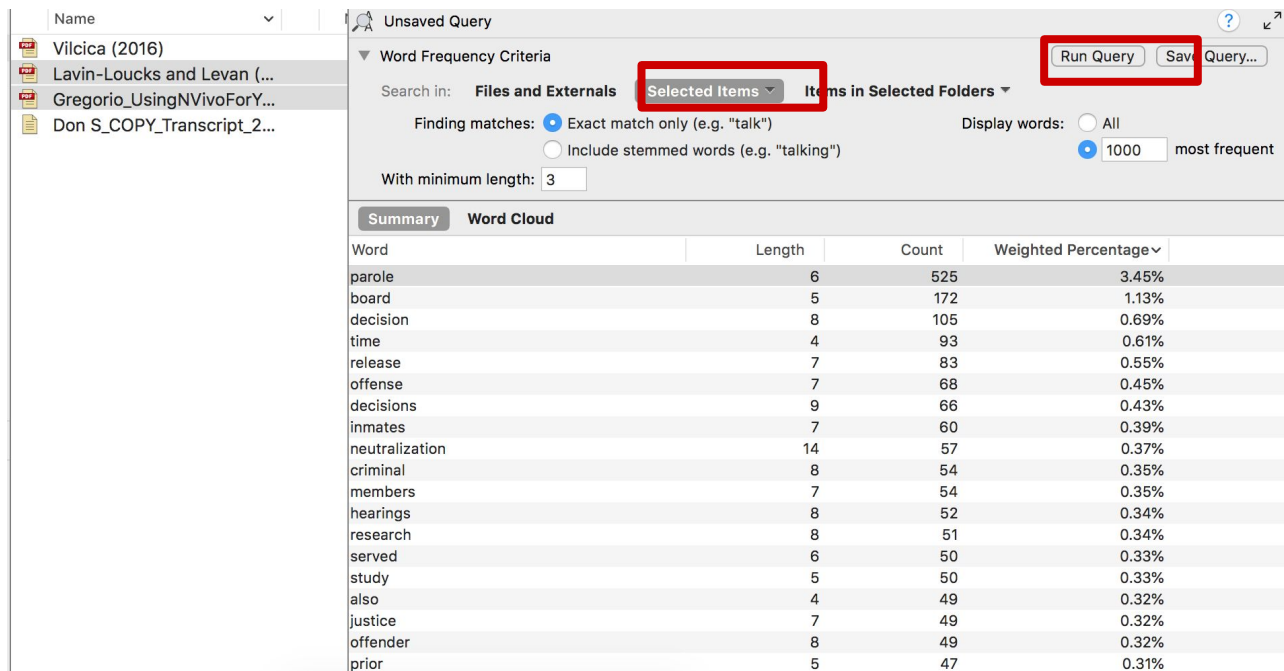
The screenshot displays the NVivo 1.2.1 Pro software interface. The top toolbar includes the 'Explore' tab, which is active. Below the toolbar, the 'Files' pane on the left lists various codebooks and documents. The 'Word Frequency Query Results' window is open on the right, showing the 'Word Frequency Criteria' tab. The 'Search in' section is set to 'Selected Items...'. The 'Display words' section is set to '1000 most frequent'. The 'With minimum length' section is set to '3'. The 'Grouping' section is set to 'Exact matches (e.g. "talk")'. The 'Run Query' button is highlighted with a red box. Below the criteria, a table lists the results of the query, including words, their lengths, counts, and weighted percentages.

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
Word Frequency Query in This Document	4	6	0.65
Text Search Query in This Document	6	6	0.65
Document Properties	5	6	0.65
Color	4	6	0.65
Classification	6	5	0.54
Add to Quick Access	10	3	0.32



Word Frequency Example (Mac)

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



Unsaved Query

Word Frequency Criteria

Search in: Files and Externals **Selected Items** Items in Selected Folders

Finding matches: ☒ Exact match only (e.g. "talk") ☐ Include stemmed words (e.g. "talking")

Display words: ☐ All ☒ 1000 most frequent

With minimum length: 3

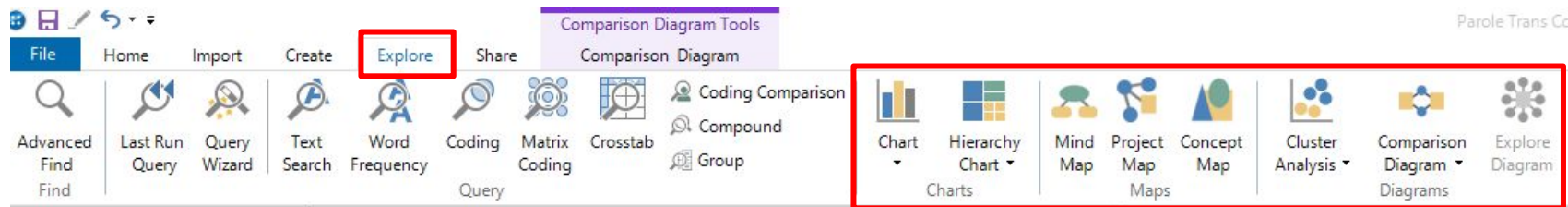
Summary Word Cloud

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%



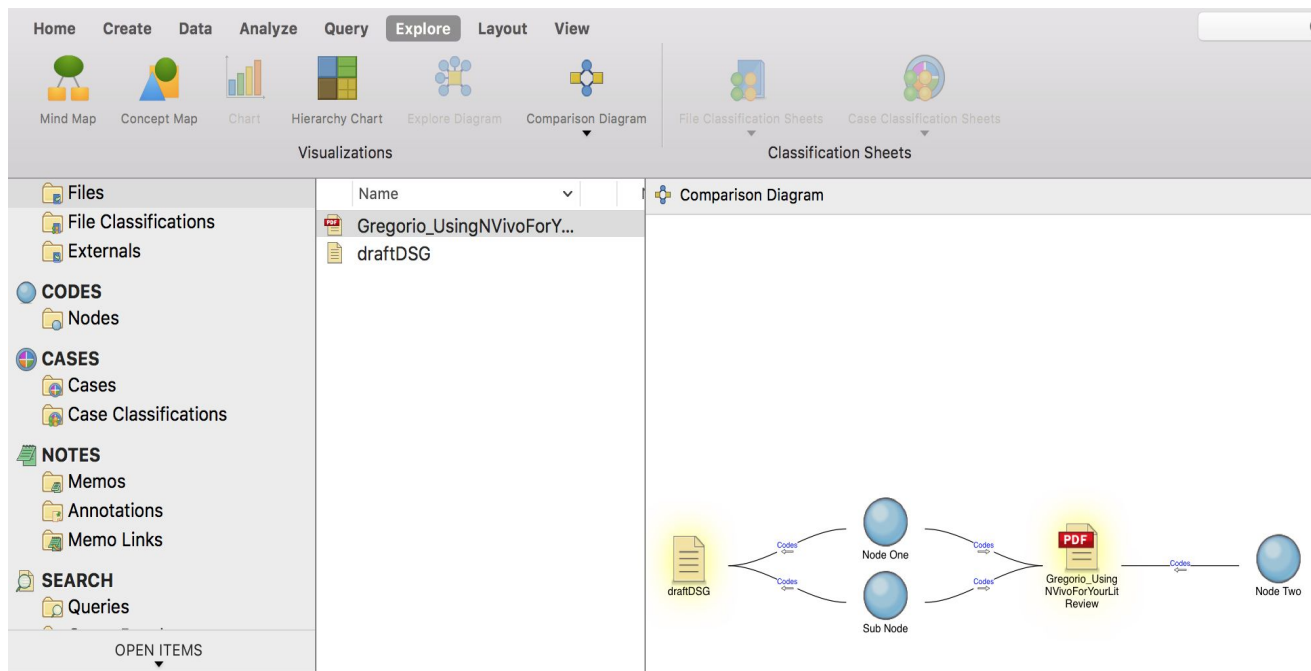
Exploring Codes (Windows)

- 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



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



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 your interviewee mentioned food. How is food mentioned? What are the connections between food and first-year experiences?



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?



Thank you!

If you have any questions, contact us at:

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Slides, handouts, and data available at http://bit.ly/diti_fall2020-st_louis2

Office hours for help with NVivo: bit.ly/diti-office-hours



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during the presentation!*