Digital literacy training

Introduction to NVivo 12 Pro

Project Set-Up & Coding

2022
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Digital literacy training
Introduction to NVivo: Project Set-Up & Coding

NVivo can do a phenomenal number of things to help you analyse your qualitative data. It can also help you analyse a large variety of data types: text, audio, video and pictures. This course will show you how to use the essential tools available in NVivo for qualitative data analysis in an academic context. For further information about NVivo’s full capabilities, please refer to the NVivo 12 help website:

PC: help-nv.qsrinternational.com/12/win/v12.1.110-d3ea61/Content/welcome.htm
Mac: help-nv.qsrinternational.com/12/mac/v12.1.110-d3ea61/Content/welcome.htm

This session will cover:

- Recommended steps in setting up a Research Project in NVivo.
- How to set-up Case Classifications, Attributions & Values to use as break-down variables (a.k.a. independent variables) for future analysis.
- How to set-up Data File Classifications, Attributions & Values to use for bibliographies and refining searches and analyses.
- How to create, view and organise coding schemes in the Codes area.
- How to Import Data Files.
- How to create Cases and apply Attribute values.
- How to manually code and uncode text, sound, picture, and video.

Opening NVivo and a Sample Project

When you open NVivo it will ask you to create a User ID: enter your name and initials (must be unique to the Project). This is very important when you’re collaborating with others. At the top of the Start Screen there is an option to open a new Blank Project or a new Sample Project and on the left-hand side there will be a list of Recent Projects opened. For this session open the Sample Project which is designed to help you explore how NVivo can be used to analyse your own data. It is a two-year study (2008-2009) documenting community perceptions of development and land-use change on coastal communities in the Down East area of Carteret County, North Carolina, USA.

Mac vs PC Versions of NVivo

- If you are collaborating with others on the same Project, it’s best to use the same version of NVivo (e.g., NVivo 12).
- Mac versions of NVivo do not have the same capabilities as Windows versions (e.g., you cannot Create Cases at import on Macs). Windows Projects can be converted to Mac and vice-versa. If you need to use these functions, save a copy of your Mac Project in a Windows format, use a PC to do what you need to, then convert it back to Mac format so you can continue working on your Apple computer.
- These notes apply to the PC version of NVivo, so if you are working on a Mac and have trouble finding what you need please refer to the online NVivo 11 Help for Mac:
  help-nv.qsrinternational.com/12/mac/v12.1.110-d3ea61/Content/welcome.htm
Compatibility with other versions of NVivo

Projects created in older versions of NVivo can be opened in newer versions and vice versa (e.g., NVivo 12 Project in NVivo 12), with the exception of “NVivo Release 1”. If you open an NVivo 11 or 12 Project in "Release 1", the Project will be converted to that newer format, and once it is saved you cannot open it in an older version again.

Recommended Steps in Setting up an NVivo Project

It may seem counterintuitive but setting up an NVivo Project is more efficient if you create your research project variables BEFORE importing any data.

The recommended steps are as follows:

1. Identify what your Cases will be (your units of measurement, such as people/ reports/ organisations). Then set up your Case Classifications, Attributes and Values (e.g., “independent” or grouping variables) for later analytical comparisons in the Cases Area (e.g., age groups, gender, states/territories).

2. Set up your Data File Classifications, Attributes and Values in NVivo to keep track of bibliographical information and help refine future analyses (e.g., analyse survey data separately from interview data) in the Data File Area.

3. Import the Data you need to analyse in NVivo in the Data Files folder and create Cases and assign Classifications simultaneously upon import. Please note that this is not an option in Mac versions, Cases must be created manually for each file after import.

4. Any peripheral information you wish to have easy access to but are not necessary for analysis can be imported as Links in the Externals folder (e.g., emails, articles, websites, YouTube videos). Doing this also provides you with a New Document (that can be analysed in NVivo) in which to type up your notes for each linked file.

5. Open the Data and Case Classification Sheet(s) and assign Attribute values to your Data Files and Cases.

6. Create Contextual Nodes if needed (e.g., a Node each survey question) using Auto Code.

7. Set up your Research/Thematic Variables in the Codes Area, and other Contextual Nodes (e.g., Attitude: positive, negative, neutral).

8. (Optional) Prepare your project for collaboration, in Sets and/or Memos.

Recommended preparation of text documents:

If you will be analysing text documents, try to organise them as follows to make creating Cases easier later on:
- each Case in a separate file, or
- use Heading Styles in Word to help you identify the Cases within your document, and use the Auto Code function to create cases automatically.

It is also handy to use Heading Styles in Word to help you identify discrete sections of a document, such as the questions or areas of questioning responded to in an interview. This allows you to Auto Code and analyse your data question by question, rather than person by person, which is often more efficient.
The NVivo Workspace

The Navigation View is where you can easily navigate the different Areas of your NVivo Project. When you click on an Area in the Navigation Pane, a list of folders in that Area appears at the top of the pane. When you click on a folder, the list of items it contains is presented in a window to the left called the List View. When you open an item in the List View, its content appears in the Detail View. The Ribbon contains commands in tabs. The Find Bar is a shortcut to search for items your Project. The Quick Coding Toolbar has shortcuts for coding your data. The Status Bar provides information for the Project Item you have open.

Note: Throughout using NVivo you’ll find that your best-friend is Right-Clicking: it gives you a context-dependent short-cut menu with all the appropriate options for the space/object clicked. This way you don’t have to remember which menu tab has the function you need.

Note: The Navigation View can be hidden to make more room on the screen by clicking the arrow symbol at the top right-hand side of the View.

FIRST STEPS: Define Cases & Data Files, Create Classifications, Attributes and Relationships

Defining the higher-order information about your Data Files and Cases. By defining the Case and File classifications, their attributes and values FIRST, you are able to classify your data DURING the import process (in PC versions only). This saves you a lot of time, particularly because it has the added benefit of ensuring you plan your project thoroughly before you start coding.

What are Cases?

Technically, Cases are the units of measurement for your research. They can be individual people/focus groups/articles/etc. in your project design. For example, if you want to be able to say: "N number of People said Y", then People will be your Cases. You can have multiple types of Cases if you have more than one unit of measurement (e.g., a Case type for Person and a Case type for Focus Group).

In order to help NVivo identify individual Cases for analysis, you need to create a Case Node for each one and code all information relating to that case to it. Case Nodes also allow you to see all the content relating to each case (e.g., everything person A said) when you open them. These are filed as special types of Nodes in the Cases folder in the Cases Area. Please note that Case Nodes also qualify as Codes when calculating the number of Codes associated with your data (e.g., Barbara’s interview has 43 Codes associated with it, and the Case Node is one of them despite not being a thematic one).
What are Classifications?

There are two types of Classifications you need to create in your project:

- **File Classifications** – for each type of Data File in your project (e.g., Interview, Article or Web Page). You will often only have one type of data file. Sometimes File Classifications are not even necessary, as they are only really useful for searches within NVivo.

- **Case Classifications** – for each type of Case in your project (e.g., Person, Focus Group, Policy). You will often only have one type of Case. Case Classifications are necessary unless you are not interested in enumerating your data or analysing it at different levels (e.g., comparing age groups or summarising what a particular group says).

What are Attributes & Values?

For each Classification you will usually need to create a set of unique, mutually exclusive Attributes:

- **File Attributes** – the relevant details about your data and other files that you need to keep track of (e.g., bibliographical information, interview details such as time place and interviewer). **Note:** can import bibliographical information from referencing programs such as EndNote.

- **Case Attributes** – the relevant breakdown variables (a.k.a. independent variables) you will need for analysis. E.g., if you believe that there will be differences due to the states/territories in which the Cases live, then state/territory should be an Attribute of the Classification for Person.

Within each Attribute you will usually define a set of possible Values to use for analysis (e.g., within Sex the options are Male, Female, Other). This allows you to choose values from a drop-down menu rather than having to type in all your data.

**Note:** Attributes must be mutually exclusive because you cannot select more than one Attribute Value per Case or Data File. For example, if you have a Case Attribute for Fishing with values for Commercial and Recreational, if a Case fits into both categories you cannot tick both boxes. In this instance you have to create an Attribute for Commercial Fishing and another for Recreational Fishing with values of Yes and No. It is also possible to create one Fishing Attribute with the options: Recreational Only, Commercial Only, Both, and Neither. However, this makes it difficult to analyse all Recreational Fishers together for example.

Below is an example of a Case Classification for Person with Age, Sex and Occupation Attributes. This will allow for comparison of the themes that emerge in your data between 3 age groups and sexes.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Attribute</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person</td>
<td>Age</td>
<td>20-25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26-30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31-35</td>
</tr>
<tr>
<td></td>
<td>Sex</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>
Creating Classifications and Associated Attributes

You set up Case Classifications in the Cases area, and File Classifications in the Data Area. The process is identical, so we will look at how to create Case Classifications only here.

Example: Create a Case Classification and Attributes for Philosopher.

On the Home tab, click on the drop-down menu for Case Classification (or you can right-click on the Case Classifications icon in the Cases area). Create a new Case Classification called “Philosopher” and give it an (optional) description. This will create the classification and then you can add its Attributes. Click on the new Philosopher Attribute and on the Home tab select New Attribute (you can also do this by right-clicking on the icon for Philosopher and selecting New Attribute). Give it a name and (optional) description, such as School of Thought on the General tab. Select its value Type (here text). On the Values tab, you can set up the different nationalities for the attribute: click Add and enter a new value in the row that appears (e.g., Existentialism) assign a description and/or colour if you wish, then click Add again to add the others. Then click OK when you’ve finished (do not click ADD again as it will not let you continue with a blank row). You can add more attributes this way as well.

HANDY HINT: You can delete and reorder Attributes by clicking on the grey box on the left-hand side of the row you want to remove or delete to select it, and then click on the appropriate button below (remove, move up or move down).

FILE AND CASES AREAS

Importing Files

This is where you’ll store all of your qualitative data files for analysis (e.g., interviews, surveys results). There are 3 Data Area folders:

- **Files**: All the data files you want to analyse in NVivo should be stored here, in the Project itself.

- **Externals**: You can create links here to websites (e.g., YouTube, Wikipedia pages) and your own files stored elsewhere on the same computer outside of the NVivo Project. It automatically creates a text file associated with the link, in which you can write notes about it. These notes are codable in NVivo and can be very useful for Literature Reviews (e.g., code your journal article notes in NVivo to make compiling them easier for write-up).

HANDY HINT: NVivo analyses data files quicker and more easily with less data to search through in a Project. You can save links to the material not needed for analysis in the Externals folder OR if you want to use NVivo for your literature review, create a separate Project for that. Your Nodes can easily be imported into new Projects, so you can have the same coding scheme for both.

You can see the data files already imported into the Project by clicking on the File folder and the list of files will be displayed on the right in the List View windowpane. To see the actual data within the file, double-click on the file and it will open up in a new windowpane called the Detail View on the right-hand side of the screen.

New folders can be created within the Data Area by right-clicking on the File folder, selecting New Folder and giving it a name (e.g., “Test Folder”) and (optional) description. You can also create new Internal Documents by right-clicking in the List View and selecting New Internal and new Document (new audio and video files will still need to be imported). Give it a name and (optional) description.
Importing Data Files into the NVivo Project

You can import data files in the following formats in NVivo Pro and Plus (only text in the Starter version). They are grouped together into 3 categories of options:

"Import Items"
- **Audio**: *.mp3, *.m4a, *.wma, and *.wav

"Import Survey"

"Import From..."
- **NCapture**: webpages as *.pdf files and Twitter feeds as *.pdf or spreadsheets using NCapture extension for Chrome and Internet Explorer.
- **Notes and Email**: Evernote, OneNote and Outlook files.
- **Bibliography Files**: EndNote, Mendeley, RefWorks and Zotero files.

HANDY HINT: You can select multiple files and import them into NVivo at the same time (although datasets must be imported one-by-one). However, you will need to define the file properties after import, and NVivo will use the file name as the name of the Data File/Case (this can be changed later).

Creating Case Nodes

When each data file represents one Case in your project, you can automatically create a Case Node for it during import (PC versions only) and NVivo will code all of the text etc. in the file as belonging to that Case. For Mac users, you will need to create Cases for each file after import.

If you have more than one case in one file, you will need to use another method to code the relevant information to a Case Node. The easiest method is to identify content relating to each case using Heading Styles in a Word document, and then using the Auto Code function in NVivo to automatically code that information for you (see Auto Coding in the Creating Nodes section). Otherwise, you will need to manually code all the data yourself.

When Importing Data Files

Example: Importing a *.doc file belonging to one Case

In Navigation View, click the name of the File folder that you want to import the data file into (e.g., Internals). On the Import tab, click the icon for the type of data you want to import (e.g., Items). Select the file you want to import, then OK. If this file belongs to one Case (e.g., Tony), tick the box to Create a Case for each imported file and you can also select the radio button to Add to an existing classification to classify all the documents appropriately. Then click Import.
To assign **File Classifications** to the imported file(s), select the files you want to classify and right-click on the selection. Choose **Classification** and select the appropriate File Classification from the list. You can also create **Cases** from the files here and assign **Case Classifications** at the same time if you haven't done this during import.

**HANDY HINT:** Audio, Video, Dataset and PDF files need to be edited **before** import. It’s also good idea to spellcheck documents before importing also, although there is a spellchecking function in NVivo.

### After Importing Data Files

**Example:** Creating Case Nodes for multiple imported files which belong to one **Case** each

In **Navigation View**, go to the **File folder** containing the documents that you want to create cases for. Select all the appropriate files which ideally belong to the same **Case Classification** (e.g., Person). Right-click on the selection, and choose **Create As**, then **Create As Cases**. Select where you want to save them (usually the higher-order Cases Folder). In the drop-down menu below, choose which Case Classification to add them to (e.g., Person), then click **OK**.

### Manually Coding to Case Nodes

You can create Cases before or during the coding process. To create a new Case **BEFORE** coding, in the **Navigation View** select the **Cases folder** in the **Cases Area**. Then you can either go to the **Create Menu** tab and select **Case**, or right-click in a blank space of the List View pane and select **New Case**. Provide the new case with a Name and description (optional), then click on the **Attribute Values** tab. Select the appropriate **Case Classification** (e.g., Person). You can assign all the appropriate attributed in the area below now, or it may be easier to do that from the Classification Sheet later. Then click **OK**.

To create a new Case **DURING** coding, open a data file and use the mouse (by clicking and dragging) to select the first section of content that belongs to one case. Right-click on that selection and choose **Code**. Then click on the **Cases** folder from the list in the new window. When this folder is selected, the New Node button below changes to New Case. Click on **New Case** and enter a name for the new Case Node. Then click OK. You will then need to assign a **Case Classification** to that new case, as described next.

### Applying Classifications & Associated Attributes

When you have imported your Data Files and Cases in the Project you need to associate them with their relevant **Classifications** and assign **Attribute** values. If you haven't already assigned a **Classification** to your Cases during import, do this by selecting one or more **Cases**, right-click on the selection and go to the **Classification** section of the menu and choose the appropriate one (e.g., **Person** or **Journal Article**). Once the Files/Cases have been classified, they will then be available for classification in the **Classification Sheet** which is found in the **Classifications** Area of the Navigation View.

Find the relevant Classification (e.g., **Person**) and double-click on it to open the **Classification Sheet** (or right-click on the Classification and select **Open Classification Sheet**). This will produce a new tab with a spreadsheet in the Detail View. The columns represent each **Attribute** and rows represent each Data File/Case. Select the appropriate Attribute values in each column for every Data File/Case in each row (either using drop-down lists or typing them in).

**HANDY HINT:** If you need to apply the same value to multiple consecutive Cases in the Classification Sheet, you can copy a cell with the relevant value and paste that value to multiple cells after selecting them using the **shift + arrow** keys (**Note:** you cannot select multiple cells with the mouse, and this does not work on Macs).
Importing Classification Sheets

The following information applies for both Importing File and Case Classifications. I will only describe the importation of Case Classifications here. You can perform this process before or after creating Cases in your project, you just need to ensure any existing Cases have the exact same name (identical sentence case etc.) as the Cases in the ID column of the imported Classification Sheet. Then NVivo will apply the attributes and values to the appropriate Cases automatically.

In your spreadsheet file, make sure the first row (and only the first) of the worksheet contains the Attribute names (e.g., Sex, Age) and the following rows only contain the data you wish to import (no annotations etc.). The first column should contain the identifier for each Case (e.g., ID number/Name). Case Nodes will be created for each value in this column if they don’t exist already or the information will be matched to existing Cases. Attributes will be created and named after each remaining column heading and the Value options will be based on the values entered in each column.

In NVivo, on the Import tab, click on Classification Sheet in the Classifications area (or right-click in the List View of the Case Classifications folder and select Import Classification Sheet). Click Browse to select the file (Excel, SPSS or Tab-delimited Text files only), then click Next. Select the Classification Type (e.g., Case Classification).

If this is the first time you’re importing information for attributes, make sure the Create New Attributes box is ticked (and/or you can update existing ones by adding new information, or replace attribute values if you need to correct information). Then click Next.

If you want to create a Case Node (or add information to existing ones) for each row of data, represent the Cases as either:

- **Names** if you have only one type of Case for free-standing Case Nodes
- **Hierarchical Names** if you have more than one type of Case. This will create Cases as Child Nodes nested under a higher-order Parent Case Node to distinguish them from other types of Cases

Tick Create new cases if they do not exist already and click Next. Select how you have represented Unassigned and Not Applicable values in your Excel/SPSS/Text Classification Sheet (e.g., blank for Unassigned and N/A for Not Applicable). If you have date data, specify how it was entered into the spreadsheet so that NVivo can recognise it. Then click Finish.

Adding External Data Sources

When you have large files, such as audio and video, it’s usually a good idea to add them to the project as an External Data Source rather than import them as part of the project. It reduces the sizes of the project file and saves on computing power when running analyses. Creating externals for journal articles in a Literature Review is often a good idea, so that NVivo can help you compile your own summary notes on each in a meaningful way, rather than compiling multiple disparate snippets of text from the original articles.

Please note that you will not be able to use NVivo to code or search the content of external sources of data, only the notes or comments you linked to them.

In the Externals folder, right-click on the space in the List View and select New External. Enter a name and optional description on the General tab. On the External tab choose the External Type (e.g., File Link) then click the Browse button to file the location of the file. The file MUST always go where the NVivo Project goes, or else the link will break. You can give it a location description and select the Contents Type from the drop-down menu and Unit Type from the next menu.
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On the Attributes Values tab select a Classification Type if appropriate (e.g., Reference) and assign its relevant Attributes. Then click OK. The external will open in edit mode and you can enter content related to the external to be coded later on. If you want to open the external file within NVivo, right-click on the external data source and select Open External. If you want to open the file in its native format outside of NVivo, select Open External File instead.

**Importing Social Media and Web Pages with NCapture**

There is an add-on for Internet Explorer and Google Chrome web browsers called NCapture for NVivo. It automatically converts web pages to pdf and Twitter social media conversations into spreadsheet tables ready for analysis. Please note: Facebook no longer permits their data to be captured in this way. When you are on a Facebook page, you can only save the News Feed page or a User Wall as a PDF file with NCapture. Follow the same directions as for web pages below.

**Web Pages**

**Example: Capturing and importing a Wikipedia Page in Google Chrome.**

To save pages as pdf and import them into NVivo, go to the relevant webpage in Google Chrome or Internet Explorer (e.g., a Wikipedia Page) select NCapture and click Web Page as PDF as the data source type (or Article as PDF if you only want to save the text of the article. Note: sometimes the text you see on a webpage is actually an image of text, and as such cannot be found in searches). Change the name if you wish and (optional) enter a description and linked memo. You can also ask it to code the source at import by adding terms to the Code at Nodes box. Then click Capture.

In NVivo, click on the Data folder in which you wish to import the data. On the Import menu tab, click NCapture. Select the appropriate option (All captures not previously imported, All or Selected). If your file is not already visible in the box below, click the Browse button and find the file you wish to import. Then click Import.

**Twitter**

If you are on a Twitter Feed page, you can use NCapture to save the posts as a Dataset. Follow the same procedure above and select the option Posts as Dataset. You can merge social media datasets into one table for ease of analysis (takes note of where the files came from as Nodes). Tick the Merge matching social media datasets (including previously imported) check box, and any matching Facebook datasets are merged together (if they contain wall posts for the same User, Page, or Group).

**YouTube**

You can capture the Video only, Video and Comments or the Web Page as PDF. When you use NCapture to capture video in YouTube, it creates a video source file which is essentially a shortcut link to the video in YouTube (essentially an External Source) which can be played within NVivo. If the video is removed from YouTube, you will not be able to play it. You can transcribe this video within NVivo, but not in Transcribe mode. If you also capture the YouTube comments this creates a dataset within NVivo as an Internal data file which can be analysed.
CODES AREA

Create Nodes

This Area contains all the information relating to the coding you have conducted to analyse and summarise your qualitative data. It has folders for:

- **Nodes**: "Nodes" are essentially files (with a blue circle symbol) containing everything you have assigned to each code in your coding scheme (text, audio, video etc.).

- **Relationships**: A record of the Relationships you note between project items (e.g., which *People are Married*, which *Authors are Collaborators*). This is information you can record but not analyse in NVivo Pro (you can analyse it using the Plus version).

- **Relationship Types**: This is where you set up the types of relationships you want to note and apply to NVivo project items.

**What is a Node?**

*It might be easier to think of Nodes as being the same thing as Codes.* As mentioned above, Nodes are essentially files (with a blue circle symbol) containing everything you have assigned to each code in your coding scheme (text, audio, video etc.). For example, all the text/audio/video in the Sample Project which refers to infrastructure has been **coded to a Node** called "Infrastructure". When you open the Node called "Infrastructure", you will see a summary of all the data that was coded in the **Detail View** on the right-hand side. Each section of text, audio, and video is called a **Reference**.

Nodes can be:

- **Free** - stand-alone topics/themes (e.g., *Balance*).

- **Tree** - hierarchical grouping of Nodes indicated by a +/- symbol to expand and collapse the tree. The higher-order Node is termed the “parent” and lower-order Nodes “children” (e.g., *Economy* is a parent Node and *Agriculture, Tourism* etc. are its children).

**HANDY HINTS:**

1. Consider **setting-up Nodes for the codes you intend to use before coding your data**; this does help to ensure coding doesn’t go beyond the scope of your project. They can always be changed, merged, added to and reorganised as you go along. You can also use the **Mind Map** feature in NVivo to create your initial Node structure *[more on this later]*.

2. Try to **restrict Tree Nodes** to the “child” level, and don’t go beyond to “grandchildren” or “great-grandchildren” unless you absolutely have to. It makes analysis simpler and limits your Nodes to only the essential ones for summarising and analysing.

3. **NEVER duplicate nodes** – there is no need to, as segments of data files can be coded to multiple Nodes.

4. You can import Nodes from another NVivo Project (e.g., from a Literature Review) if you want to reuse the same/similar coding scheme.

When you look at your Nodes in the **List View**, it also provides a summary information about each:

- **Files**: the number of Data files that have content coded at that Node.

- **References**: the number of sections of text audio and video etc. coded to that Node.

And other potentially useful information.
Thematic Nodes and Contextual Nodes

Your Thematic Nodes are essentially the ones based on your Coding Scheme. I recommend creating "Contextual" Nodes also in order to make future analysis easier and store them in a separate folder within the Codes area. Contextual Nodes are different to your standard "Research" Nodes in that they solely provide some context to the data being investigated (e.g., Responses to Question 1, Negative Attitude Expressed, Positive Attitude Expressed) rather than being important themes you are investigating (e.g., Water Quality, Air Quality). They are also different to the Classification characteristics of your Cases, because these can already be used to group your Cases for analysis (e.g., Male, Female, Age Group).

Opening a Node to View All the References Coded to It

The List View the Nodes Area provides information regarding the number of Files that are coded at the Node (e.g., how many text and video files), as well as the number of References (sections of text). You can see the actual content of the Node by double-clicking on it (e.g., Infrastructure) or right-click on it and select Open Node. The content is displayed in the Detail View. Here you will find tabs on the far right-hand side for:

- Summary - the files in which the references are coded and how many.
- Reference - the textual data coded with hyperlinks to the original Data file, as well as "coverage" details (see below) and reference numbers.
- Other tabs with thumbnail links which compile information from Text / PDF / Picture / Audio etc. files separately.

Warnings:
1. If the Node is a Parent and has Aggregation turned on [more on this later], then coding at any of its Child Nodes is included in what you see when you open the Node and is also included when calculating percent coverage, etc.
2. If you code 2 sentences next to each other separately, you MUST include the space between them, otherwise this is counted as 2 references. In addition, if 2 people code the same sentence this is also counted as 2 references.

Reference Tab Information

- Header: Name of the File coded with a hyperlink to that file, number of references in it coded at the Node and percentage of coverage (e.g., X% of the File coded at this Node).
- References: Number of times the reference was coded at the Node (>1 if multiple users coded the same sentence this is also counted as 2 references).
- Coverage: Percentage of the file that the reference coding represents (e.g., for documents it represents the percentage of characters coded in the entire file).

Creating Parent Nodes

You can create Nodes prior to coding if you wish; it isn’t necessary, but it does help to ensure coding doesn’t go beyond the scope of your project. In the Codes area of the Navigation View, click on the Nodes folder. Right-click on the Detail View in the Nodes folder and select New Node. Type in the code’s label (e.g., Schools of Thought) and add a description (recommended as this text will be added to the “Codebook” that you can export later). Another method to create Nodes is to click on the Create tab, then click Node. You can also use the Mind Map function to create multiple hierarchical Nodes. [More on this later].

HANDY HINT: It’s good practice to clearly define what a code means, provide examples and any “rules” for applying it to the data. Add this to the description of the Node in NVivo to ensure reliability and validity of your coding scheme. All descriptions can be exported as a "Codebook" when you have finished coding to create a clear record of what the code means and how it should be applied in practice. This can be used for coding reliability checks and be included in reports, so that readers can assess the meaning and validity of the code.
Creating Child Nodes
Right-click on the Node you want to turn into a “parent” (e.g., the *Schools of Thought*) and select **New Node**. Give the new Node a name (e.g., *Rationalism*), add a description, then click **OK**. You can also turn a **Free** Node into a **Child** Node by cutting and pasting it into the intended **Parent** Node and selecting **Merge into New Child Node**, or by clicking the free Node icon and dragging it into the **Parent** Node.

If you decide you've made a mistake, you can make the child Node a free Node again by cutting and pasting the Node icon to the blank space at the bottom of the Nodes list (or by clicking and dragging it to the higher-order Nodes folder in the Codes area).

Merging Nodes
You can also merge similar Nodes together so that everything that was coded at one Node will become coded to the Node it is merged with. Select and cut the Node you want to merge into another “**Target Node**” (e.g., in the *Autocoded Social Media* folder cut *Fisherman* and *Fishing*) then right-click on the **Target Node** (e.g., *Fishing Industry*) and select **Merge into Selected Node**. Select the appropriate option(s) provided (e.g., **Merge Child Nodes** as well) then click **OK**.

Aggregation
It’s a good idea to consider if and when you want to aggregate the coding in your child Nodes with that of the parent Node for analysis. Right-click on the parent Node then select **Aggregate Coding from Children** to either tick or untick the **Aggregate** box. If aggregation is turned on (ticked), then all the child-specific coding (e.g., *Ecosystem Services*, *Environmental Change*, etc.) will also be included in the parent-Node’s coding (e.g., *Natural Environment*) during analysis.

**Warning:** If you want to include the coding from Child and Grandchild Nodes etc., you MUST turn aggregation on for ALL the Parent Nodes in the hierarchy. E.g., if you want the Parent Node *Economy* to include coding from its Child Nodes (*Agriculture*, *Fishing* or *Aquaculture* etc.) and its Grandchildren (*Fishing Industry Decline*) and its Great-grandchildren (*Due to cost of living* etc.), aggregation MUST be turned on for all the Parents in the hierarchy relationship (*Economy*, *Fishing* or *aquaculture*, and *Fishing industry decline*).

Changing Node Information
If you need to change the name of a Node, simply click on the name of the Node a 2nd time and you can change the text. You can also change the name and anything else about the Node (e.g., the description) by right-clicking on it and selecting **Node Properties**.

Creating Folders for Nodes
You can create folders to organise your Nodes in some meaningful way (e.g., create a folder to store your survey question Nodes). Right-click on the **Nodes** folder to create a new one within it (e.g., *Context Nodes*). You can further organise Nodes by clicking their Node icons and drag them in and out of folders (e.g., drag *Attitude* into the *Context Nodes* folder).
Using Mind Maps to Create Nodes

NVivo Mind Maps help you to create a diagram of your coding scheme and its hierarchical structure. As an added bonus, you can also convert the mind map “ideas” into actual Nodes in the Codes area with the click of a button.

On the Explore tab click Mind Map. Enter a name for the map in the Name box, and an (optional) Description, then click OK. An initial shape is already prepared for you to enter a label for the main idea of the map (e.g., Research Project Title). The child ideas from this main shape will essentially be the parent Nodes of your coding scheme (otherwise you need to have one map for each parent Node which is inefficient).

If you want to add a “child” idea (e.g., a shape connected to the main idea) click on the shape and on the Mind Map Tools tab, click on Child idea (alternatively right-click on the shape and select Child idea from the menu). Then give it a label (e.g., Theme 1). If you need to relabel it, just double-click on the word to edit. You can add a Sibling idea (a shape at the same level in the hierarchy) in the same way.

If you want to create an unconnected shape that will become a free Node in your Nodes folder, click Floating idea on the Mind Maps Tools tab. Note: you will not be able to add siblings or children to the shape.

You can change the colour of a shape by clicking on it and changing the colour from the Fill drop-down menu on the Mind Maps Tools tab. You can also change the layout, size, and text formatting on this tab. When you’re happy with your Coding structure, select Create as Nodes or Cases from the Mind Maps Tools tab, click on the Nodes folder and then OK. They will then appear in the Node folder of the Codes area.

Note: I recommend rearranging the new Nodes to make the parent Nodes (which will appear as children under your main theme) true parents by cutting and pasting them to the blank space in the list. Then you can remove the superfluous project theme Node.

Coding Your Data

What is Coding Context?

When you begin to code your data it’s important to consider how much information to include in your Nodes: individual words, partial/whole sentences, paragraphs or even the whole document. Ideally you should code as much content needed to understand why it was coded in that way.

For example:

“I find television very educating. Every time somebody turns on the set, I go into the other room and read a book.” – Groucho Marx
If you select and code ONLY the first sentence of this quote to the Node *TV is NOT Educational*, you might later think that the coding was inappropriate, because when you open the Node to review it, only that sentence would appear. Therefore, when coding it is important that you include an appropriate amount of context in order to justify why you coded it the way you did – not only to yourself, but to anyone else who might review your analysis.

On the other hand, *including irrelevant information* in the context of your Node can be problematic for analysis. Particularly if you want to identify overlapping content between Nodes and quantify your qualitative data. In the example below, each Node contains a substantial amount of irrelevant text, and there is a spurious relationship between them because only the irrelevant coding overlaps.

![Diagram showing overlapping nodes with relevant and irrelevant text]

**What is "Coding-On"?**

Often one sentence will be a relevant reference for more than one Node. Coding-on refers to coding the same content at a second, third or fourth Node+ (this is done in the same way as regular manual coding). **This is why you never need to have duplicate Nodes.**

**How to Code a Section of Text to a Node**

**Method 1:** Manual coding.

Open a document from the Data area and Files folder of the Navigation View. Click and drag your mouse to highlight the section of text that you would like to code under one or more Nodes. Right-click on the selection and choose Code from the menu. Then choose one or more of the existing Nodes in the list: to select more than one hold down the control key and click on the Nodes. If you need to create a new Node, click the New Node button at the bottom of the new window. This will add a new blank Node to the list, which you can rename and select.

**Method 2:** Drag and Drop Coding.

If you have your Nodes displayed in the List View next to the Detail View of your file/document, you can select the content you want to code then **drag and drop** the selection to the Node itself. The selection will still be active in the text, so you can drag it to multiple Nodes consecutively.

**Method 3:** Quick Coding Bar (see illustration below).

1) At the bottom of the window, there is a short-cut bar for coding. Select what you want to code, then choose where you want to code it in the **In** drop-down menu **a. (Nodes, Cases or Relationships)**. You can then click on the box with the 3 dots next to this menu and select the appropriate Nodes from the list.

2) If you are already in the process of coding to particular Nodes, you can select recent Nodes from the 2nd **Code At** drop-down menu **b.** Then select the appropriate Node from the list. If you want to choose more than one, click on the box with the 3 dots next to this menu and tick all the appropriate Nodes boxes.
3) If you want to create a new Node, type in the name for that Node in the Code At box. Then click on the Icon for Code at Current Node to code it.

There are also icons for c. Uncode at Selected Node and to make a Nodes from the selected text (d. Code in Vivo) which automatically chooses the highlight text as the Node's name (up to 256 characters) and as the text to that Node.

How to See What Has Been Coded within a File

There are 2 options for seeing what has been coded. The first is the Highlight method, which is useful for keeping track of where you are up to when coding. Open a Data file (or Case) and the Document Tools tab will automatically become available. Click on the Highlight drop-down menu and select the appropriate option:

- All Nodes (less useful) will highlight everything that is coded to a Node in yellow (including Case Nodes, so everything will be yellow). It doesn’t tell you how it’s been coded.
- Selected Items (more useful) will highlight the coding for a more limited range of Nodes which you choose from the menu (relevant ones will be in bold type). To reset these choices at any time, select Modify Selected Items from the Highlight drop-down menu.

The second option not only shows you what has been coded but how it’s been coded at multiple Nodes. On the Document Tools tab click on the Coding Stripes drop-down menu and select the appropriate option (e.g., Selected Items). Colour-coded stripes will appear in another window on the right-hand side of the screen; one for each relevant Node in the document. These tell you how the sections have been coded and the coding density at each part of the document. When you click on one of these stripes it will highlight the coded text for that Node in the whole document as you scroll through (e.g., Real Estate Development). You can right-click on a strip to hide it from the list. To unhide a strip, select Modify Selected Items from the Coding Strip drop-down menu and re-tick the appropriate Nodes. Be careful NOT to uncode the section this way, because it will uncode the entire document from that Node, not just the section of text that you can see, using coding stripes.

Coding Audio and Video Data Files

Example: Code the audio data file for the Interview Helen.

You can code audio and video Data files in two ways: by selecting the text in the written transcript just as you would for normal text documents, or by selecting sections of the media file via the timeline. Open the audio file for Helen in the Interviews folder. If you want to code using the timeline, click and drag on the timeline to select the portion of timespan you want to code (e.g., 0 to 30 seconds). Right-click on the selection and choose Code (or you can click code on the Audio Tools tab). Choose the Node(s) you want to code the section at, alternatively click New Node if you need to create a new one.

If you have a transcript as well, the portion of the transcript which is coded in the timeline is indirectly coded also (but the transcript will not be shown in the Node when you open it). When you open the Nodes, you will see a link to the section of audio and its related transcript on the Audio tab. To listen to the section of audio coded to the Node, in the Node Tools Audio tab, just click the Play/Pause button. If more than one section of text has been coded, right click on that section and choose Play/Pause from the menu.
Extra Information on Working with Audio & Video: You do not need to transcribe in order to code Audio and Video files. However, remember that NVivo cannot search audio and video content when conducting Word and Text Search Queries. In addition, it becomes more difficult to verify the accuracy of your coding (i.e., it can take much more time to listen to the media file than skim the transcript).

Coding Pictures

Coding pictures it is similar to tagging people on social media. Sometimes you may have to use this method when coding PDFs if they haven't been through optical character recognition (OCR), which means that the text cannot be recognised as text.

Example: Coding a boat in the picture file Competing Water Uses.

You can code pictures in three different ways: by selecting a region of the picture, coding text in the Content column of the picture log (if you have one) or by coding the entire picture file in one go. Again, coding the log is identical to coding normal text data. If you want to code the whole picture to a Node, right-click on the file itself and select Code.

Open a picture file (e.g., Competing water uses in the Area and Township folder) and the Picture Tools tab will become available. If you want to code only a section of a picture (e.g., identify one boat in a photo), click and drag to choose the section you want to code. On the Picture Tools tab under click Code (or right-click on the selection and choose Code).

PDF documents can also be coded as though they were pictures (e.g., areas of the document rather than words in the document). Right-click in the Detail View and select Section Mode then Region instead of Text.

Uncoding Within Nodes and Data Files

If you make a mistake when coding, or if there are references found in Nodes or the results of Queries that do not really fit in with the theme behind the Nodes, you can always uncode that section of text/picture/video/audio. Highlight the reference section to be unencoded, right-click on the selection and choose Uncode. All the Nodes that this section of text is coded at will be in black text and you can tick all the Node boxes you wish to uncode the text at. If you are uncoding from within an open Node, any only wish to uncode it from that Node, all you need to do is click the icon for Uncode from this Node on the Node Tools tab (or right-click on the selection and choose it from the menu).

As mentioned previously, you can also uncode ALL the references in one data file at a Node using the Coding Stripes, by right-clicking on the coding stripe for the appropriate Node, and selecting uncode (use with extreme caution).

HANDY HINT: Uncoding is easiest to do when you are reviewing the coding you have done within a Node, because you can select Uncode at this Node rather than having to constantly look for the relevant one in the list.

[OPTIONAL] Creating Transcripts

You can create transcripts in 3 ways: Transcribe Mode, Normal Mode and by dividing the media into sections.
Transcribe Mode

Example: Transcribing the audio file for Helen.

By using the Transcribe Mode, you can play, pause, forward or rewind as you transcribe, and each time press stop, NVivo creates a new transcript row and timestamp. Open the media Data file and click the blue Click to Edit link at the top of the file. On the Audio Tools and Edit tab, under the Play Mode grouping, click the Transcribe icon (the play button with a pen symbol). Click and drag the indicator for Play Speed (the dome-shaped icon in the Playback grouping) to slow down or speed up the recording. You can also adjust the volume using the indicator with the speaker symbol.

Click Play/Pause to begin playing the Data file and transcribing. As soon as you do this a new transcript entry will be added. Enter your text in the Content column (you can pause, rewind and skip back while transcribing at any time). Click Stop when you have completed a transcription entry. This will add the end time to the Timespan field. When you press Play/Pause again a new transcription row will appear with a new starting timestamp. Continue playing and stopping in this way until you have finished transcribing. Then turn off Transcribe Mode on the Media tab and under Play Mode click Normal.

Normal Mode

You can add transcript entries directly in Normal Mode, by adding a transcript row for a selected timespan and entering the content. Make sure you click the Click to Edit link, then click and drag on the timeline to select the timespan you want to transcribe. On the Audio Tools tab, in the Transcript group, click the drop-down menu for Insert Row and select Insert Row. This will produce a new row in the transcript with the start and end times you selected. You can also add a new entry without a timestamp this way (e.g., to make general comments) simply by typing in the next entry box.

Dividing Media

You can divide the media into sections by adding multiple transcript entries of equal duration. E.g., divide a 30min video into 2min sections then comment on dialogue/events in each. Click to Edit and choose the Normal mode again. On the Audio Tools tab, in the Transcript group, click the drop-down menu for Insert Row and select Insert Rows. In the Add Transcript Rows of Duration field enter the duration of each entry (e.g., 2:00 to create entries of 2mins duration). In the From Start Time field, enter the start time for the entries (e.g., 00:00:00). In the To End Time field, enter the end time for the final entry (this will be pre-populated with the actual end time of the audio file, but you can change this). Click OK.

Custom Fields in Transcripts

If you want to add columns in the transcript for information, such as the speaker’s name, click the File tab, and in the Info area click Project Properties. Click the Audio/Video tab and under Custom Transcript Fields click the Audio or Video tab. Click the New button and enter a name for the new field. The field will be added to all transcripts in the Project. You can use this field when auto coding also.

Importing Transcripts

If you want to import Transcripts the files must be in one of the following formats: *.txt, *.csv, *.tsv, *.rtf, *.doc or *.docx. They need to be formatted in one of the following ways:

- Paragraphs (not lines) that start with valid timestamps: 0:02 Text...
- Paragraphs without timestamps.
- A table with a timestamp column, an optional speaker’s name column and a text column, and the first row contains Headers.
To import the transcript for a video or audio file, open the relevant file you want to add a transcript to, then turn on the Edit Mode. On the Edit tab, click on Import Rows to Import Transcript Entries. In the Import from box, click on Browse and select your file. If your transcript is in the form of a table AND the first column has an ID for the speaker (which matches with Cases in your Project), select File includes identifier column box. If your transcript is in a Word table, *.csv or *.tsv file with one row per line: Select File includes header row if it has one. In the Transcript Field Mappings select the fields you want to import. You MUST include a field for Timespan and another for Content. You can select Fill Down to if you want blank cells to be populated by the preceding cell (e.g., if the Speaker Name is left blank until it changes).
Other resources

**QSR NVivo 12 Help Websites**

PC: help-nv.qsrinternational.com/12/win/v12.1.110-d3ea61/Content/welcome.htm

Mac: help-nv.qsrinternational.com/12/mac/v12.1.110-d3ea61/Content/welcome.htm

**Training notes**

To access training notes, visit the Research & learn webpage anulib.anu.edu.au/research-learn and select the skill area followed by the relevant course. You can register for a workshop and find other information.

**Research & learn how-to guides**

Explore and learn with the ANU Library’s how to guides (ql.anu.edu.au/howto). Topics covered are:

- Citations & abstracts
- Data Management
- E-books
- EndNote
- Finding books and more
- Finding journal articles and more
- Finding theses
- Increasing your research impact
- NVivo
- ORCID (Open Researcher and Contributor ID)
- Topic analysis
- Using Google scholar from off-campus

**Subject guides**

Find subject-specific guides (ql.anu.edu.au/subjectguides) and resources on broad range of disciplines. Such as:

- Asia Pacific, Southeast Asia and East Asian studies
- Business, economics, art, music and military studies
- Criminal, human rights and taxation law
- History, indigenous studies, linguistics and philosophy
- Biological, environment, physical & mathematical sciences, engineering & computer science, health & medicine

**Navigating the sea of scholarly communication**

An open access course designed to build the capabilities researchers need to navigate the scholarly communications and publishing world. Topics covered include finding a best-fit publisher, predatory publishing, data citations, bibliometrics, open access, and online research identity. Five self-paced modules, delivered by international and local experts/librarians (anulib.anu.edu.au/publishing).

**Training calendar**

A range of workshops are offered to help with your academic research and studies (anulib.anu.edu.au/training-register).