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Introduction to NVivo12 Pro

Project Set-Up & Coding
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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. For further information about NVivo's full capabilities, please refer to the **NVivo 11 help website** (NVivo 12 comprehensive is not yet available): help-nv11.qsrinternational.com

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 **Auto Code** to create contextual **Nodes** and **Cases**.
- How to **manually code** and **uncode** text, sound, picture, and video.

When you open NVivo it will ask you to create a user ID: enter your Initials (must be unique to the Project) and (optional) your name. This is important when you're collaborating with others.

Open the sample project to explore how NVivo can be used to analyse your data. When you open NVivo, on the **Start Screen** in the **New** section click **Sample Project**. This 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.

NOTE: Saved Projects can be opened on any computer only if it has the same version of NVivo (e.g., NVivo 12 Pro for Windows) and can be altered by any collaborator (a record of who changes what is kept according to User ID). **Windows Projects can be converted to Mac** to view on Apple computers, and vice-versa. Please be aware that **Mac versions do not have the same capabilities as Windows versions** of NVivo (e.g., you cannot **Auto Code** on Macs).

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** 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 your **Data** in the **Data Files** folder and create **Cases** and assign **Classifications** simultaneously.
4. Open **Classification Sheets** and assign **Attribute** values to your **Data Files** and **Cases**.
5. Create **Contextual Nodes** if needed (e.g., a Node each survey question) using **Auto Coding**.
6. Set up your **Research/Thematic Variables** in the **Codes Area**, and other Contextual Nodes (e.g., Attitude: positive, negative, neutral).
7. (Optional) Prepare your project for **collaboration**, in **Sets** and/or **Memos**.

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.



- | | |
|--------------------|-------------------------|
| 1. Ribbon | 5. Find Bar |
| 2. Navigation View | 6. Quick Coding Toolbar |
| 3. List View | 7. Status Bar |
| 4. Detail View | |

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.

Mac vs PC Versions of NVivo

If you are intending to use the Apple Mac version of NVivo, please note that it does not have all the capabilities of the PC version and the user interface can be quite different (e.g., The Mac version cannot Auto Code). In newer versions of NVivo, the interface is becoming more similar, however the older versions are vastly different. These notes apply to the PC version only, 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-nv11mac.qsrinternational.com

If you are working on both PC and Mac versions, you will need to convert your Project files to the appropriate format to the platform you are working on, each time you work on a different computer. More information on how to do this can be found on the above website.

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

Defining the higher-order information about your **Data Files** and **Cases**.

HANDY HINT: By defining the Case and File classifications, their attributes and values FIRST, you are able to classify your data DURING the import process. This saves 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/reports/articles (or other special instances you wish to be able to measure) 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 *Organisation*).

In order to help NVivo identify individual **Cases** for analysis, you need to create a **Case Node** for each one. **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.

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 useful for searches within NVivo.
- **Case Classifications** – for each type of **Case** in your project (e.g., *Person*, *Organisation*, *Location*). 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?

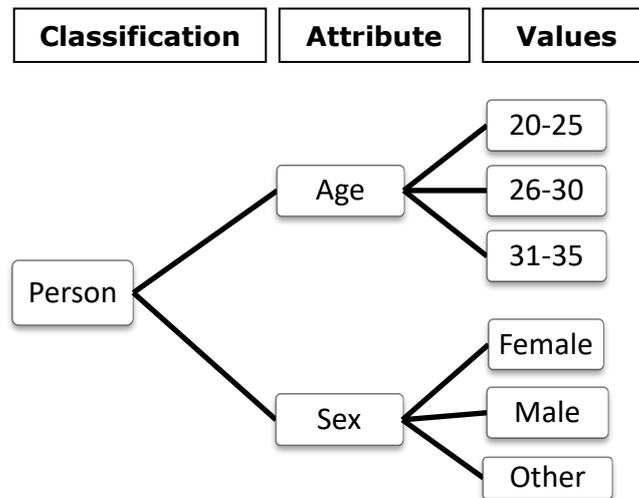
For each **Classification** you will usually need to create a set of unique, mutually exclusive **Attributes**:

- **Data File Attributes** – the relevant details about your data 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* or *Female*). 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*.

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.



Creating Classifications and Associated Attributes

You need to set up classifications for Data Files and Cases in different areas in NVivo12: **Case Classifications** in the **Cases area**, and **File Classifications** in the **Data Area**. The process is identical.

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 *Nationality* 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., *French*) 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 to the *Philosopher* classification this way as well.

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

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**). This will produce a new tab with a spreadsheet. 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).

DATA AREA

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:** previously called "Internals" in NVivo 11. All the data files you want to analyse using NVivo should be stored here within the Project itself.
- **Externals:** links to data and notes which you don't need NVivo to analyse can be stored here outside the NVivo Project (e.g., things that you cannot import into NVivo like PowerPoint slides, or really big files that are better to store outside to **save computing power**).
- **File Classifications:** where you can create File Classifications, Attributes and Values for your data files in the same manner as for Cases.

HANDY HINT: NVivo analyses data files quicker and more easily with less data to search through in a Project. You can save 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.

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** Window Pane. To see the actual data within the file, double-click on the file and it will open up in a new Window Pane 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/Plus** (only text in the **Starter** version):

Data Files

- Text: *.doc, *.docx, *.pdf, *.rtf, and *.txt
- Audio: *.mp3, *.mp4, *.m4a, *.wma, and *.wav
- Picture: *.bmp, *.gif, *.jpg, *.jpeg, *.png, *.tif, and *.tiff
- Video: *.mpg, *.mpeg, *.mpe, *.wmv, *.avi, *.mov, *.mp4, *.qt, *.3gp, *.mts and *.m2ts

Survey Files

- Excel: *.xls, *.xlsx, *.csv, *.txt, *.tsv, Access database tables, ODBC database.
- Survey Monkey
- Qualtrics

Web Pages: as PDF files using **NCapture** for **Chrome** and **Internet Explorer**.

Bibliography Files: EndNote, Mendeley, RefWorks and Zotero files.

Notes and Email: Memos, Evernote, OneNote and Outlook files.

Social Media: as Survey Files from Facebook, YouTube, LinkedIn and Twitter using **NCapture**.

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 by default.

Creating Case Nodes When Importing Data Files

When each data file represents one Case in your project, you can automatically create a **Case** project item for it and NVivo will code all of the text etc. in the file as belonging to that **Case**.

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., *Data Files*). 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.

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.

Please note that you will not be able to use NVivo to analyse 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 **Detail 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.

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 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 social media conversations into spreadsheet tables ready for analysis.

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**.

Facebook/Twitter

When you are on the 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 above. If you are displaying **Wall Posts** for a **Facebook Page** or a **Twitter Feed** you can use **NCapture** to save the posts as a **Dataset**: select the option **Posts as Dataset**.

Note: 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 (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 HINT: 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*].

HANDY HINT: 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.

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

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.

Research Nodes and Contextual Nodes

Your **Research Nodes** are essentially the ones based on your Coding Scheme. I recommend creating "*Contextual*" Nodes also in order to make future analysis easier. **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 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.

Note: If the Node is a **parent** and has **Aggregation** turned on [*more on this later*], then coding at any **child** Nodes is included in what you see when you open the node. The content in child Nodes are also included when calculating coverage.

Warning: If you code 2 sentences next to each other *separately*, and do not include the space between them, 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 section of text).
- **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 a New Node

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 define what a code means and any "rules" for applying the it to the data. This can be added to the **description** of the Node in NVivo and will assist in ensuring reliability and validity of your coding scheme. All descriptions can be exported as a "codebook" when you have finished coding. If multiple people are coding the data (recommended on a limited sample of data for reliability checks), then there is a clear record of what the code means and how it should be applied in practice. It should also be noted 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).

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., *Rationalism*) will also be included in the parent-Node coding (e.g., *Schools of Thought*) during analysis.

Note: If you have aggregation turned on for a parent Node **X**, but aggregation turned off for its child Node **Y** which is also a parent Node (i.e. **X** has "grandchild" Nodes) the content coded at the grandchildren will not be included at the grandparent level when viewing or analysing Node **X**.

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).

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**.

[OPTIONAL] Creating a Relationship between Project Items

You can create relationships between Cases and/or other project items, and you will see these relationships in the **Relationships** folder in the **Codes** area. For example, *Margaret* is a **member of Carteret Catch**. Relationship types need to be created FIRST in the **Relationship Types** folder.

To create a **Relationship Type**, right click on the Relationship Types folder and select **New Relationship Type**. Type in a name (e.g. *employer*) and [optional] description, then select the appropriate direction (e.g. *one-way*). To apply a Relationship right-click in the blank space in the **Relationships** List View (or selecting **Relationship** on the **Create** tab) then select a Project item such as a Case/Node in the **From** box (e.g., *Barbara*), then choosing a **Relationship Type** from the drop-down menu (e.g., *is married to*) and selecting another Project item in the **To** box (e.g., *Ken*). Then click **OK**.

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.

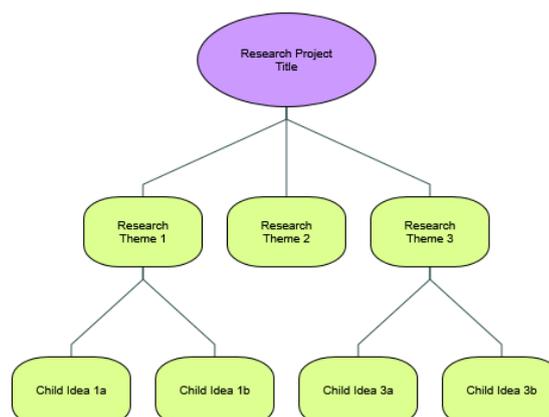
On the **Explore** tab click **Mind Map**. Enter a name for the map in the **Name** box, and an (optional) **Description**, then click **OK**. An initial shape is already prepared for you to enter a label for the main idea of the map (e.g., *Research Project Title*). The child ideas from this main shape 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.



Autocoding Nodes & Case Nodes

You can also create **Contextual Nodes** (such as a Node for each question so you can analyse them separately) and **Case Nodes** using the **Autocode** function. This works best if you have a spreadsheet Data file where each row represents one case, and each column represents a Node (such as a survey question). **Autocode** can also be used in **Word** documents, if you have used **Heading Styles** to define content relating to one case/theme (such as *Heading 1* for each interview question, and *Heading 2* for each person's name).

Auto Coding Datasets

You can automatically code datasets, creating Nodes for:

- **columns** – e.g., a Node for each question in a survey coding the responses in the column to that Node.
- **rows** – e.g., a Case for each respondent and code the responses in that row to that Case.

Example: Auto Code the columns in the *Survey Responses Data* file as question Nodes.

In the **List View** of the **Data** area, select on the dataset you want to auto code (e.g., the *Survey Responses Data* in the *Survey* folder). On the **Home** tab click **Auto Code** and the Wizard will begin to take you through the process. Click **Code at Nodes for selected columns** then **Next**. Move the appropriate column(s) you wish to auto code into the **Selected Columns** box by selecting them and clicking the right arrow button (e.g., all of the available columns) then click **Next**. Select a location for the **Node** (e.g., under **New Node** in the location **Nodes**), and give the new Node a name (e.g., *Survey Questions*). Then click **Finish**. This will create a new **parent Node** called *Survey Questions* with multiple **child Nodes** in the Nodes folder.

Auto Coding Using Paragraph Styles

You can use NVivo to auto code your **Word** documents based on **Heading Styles**. It's probably easier to explain how this works using an example. If you want to create a Node for each question that is asked in an interview transcript, you can apply the same *Heading Style* format to each question asked in the document. NVivo will automatically create a new Node for each piece of unique text in that style (e.g., one Node called "*What is your favourite colour?*" written in style 1 and another called "*What is your favourite food?*" also in the same style). It will then automatically code the text between "*What is your favourite colour?*" and the next instance of the same *Heading Style* as belonging to the new "*favourite colour*" Node. If NVivo finds the text "*What is your favourite colour?*" in *Heading Style 1* again, it will add the next piece of normal text to the same Node.

If you have multiple individual transcripts in Word and they are formatted using paragraph styles in the same way, they can all be auto coded together in one go.

Example: Auto Code the *Interview Word Documents*.

Select the document you wish to auto code in the **Data** area (e.g., all the text documents in the *Interviews* folder). On the **Home** tab, click on **Auto Code** and select **Paragraph Style** and select the appropriate paragraph style(s) from the list (e.g., *Heading 1* to create Nodes for each question). Click **Next** and then select a location for the Nodes (e.g., under **New Node** in **Nodes**) and give the **group** of Nodes a **Name** (e.g., *Questions*), then click **Finish**. You'll notice in the Nodes folder there are 2 Nodes for Q.6. This is because the questions were not identical – you can merge these two together.

Note: You can also **Auto Code** by paragraph number this way: choose to code by **Paragraph** instead of Paragraph Style.

Coding Your Data

What is Coding Context?

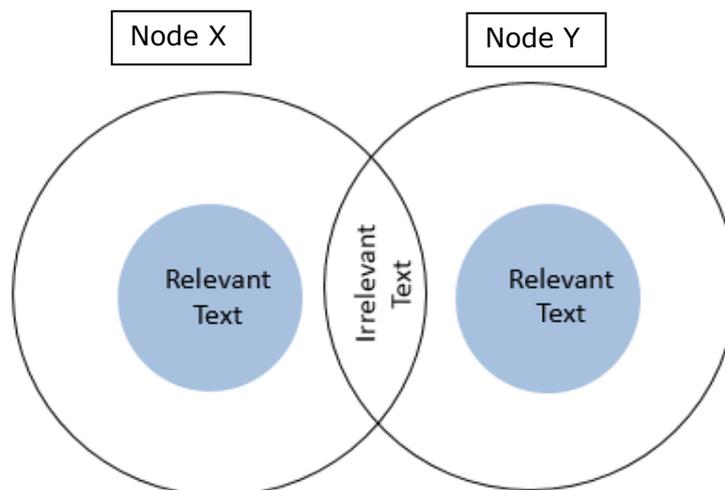
When you begin to code your data it's important to consider **how much information to include in your Nodes**: individual words, partial/whole sentences, paragraphs or even the whole document. Ideally you should code as much content needed to understand why it was coded in that way.

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.



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. Double-click on a Data file to open it 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). 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. You are also able to uncode using coding stripes by right-clicking and choosing **Uncode at Node**, **Caution:** this will automatically uncode all the text in that document at that Node not just the section of text that you can see.

[OPTIONAL] 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).

[OPTIONAL] 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 uncoded, 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 uncoding (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.

Notes Area

This Area stores links to project items in folders to make them easier to organise and find. It is particularly useful if you are collaborating with other researchers on the same project.

- **Memos:** any memos you have made in your project are stored here.
- **Framework Matrices:** create and store matrices to help you summarise what your Cases have said on particular topics.
- **Annotations:** any annotations you have made in your project are linked here.
- **See Also Links:** any hyperlinks you have made between project items.

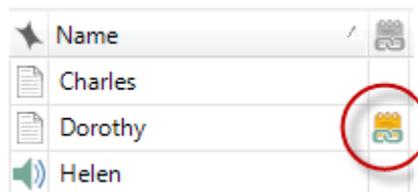
Creating Annotations

Example: Annotate the Interview for *Barbara*.

Select the content you wish to annotate (e.g., *Barbara*) and on the **Document Tools** tab click **New Annotation** (or right click on the selection and choose New Annotation). Enter the annotation text at the bottom of the **Detail View**. Annotated content will be highlighted in [blue](#) and the text will be displayed in the **Annotations** tab at the bottom of the window. This text can also be included in any text searches and/or queries.

Creating Memos

You can use memos to record any ideas or insights as you progress in your analysis. These can be linked to specific **Data Files** or **Nodes**, or **Unlinked**. Memos can include text, tables and annotations. In addition, you can code the content of memos. You can also import existing memos into the Memos folder. Data files that have linked memos display a memo link icon:



Example: Create an Unlinked Memo for *Things to Do*.

To create an unlinked memo, in the **Notes Area**, click the **Memos** folder. On the **Create** tab, click **Memo**, enter a name (e.g., *Things to Do*) and (optional) description, and then click **OK**. It will open in the **Edit Mode** so you can enter content. If you want to link a memo to a Data File/Node, right-click on the File/Node then select **Memo Link** and then **Link to New Memo**. Enter a name and (optional) description, then click **OK**.

Creating Links

Example: Link text in the *Barbara* Interview to the *Charles* Interview.

Select the content you want to link from (e.g., a selection of text from the *Barbara* Interview), and on the **Document Tools** tab, click the **See Also Link** drop-down menu and select **New See Also Link**. Click the **Select** button and locate the Project Item you want to link to (e.g., *Charles* in the *Interview* folder), and click **OK**. Linked content will be highlighted in pink and the linked item will be displayed in the **See Also Links** tab at the bottom of the window.

Note: If you want to view/hide annotations and links from the Detail View, tick or untick the relevant box on the **Document Tools** tab in the **View** grouping

Creating Framework Matrices

You can create Framework Matrices with rows representing individual Cases and columns for specific theme Nodes. NVivo will show you the text that relates to each cell in the table in a separate window to make it easier to summarise it by writing your notes in each cell of the table yourself.

Example: create a matrix for all the people interviewed and the *Negative, Positive, Mixed* and *Neutral* things they said.

In the **Notes** area right-click on the **Framework Matrices** folder and select **New Framework Matrix**. Give the Matrix a name and optional description, then click on the **Rows** tab. Click the **Select** button to select Cases (e.g. in the *Cases* folder, look in the *People* folder and tick all the boxes in the *Interview Participants* folder). Then click OK. If you want to sort the Cases by particular Case Classification, click the select button for the **Select attributes to sort the rows by** box. Select the classification that you wish to sort by (e.g. *Age Group*), then click OK. On the **Columns** tab click the **Select** button and choose all the thematic Nodes you want in the columns (e.g. the *Attitude* child Nodes), then click OK and OK again.

When you click on a cell in the Matrix, the coded text relating to that cell will appear in a window on the right-hand side. You can then summarise the text yourself within the cell of the table.

Search Area

This Area stores copies of the analyses you have run as well as their results for future reference, as well as containing useful "meta-folders" to help organise and find data.

- **Queries:** saved Queries you have run to explore the Project data (if you have selected **Add to Project** when running the Query). You can alter the parameters and/or run them again at any time by double-clicking on a Query. **Note:** if you change the parameters it will overwrite the saved Query.
- **Query Results:** saved results from the Queries you have run (as Nodes or Crosstabs [*More on this next course*]).
- **Node Matrices:** saved tables created during **Matrix Coding Queries** [*More on this next course*].
- **Sets:** meta-folders which you can create to store hyperlinks to project items (e.g., a folder with links to all the data files you still have to code). This makes items easier to find by organising them in different ways. It is particularly useful if you are collaborating with other researchers on the same project.
- **Search Folders:** meta-folders which you can create to run and produce the results of common searches.

Creating a New Set

You can use the **Sets** folder in the **Search** area to create *virtual folders* with shortcut links to project files. Items in a Set folder are simply shortcuts to the original files. You can delete an item from a set without removing it from your Project. You can create an empty set to add items to later, or create a set based on existing Project Items.

In the **Search** area, click on the **Sets** folder and on the **Create** tab click on the **Set** drop-down menu. Click on **New Set** and enter a name in the **Name** box (e.g., *Check Coding*) and (optional) **Description**. Click **OK**. Click on the new set folder and on the **Create** tab click the drop-down menu for **Set** and choose **Add Set Members** (or right-click in the relevant Set folder and select **Add Set Members** from the menu). Then select the Data files or Nodes you want to add. Then click **OK**.

To remove items from a set, select the items you want to remove and on the **Home** tab click **Delete** (or right-click on the item and select **Delete**).

[OPTIONAL] Creating Transcripts

You can create transcripts in 3 ways: **Transcribe Mode**, **Normal Mode** and by **dividing** the media into sections. For further information on **importing** audio and video transcripts, see help-nv11.qsrinternational.com

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.

Other resources

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](http://ql.anu.edu.au/howto) (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](http://ql.anu.edu.au/subjectguides) (ql.anu.edu.au/subjectguides) and resources on broad range of disciplines. Such as:

- History, indigenous studies, linguistics and philosophy
- Criminal, human rights and taxation law
- Biochemistry and molecular biology, neurosciences and psychology
- Asia Pacific, Southeast Asia and East Asian studies
- Engineering
- Astronomy and astrophysics, earth sciences, mathematical sciences and natural hazards

Online learning

Online learning is available through [ANU Pulse](http://ql.anu.edu.au/pulse) (ql.anu.edu.au/pulse), which can be accessed from both on and off campus by all ANU staff and students.

IT skills development modules available in ANU Pulse

- Microsoft Office (Access, Excel, OneNote, Outlook, PowerPoint, Project, Visio, Word)
- Microsoft Office (Mac)
- Adobe suite (Illustrator, Photoshop)
- Type IT

Training calendar

Select [Events >](#) near the bottom of the Library homepage to access our [events calendar](http://ql.anu.edu.au/cal) with upcoming training opportunities displayed day by day (ql.anu.edu.au/cal).

Feedback

Please provide feedback about today's workshop via an [online feedback form](http://ql.anu.edu.au/survey) (ql.anu.edu.au/survey)