NVivo 1: Walking before Running & Up and running

iT Centre Learning

iT services

UNIVERSITY OF OXFORD

Software Used

NVivo 1 for Windows (unless otherwise stated)

Files Used

The files used in this study are from the 'Volunteering Study' created when NVivo was launched in 2008. The Volunteering study looks at the motivations people have when doing volunteering work. The study was conducted with a sample of adults from Australia and the United States. It consists of a range of data (Text, video, audio, pictures, field notes and attributes).

Revision Information

Last revised 2022. This material was created by adapting user guides from Susila Davis (2021, 2018), Zainab Kabba (2016), Marie-Hélène Paré (2015) and Chrysanthi Papoutsi (2015).

Acknowledgements

Thanks to David Baker at IT Services in Oxford for supporting development of this course. Thanks also to the workshop attendees, whose participation has been essential in shaping this course.

Copyright

For those accessing these materials via the IT Portfolio site, please note that the workshop utilizes video content that cannot be distributed in the course materials files. The video exercises will work generally with any small audio or video clip, however.

CONTENTS

WELCOME TO THE NVIVO 1

Below you will find a few notes on what we will (and will not) do in the workshop, as well as some suggestions for revision between the two sessions.

The great thing about NVivo is that QSR provides free tutorial videos and a comprehensive online help system. But if you can't find the answer using NVivo 1's help system, you may find that the help pages for version 11 useful and more comprehensive. In this workshop we will cover some of what QSR provides through online videos – but with more detail and specific examples, so take this as an opportunity to gain hands-on experience while exploring the software.

We will learn how to do a number of basic tasks that will be useful to most qualitative researchers working with data such as interview transcripts, video and audio files, and images. You will have an opportunity to work with sample data prepared specifically for the workshop, or you can bring your own data and get a head start on your analysis. However, keep in mind that this is not intended as a workshop on *your* project, and the instruction is designed with general skill-building in mind. If you would like to work through some of your own data and NVivo project(s), please have a look at our NVivo: Data Analysis – Professional Practice course on the ITLC website.

DOWNLOADING NVIVO

NVivo 1 can be downloaded to your laptop, Mac and/or home computer through the Oxford University IT registration website (https://register.it.ox.ac.uk). You will have to log in with your Single Sign-On and then click on 'Software' on the left-hand menu. Next, select NVivo from the list of software packages, then, if you're a Windows user, download either the 64-bit or 32-bit version depending on your computer's RAM (Random Access Memory); or the MacOS version if you're using a Mac. You will then need to click on the Windows and MacOS License Key link (also on the registration site above) and enter the license key before you start using NVivo.

You should be aware that the Oxford server version, and the one we will use in the workshop, is version 1, while some computers at Oxford still use version 12. As of January 2022, only versions 12 and 1 are available via the Oxford University IT registration website. The basics of what we cover in the workshops will be relevant for any of these. It is possible to open a project created in version 12 in version 1 – you will receive a prompt to convert your project to the latest version of NVivo when you open it, but this will not change the project file itself. Projects created in version 1 cannot be opened in version 12. NVivo projects created in versions before 12 can be opened on all later versions through a conversion that the software performs.

Lastly, at the end of the workshop we will leave some time to address specific questions from participants. The instructors cannot guarantee that they will be able to answer every question on NVivo, but if you submit your questions beforehand by email, they will do their best to come prepared with an answer.

METHODOLOGICAL CONSIDERATIONS

Is NVivo right for you?

The first question you need to consider before engaging in NVivo-based analysis has to be whether or not NVivo will add value to your analysis (or possibly make your life easier). You therefore need to think about what you are trying to achieve as a researcher and analyst. Of course, for novice users it will be hard to know if NVivo is right, before knowing what it can and can't do. So, we will begin the workshop with a discussion of these issues in light of the participants' research intentions.

NVivo can be quite useful for data sets of various sizes, mixed media and mixed methods data, and small or large team research projects through its team-work and cloud server functionality. It has broad capabilities and its interface is user-friendly relative to other similar programs. It is becoming an industry standard for archiving qualitative data as it is recommended by the UK Data Service, so understanding it is worthwhile for researchers who plan on doing Research Council-supported projects. It is also free to Oxford students and staff on a site license.

However, it has its limitations and, unlike statistical analysis software for quantitative research, it is more ancillary than fundamental as a component of most qualitative projects. At minimum, it is worth remembering the following:

- NVivo can do very little analysis for you, and it relies heavily on user input
- Learning NVivo takes work (this workshop won't be enough!)
- Organizing data into NVivo takes more work
- There may be easier solutions, especially for simple tasks
- Examining data through NVivo can limit your analytic frame
- NVivo is known to run slowly or crash, especially on older computers

With these things in mind, there are still lots of good reasons to learn the software and many ways it can assist your analysis, help organize your thinking, and keep your data in order.

Before we engage in any data preparation, organization, and analysis, it is worth keeping in mind that there are many ways to approach a task in NVivo. The program provides multiple paths to fundamentally similar ends. What is important is that your strategy is suited to what you want to accomplish with your analysis.

ONE MORE NOTE…

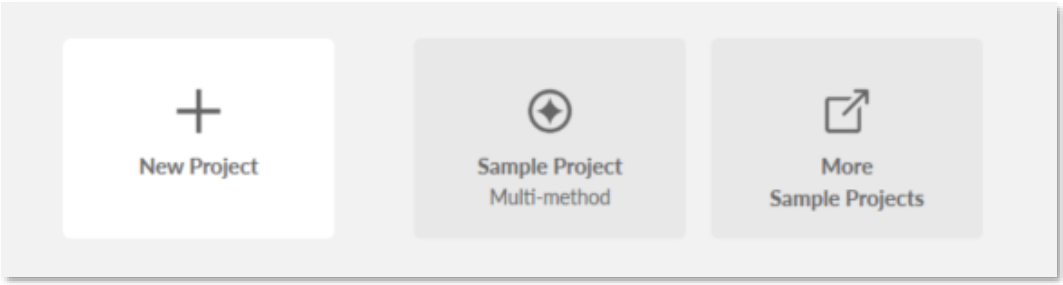
Keep in mind that the following is not an exhaustive list of the approaches to analysis and functions available to NVivo users. Instead, the workshop will lay out a few essential skills that will be applicable for a wide range of research projects, and hopefully provide participants with the tools to self-teach some more intermediate functions.

READING THE NVIVO INTERFACE

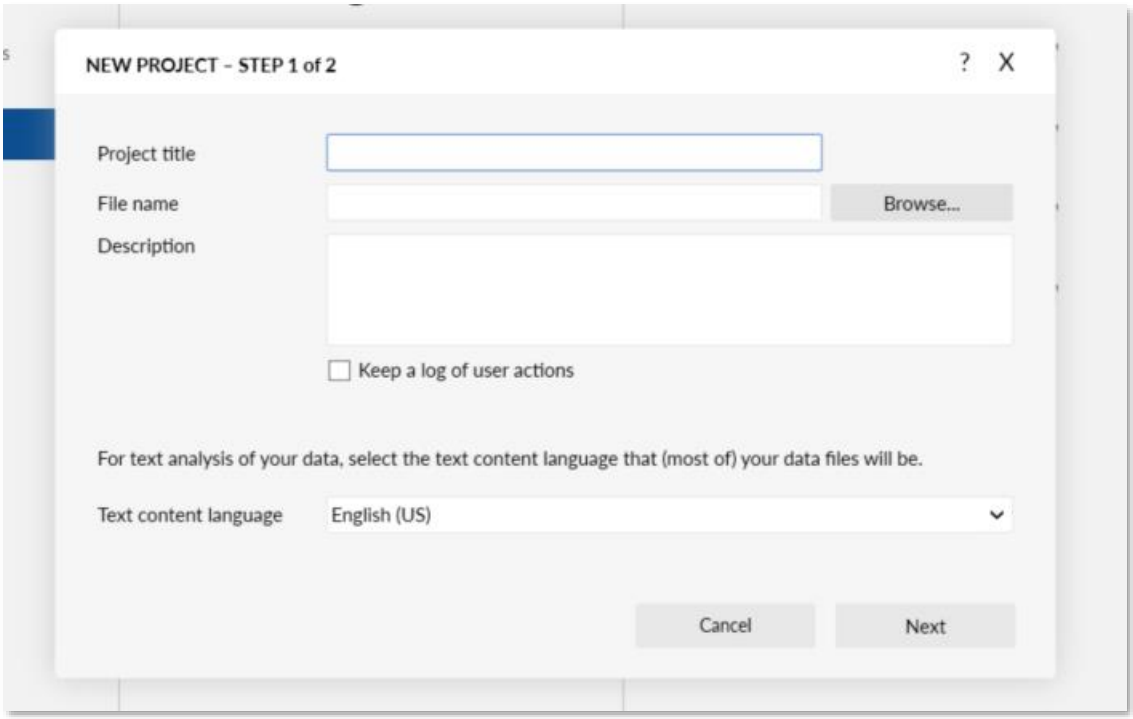
We will just quickly walk through the basics of what you see in your first moments with the program. You may want to watch the introductory video later on to revise this on your own (although this video is about NVivo 12, the analysis options shown are still available in NVivo 1).

OPENING A NEW PROJECT

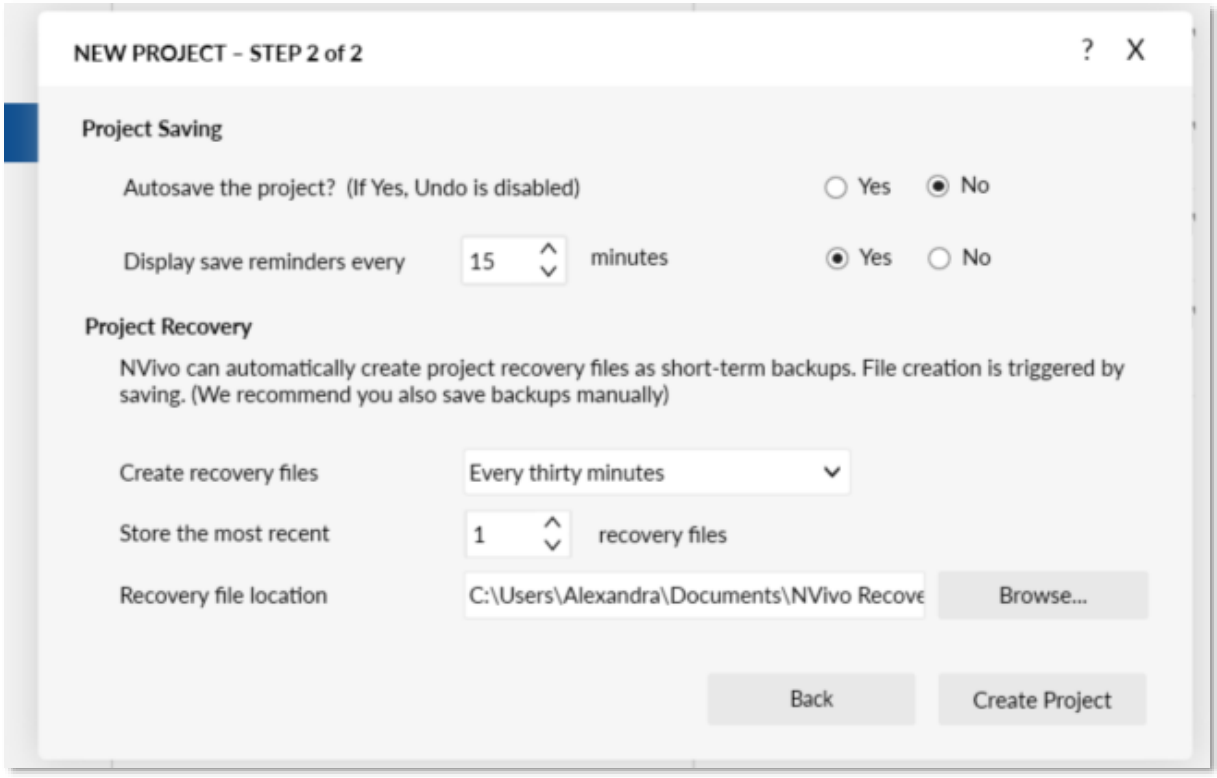
When you open the programme, you will see a "welcome" screen that lists all of your recent projects on the left-hand side, and has buttons for New Project, and opening sample projects.



When you click on **New Project**, a dialogue box (1 of 2) will open asking for a project title, file name and description for the project. You must enter a project title, which also sets a default file path. You can also enter a description of the project, though this is optional, and specify a text content language.



When you click **Next**, you will be taken to step 2 of 2. You can customise the settings in step 2 of 2 to suit your needs, although it is recommended to save your project at regular intervals.



INSIDE THE PROJECT

NVivo uses a ribbon-guide menu that looks like this:

You will need to import some data before you can start exploring NVivo. The more kinds of data you have, the more you can explore the program!

The ribbon-guide buttons each have a roll-over text box providing a description of its function(s). This means that when you run the mouse arrow over one of these icons, it will tell you what it does. It is a good idea to do this with each button to familiarize yourself with the tools available to you. At the outset, the most important tabs and buttons for you will probably be the following:

Home: Once you select an item from a list (or depending on where you are in the NVivo workspace)

this tab allows you to code whole data files, run basic queries, generate visualisations and create or import classifications. [In NVivo 12, the home tab has a very similar layout].

Import: This tab allows you to import data prepared elsewhere for NVivo, including Word documents, PDFs, transcripts, datasets, audio and video files, classification sheets, academic articles and even your reference library. [In NVivo 12, there is an identical 'import' tab].

Create: This tab allows you to create new files of data from scratch, new codes for organization and analysis, new cases and classifications, and so on.
You can create "External" files, which are external data not suitable for importing, such as large video files or webpages. You can add notes to describe these, which make them internally searchable and codeable.
In NVivo 1, you can right-click on "externals" in under "Data" in navigation view (far left) or alternatively select externals in navigation view and right-click on an empty area in list view and select "New External."
In NVivo 12, the button for Externals is on the create tab.
The create functions can all be achieved by right-clicking in a window within the appropriate location in your project, but until you know where that is, this tab will provide you with all of the one-click shortcuts you need to create data and organize it.

Explore: Here is the full menu to run queries, generate data visualisations and charts, and create project maps (such as mind maps). Queries provide ways of seeking specified patterns in your data through user-defined parameters. [NVivo 12 also has an "explore" tab].

Share: This tab allows you to create reports and extracts of your NVivo analyses, export and copy your project, print items and export items to save in other applications. [NVivo 12 also has a "share" tab].

Modules: This tab allows you to access two services that require payment and a myNVivo account:
NVivo's transcription service – you can use the myNVivo portal to buy NVivo Transcription subscriptions or pay-as-you-go credits. You must set up an myNVivo account to access this.
NVivo Collaboration Cloud is an NVivo add-on module allowing teams to collaborate on NVivo projects using a yearly subscription service that can be purchased from the myNVivo portal. The Collaboration Cloud stores NVivo projects on a cloud server, which can facilitate sharing projects amongst team members.

You can also add files you have sent to NVivo from Word, Excel or Outlook to the project via the "Collect Office Files" button. You must be logged into your myNVivo account to access this.

To transcribe files in NVivo, open a project with audio or video files you wish to have transcribed and click "NVivo transcription" on the "Create" tab. NVivo Transcription is a paid service, and requires you to be logged into your myNVivo account to access this.

TOP TIP!

If you're not sure which ribbon tab to use, right-clicking will usually get you where you need to

go! For example, if you're looking at a list of documents, and you want to do something to that whole item (like copy, or delete it), select the item and then **right-click** to get a list of options to choose from – 'Copy' and 'Delete' will usually be listed in the right-click options. Or depending on what you want to do and where you are in NVivo, left-click in the region where you want to do something, e.g. if you're in a document already, click anywhere in the white space and then **right-click** to see what options are given. This will save you having to remember which ribbon tab does what.

BASIC TERMINOLOGY: DATA, CODES AND CASES

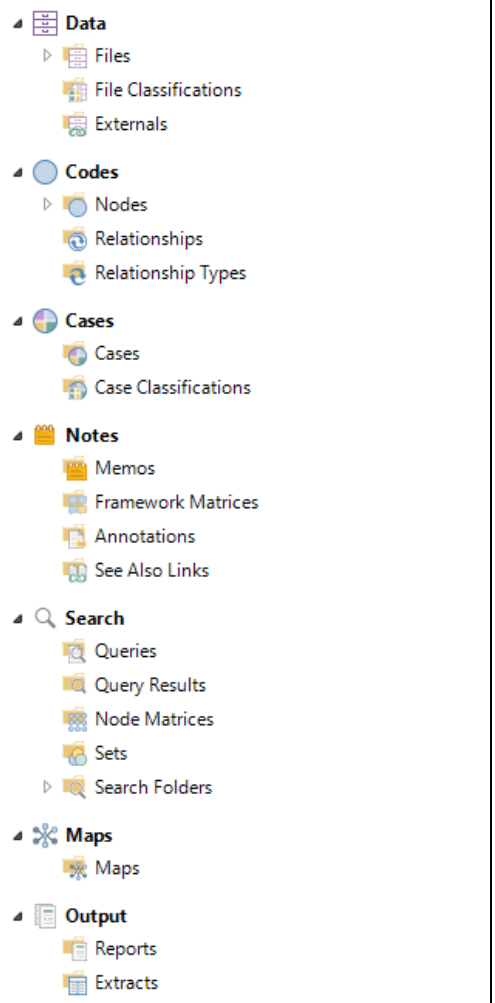
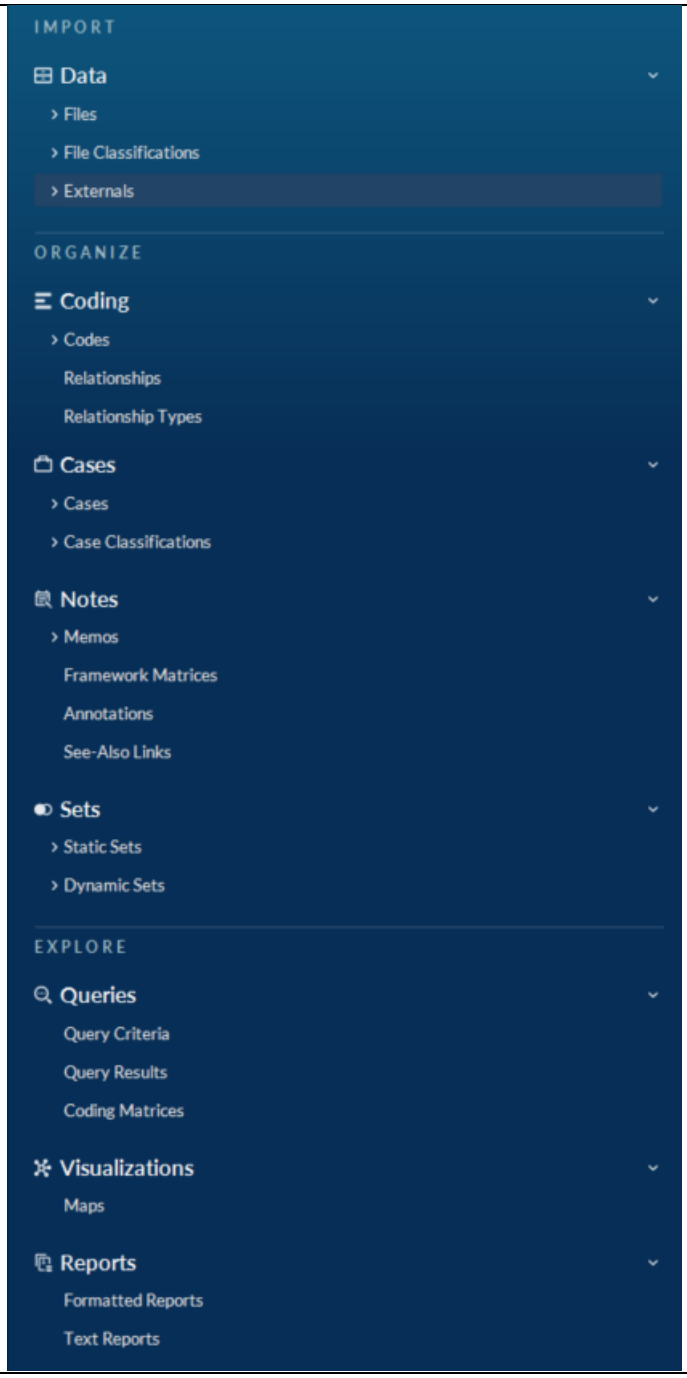
Three essential terms for NVivo skills development are Data, Codes and Cases.

'Data' is a term for any research material that you have connected to your NVivo project. This could be transcripts or field notes, as well as academic articles, research plans, pictures, audio recordings, videos, notes, and online materials.

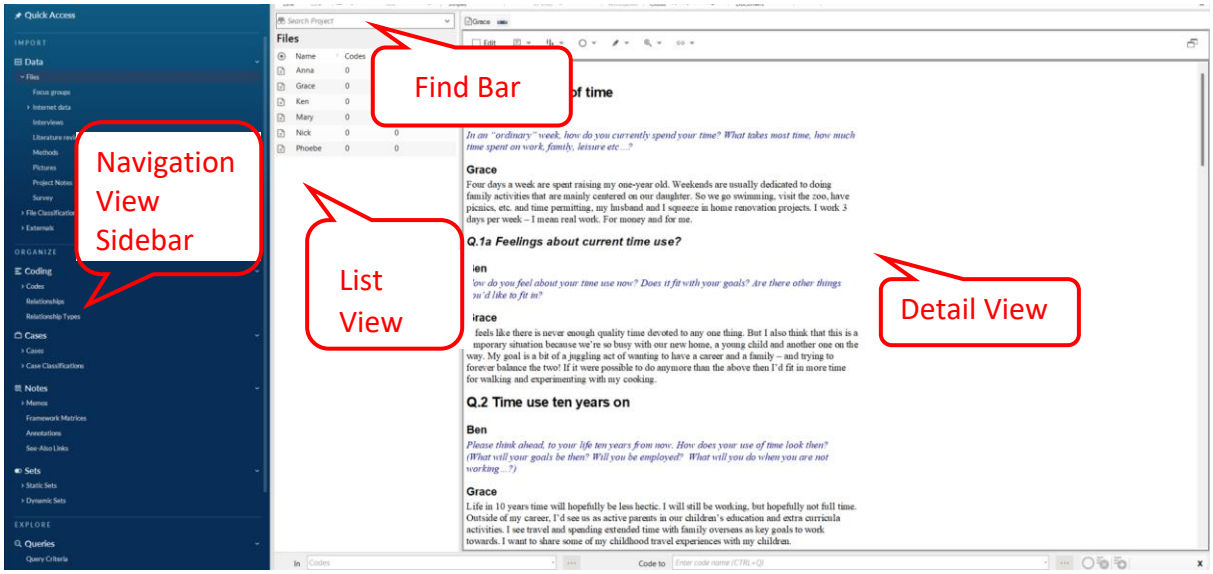
'Coding' is made up of 'Codes', 'Relationships' and 'Relationship Types'. A code is best thought of as a "container" in which wholes or parts of sources are kept for analysis (note: in NVivo 12 and earlier versions of NVivo, codes are called "nodes"). Relationships are connections you can mark in your project between two items. For example, one case 'employs' another case, or one concept (represented by a code) 'causes' another concept (a different code).

While NVivo offers users many ways to group and organize their data, codes offer the richest avenue for subsequent analysis. This will become clearer as the workshop progresses.

For those who have some familiarity with NVivo 12, please note that the left-hand folder structure (navigation view) has a few minor differences in NVivo 1.
Note: in both screenshots below, the headings in navigation view are "collapsed" i.e. the small triangle icons are pointing downwards (NVivo 1) and to the bottom right (NVivo 12).

Navigation view: NVivo 12	Navigation view: NVivo 1
	

VIEWING DATA IN YOUR PROJECT



Once you have 'Files' and 'Codes' in your project, these will be visible in a **List View** window when you click the **Data** or **Codes** buttons on the **Navigation View** sidebar. If you double-click on a file, it will open on the right or below (depending on your settings) in what is called **Detail View**.

To find files or codes by name, you can quickly bring them up using the **Find** bar, located above the List View window. Simply type in all or part of the name in the **Search Project** box, and a list of relevant items will appear.

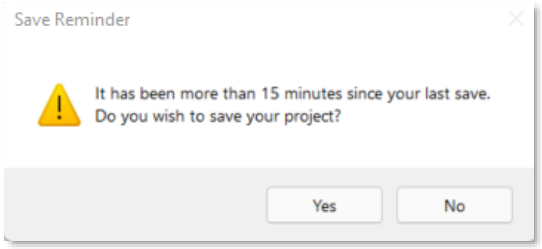
To find content within a file, open the file in Detail View and click the **Find** button under the **Document** tab that appears at the end of the ribbon tabs.

AUTO-SAVING

The NVivo program is set by default to give you reminders to save your project every 15 minutes. In version 1, there is a default setting to create a recovery file every 30 minutes (this can be customised when the project is first set up). An NVivo recovery file (.nvb) serves as a backup - if the standard .nvp project file cannot be opened, you can run the Project Recovery Wizard. If the Wizard cannot repair the file, you will be given the option to restore the project from a recovery file.

Your project will not create backup versions of itself automatically, and NVivo is a complex program that has been known to crash, potentially ruining hours of work. It is therefore highly recommended that you save your NVivo projects regularly and set reminders to do so.

To save you from this fate, NVivo will present you with this window:

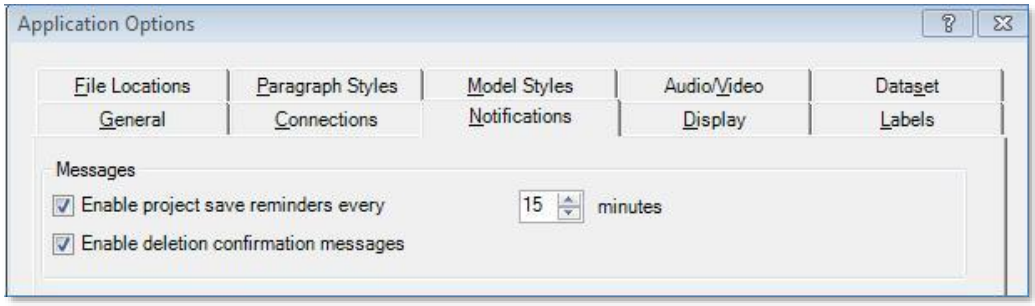


By clicking **Yes**, you will save any changes you have made to the project, which you would then have to manually undo.

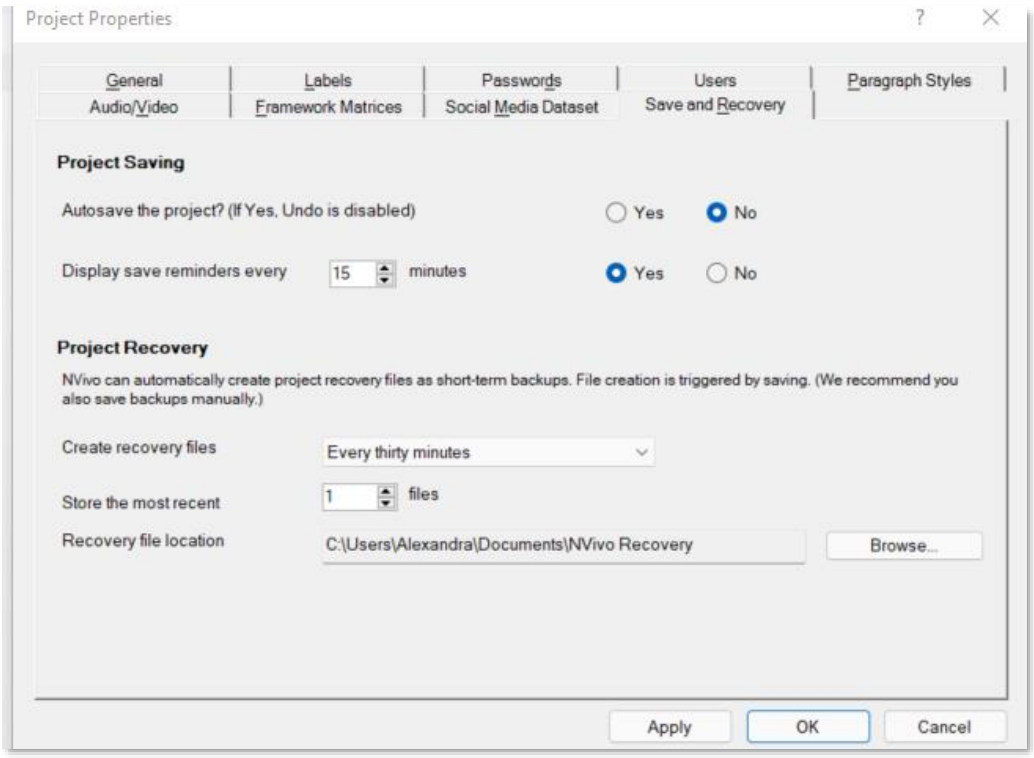
If you are experimenting with your data, you may want to change the frequency of save reminders or turn this function off to avoid unwanted saves.

In NVivo, this can be achieved by going through the following:

File → Options → Notifications tab.



In NVivo 1, go to the File tab, and select 'Project Properties.' On the Save and Recovery tab, turn on autosaving or set an interval for reminders to save your project.



THE NVIVO HELP SYSTEM

NVivo's help system(the small ? in the upper right-hand corner) is useful when experimenting with NVivo's functionality or when you run into a problem. The program is massive and in some cases not necessarily intuitive. It is, however, very usable if you learn how to learn about it. As such, this workshop document has been hyperlinked wherever possible to NVivo's Help system, to encourage you to familiarize yourself with that system.

The most up-to-date version will always be the online help.

NVivo's terminology can sometimes be confusing. Below you can find a brief glossary of key terms linked to the kinds of tasks a qualitative researcher may want to ask NVivo to perform. These are not exhaustive, but may assist you in conceiving of Help system queries.

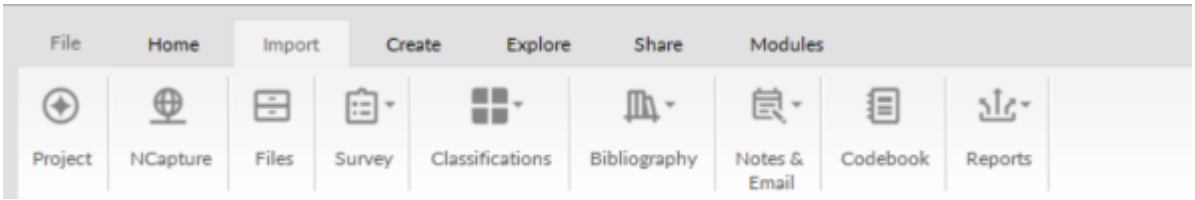
I want to…	NVivo equivalent	Relevant Help Section(s) (based on the online help for NVivo 1 – relevant subheadings in brackets)
Bring documents, transcripts, datasets, audio or visual material into my project	Import Files	Files Audio and video Surveys and datasets
Create a document or transcript within NVivo	Create Document Transcription (under the 'modules' tab)	Files (Documents and PDFs) Audio and video
Include external files or websites for analysis	Create Externals (right-click on 'externals' in navigation view)	Files (Externals)
Arrange my data items by type (e.g. transcript, article, newspaper)	Create File Classifications	Classifications
Arrange my data items into groups	Create a Set (static or dynamic set)	Files (Sets)
Make a general note to myself or other project members	Create a Memo or Annotations	Notes
Make a specific note about an individual project item	Link a memo	Notes (Memos)
Sort my data into emerging themes	Code file data into codes	Coding
Sort text data into pre-defined categories	Autocode datasets	Coding
Identify demographic information for people in my study	Create case classifications	Classifications
Do content analysis of my text data or coded materials	Run a query using the Query Wizard	Queries
Review my analysis activities	Create or run reports	Reports

GETTING YOUR RESEARCH INTO NVIVO

Before you can do anything meaningful in NVivo, you need to have some data to work with. There are two ways to get analysable data in NVivo: import it from external files, or create it inside NVivo.

PREPARING AND IMPORTING EXTERNAL DATA (FILES)

Data can be imported into NVivo using the Data tab and selecting the kind of material you want to import under the 'import' tab:



NVivo will accept many standard formats for documents, spreadsheets, images, audio, and video files. You can import files one at a time or you can bring in entire collections by CTRL-clicking or SHIFT-clicking the files you want in the appropriate window.

You can also import Twitter content, webpages, Facebook wall posts and comments, and LinkedIn group discussions, by using the NCapture web browser extension. If NCapture is not already installed on the version of NVivo you are working with, you can download it here. When you have installed and authorised the addition of this extension to your web browser, you will be able to capture webpages or social media content by clicking on the **NCapture button**, usually found on the upper right hand corner of your browser. To import the content you have captured in your NVivo project, click on the **NCapture** button in the **Import** tab.

CREATING DOCUMENTS AND EDITING IMPORTED FILES

You can create documents inside NVivo 1 in the **Create** tab. NVivo has a limited internal word processor suitable for most basic tasks. Formatting tools can be found under the **Edit** tab (after you've clicked on the box that says 'Edit' in the top left-hand corner of a document (a tick mark will appear) of any file in Detail View.

In certain instances, you may need to apply formatting to documents or spreadsheets to make them useful in NVivo. Below, we will examine some formatting requirements for Word documents and Excel files. In all cases, you will need to ensure that protections (including passwords) are removed from documents before they can be opened by NVivo.

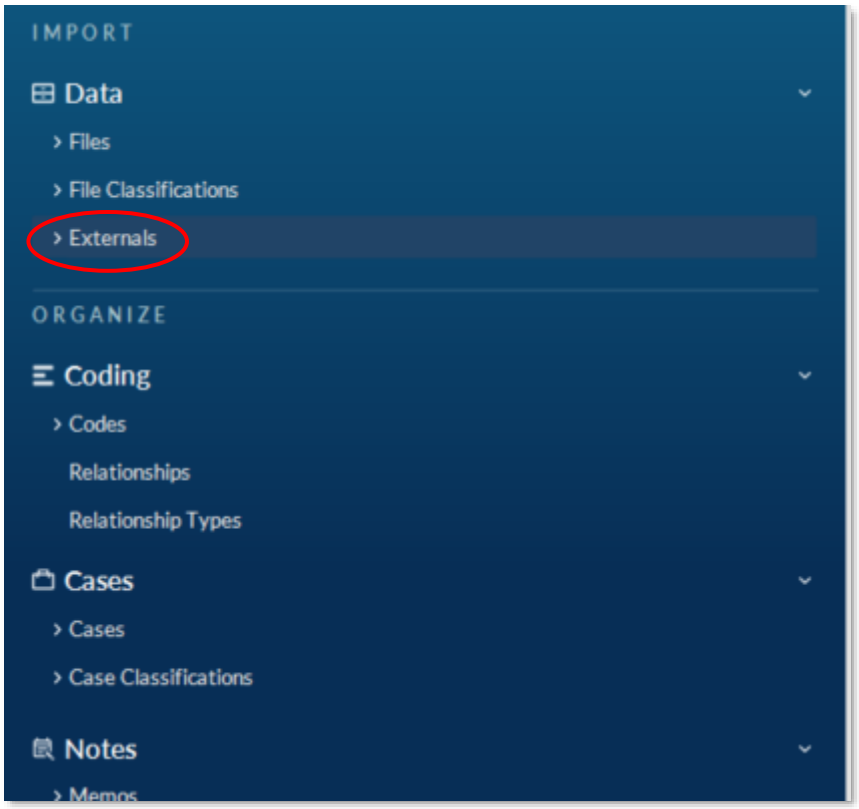
If you need to edit a document after you have created or imported it, you can do this by opening the file and clicking the Edit button (a tick mark will appear) that appears at the top left of the opened document in the Detail View window. Editing an imported file does not affect the original external file.

If you would like to work with a document file in an external program, you can export the document as any of the supported file formats and edit it elsewhere, by selecting the document and clicking the **Export** button under the **Share** tab. You can alternately right-click the document in the menu and select **Export**.

Remember that if you edit an exported document, you will need to import it again to have the edited version available in your NVivo project.

LINKING EXTERNAL DATA (EXTERNAL FILES)

In some instances it will not be possible or wise to import a file into your NVivo project. This will be true where the file is very large (which can slow down the program), where it is an online resource, or where it is something that could not be opened by NVivo (such as a hard copy of a book or an SPSS project). External data can be linked through the 'Externals' button under 'Data' in navigation view:



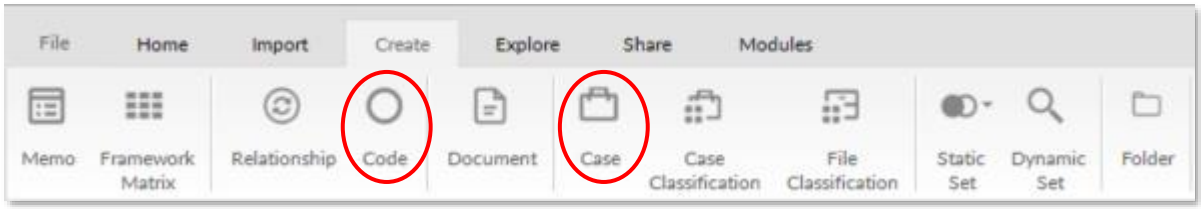
Once a file or website has been linked as an external file, a window will open where you can add notes, passages, or other text that will be searchable and codable in analysis phases. To access the actual file, open the type of external you want to look at in list view, i.e. collapse the 'Externals' heading in navigation view and double click on either Books, Files or Websites. This will then open the selected type of external in list view. You can then right-click on the relevant book, website or file in list review and select **Open External File**, which will take you outside of the program and into your external file or website.

Do note that, if you link to an external file on a specific computer, you need to be on that computer to be able to access that external data. You can also create an external without linking to a file or website, by selecting **Other** under the **Type** menu in the **External** tab of the **New External** dialogue box.

ORGANIZING YOUR DATA USING CASES AND CODES

In NVivo 1, there are two types of 'container': **Codes** and **Cases**. **Codes** and **Cases** can be thought of as "containers" in which wholes or parts of files are kept for analysis. When importing data into your project, it might be useful to start organising your project items by assigning them as themes or concepts (Codes), research participants (Person *Cases*), organisations (Organisation Cases) or any other unit of analysis that makes sense in the context of your project.

To create a code or a case, click on the **Create** tab, and click on **Code** or **Case** respectively. You will need to name the code or case. If you're making a code, you can also provide a description of the code that will remind you (and project team members, if you have them) what kind of data should be placed under that code. You will then manually add data to that code through coding, which we deal with in a later section (see 'Working with codes').



When you have imported and organised your data, you will follow the same process to continue the analysis by creating *thematic* codes (or **Codes**), which capture analytical categories, rather than the origin of your files or content. We will cover this in more detail in session 2.

PREPARING TEXT FOR AUTO-CODING

In many cases – especially where you are using NVivo to explore largely unstructured data or to hunt for good quotes in a pile of interviews, you will not need to do any document preparation. However, for more structured analysis, there are a few key steps that can open up NVivo's capabilities.

It is normally going to be easier to prepare data for importing into NVivo than to manipulate it once it has been imported. For most users, it will be preferable to prepare your documents in Word format (either .doc or .docx) for subsequent ease of use. In particular, NVivo has been designed to recognize Word document heading styles for use in its Auto-Coding functions.

Auto-Coding allows the researcher to quickly aggregate text information through previously-assigned categories. A normal way to use this function would be in instances where a structured interview or questionnaire has been administered as part of a study, and the researcher wants to aggregate all answers to a particular question from multiple respondents. Auto-coding can also be used to separate individual speakers out of group interviews, as well as more creatively to organize

semi- or un-structured pieces of data.

For this to be possible, categories in all files must be arranged under headings that are exactly the same, and from these headings, NVivo will be able to separate and collect these responses into analogous categories as codes in your project.

PRECISION IS ESSENTIAL!

NVivo does not make decisions or corrections for you, and small errors in text or format can complicate or negate your use of import functions and other automatic processes in NVivo. For example, if you want to auto-code interview responses, a small typo – including an extra space or punctuation in the heading line – can result in a response being left out of the appropriate code.

You should therefore design strategies at the front end to minimize the chance for errors, such as developing templates for transcripts or quality-checking transcripts prepared by yourself and others.

ORGANIZING YOUR DATA USING CLASSIFICATIONS

Once you have imported your data, it is time to organize it for analysis (recognizing that for many researchers, organization and analysis are sometimes concurrent and sometimes in opposition!). As noted earlier, your organization choices will be specific to the kinds of analysis you want to perform.

CLASSIFICATIONS AND ATTRIBUTES

Classifications provide a way of arranging and rearranging files and cases for analysis. Attributes provide ways of subdividing and refining classifications by adding numeric or text values to a classified file or case.

File classifications allow the researcher to organize their data sources by type. Case classifications provide a similar function for cases, and case classification attributes allow more complex queries in analysis stages. We will explore some of the standard approaches to file and case classification.

CREATING FILE CLASSIFICATIONS

File classifications can be created under the **Create** tab by clicking **File Classification** and following subsequent instructions. The NVivo program comes with a number of pre-defined file classification options, and users may also define their own classifications.

Users may then add attributes to each classification. You can add attributes to the classification by clicking **File Classifications** button in **Navigation View**, right-clicking on the classification you want to specify, and selecting **New Attribute**.
As always, refer to the relevant help section if you get stuck.

CREATING CASE CLASSIFICATIONS

The process for creating case classifications is the same as for file classifications described above, substituting "case" for "file" in each instance.

It may be useful for you to add demographic information regarding participants, or other details about files, places, people, incidents, experiences, or any other aspect of your project.

You can use a case classification to create a case, for example, to separate responses of individual participants or to assemble all data from a particular location or organization into single codes. When considering your classification and attribute structure, think about categories that will be helpful in separating your data. A common structure for a case classification used for demographic details can be found here, but there are many ways to approach this problem.

Classifying cases will give you increased analytic abilities. For example, you may want to be able to know how many people over 40 years of age answered a question in a certain way or how often participants from a certain geographic area mentioned a specific idea or term. This is best achieved through using case classifications and attributes. The thought process behind this task is rather complicated to explain in text, so in the workshop we will do this through an exercise instead. Please feel free to consult the relevant help section for further clarification.

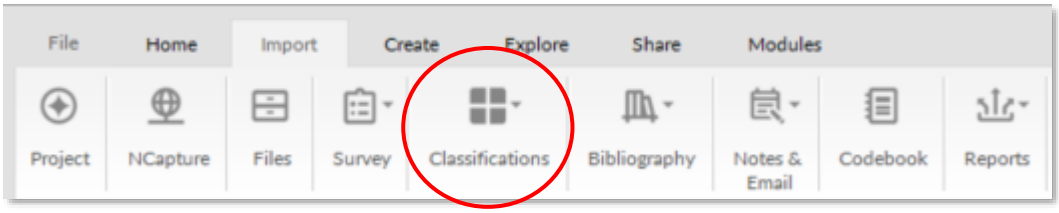
IMPORTING CLASSIFICATION SHEETS THROUGH EXCEL

You can prepare classification sheets for importation into NVivo. This is particularly handy if you have already collected your data in another program prior to using NVivo. A classification sheet in Excel should have the following format before importing:

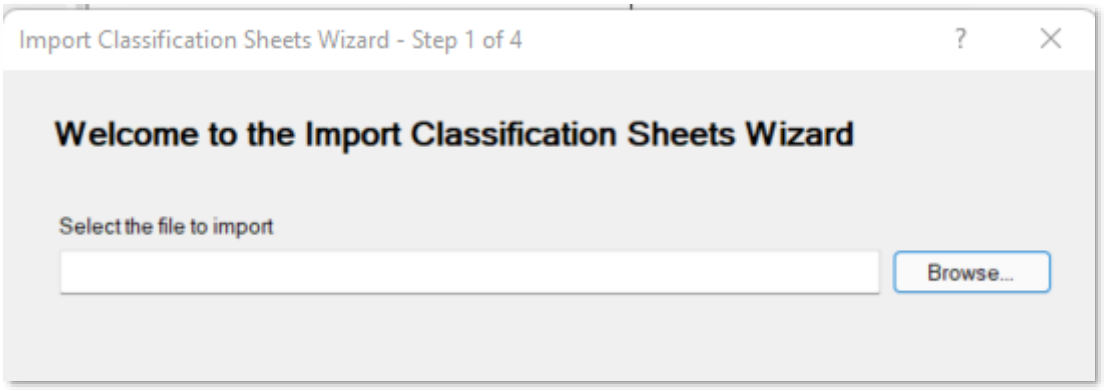
Classification name	Attribute 1	Attribute 2	Attribute 3
Item name 1	Value	Value	Value
Item name 2	Value	Value	Value
Item name 3	Value	Value	Value

You can also import tab-separated text files if that is more suitable to your data.

Once you have a properly-formatted classification sheet, you can import it through the **Import** tab by clicking on the **Classifications** button, which will then give you the option to **Import Classification Sheets.**



This will open the Import Classification Sheets wizard, which will guide you through the process:



Refer to the help sections if you get stuck, and make sure your source file (the Excel file) is not open on your computer when you try to import it.

EDITING CLASSIFICATIONS

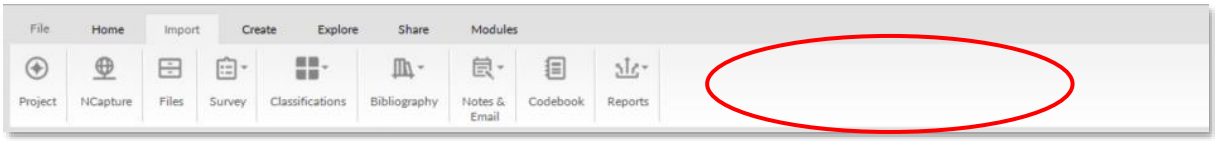
All classifications, attributes, and attribute values can be subsequently edited if the categories you want to use change during analysis. The NVivo program will maintain files or codes included under an old classification or attribute in the re-named version. It will also offer you the opportunity to re-assign and add values if you change your attribute value structure, so with a bit of care you should be able to painlessly re-name and re-structure classifications as often as necessary.

CUSTOMIZING YOUR INTERFACE

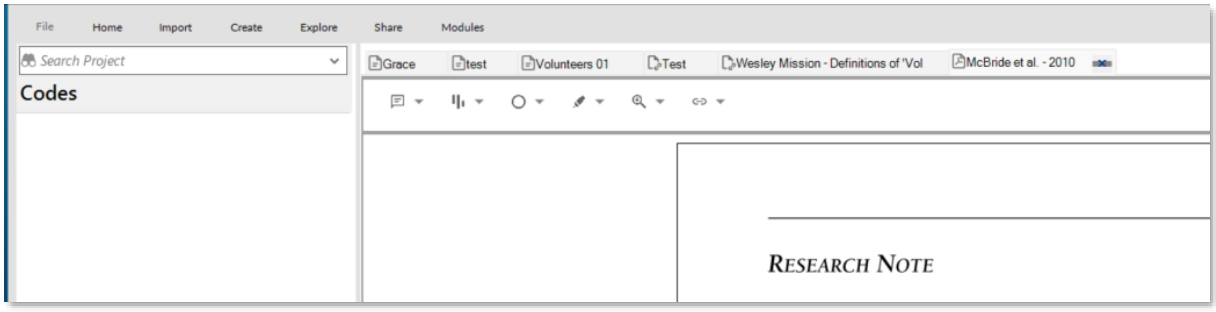
If you decide to use NVivo for your project, you will spend many hours in front of it. Customizing can make this experience more pleasant and productive. There are a number of small changes you can make to the layout of NVivo to suit your personal working style and preferences. The following are some of the basic options you may want to know about.

THE RIBBON GUIDE

As noted above, NVivo uses a ribbon-guide menu system rather than drop-down lists. If you want to maximize screen space, you can right-click an empty space on the ribbon (i.e. the area in the red circle below) and select MinimizeRibbon:



Alternatively, you can double-click on any ribbon tab (e.g. the tab Import or Create) to hide the ribbon icons, for the following layout:



The ribbon can be opened up again temporarily by single-clicking a tab, or permanently by double-clicking any of the tabs.

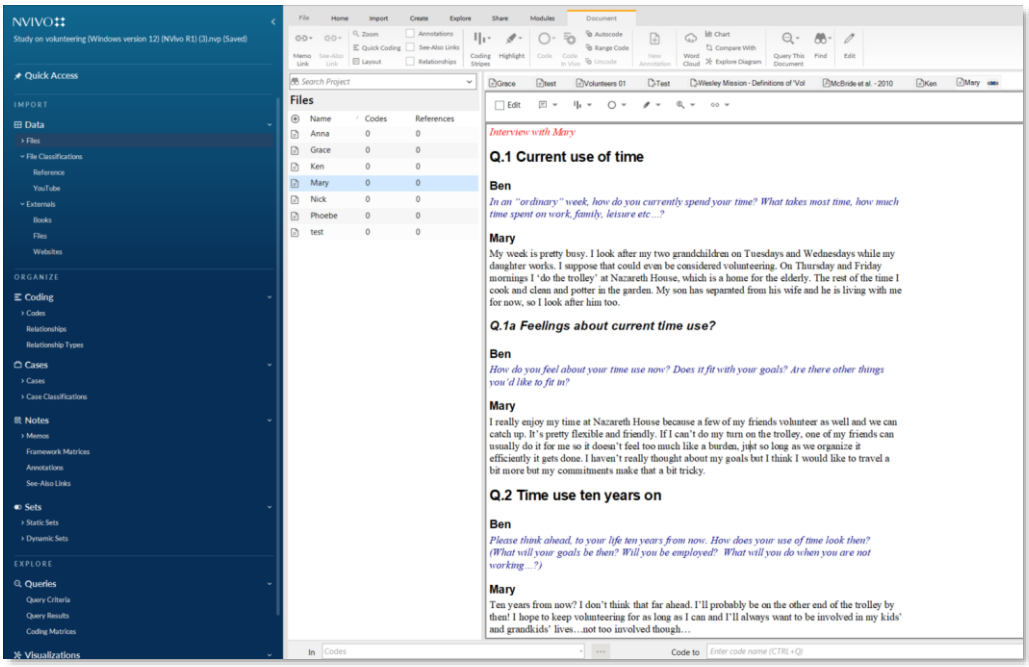
SIDEBARS

To further maximize screen space, the Navigation View sidebar, and the Find or Search Project toolbar can be hidden. To achieve this, select **Workspace** on the **Home** tab and then select the option "Dashboard Mode." To reverse this, select **Workspace** and then click on "open" (this will re-open the navigation view).

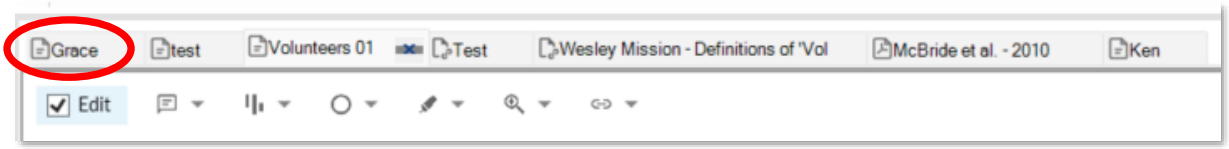
DOCKING WINDOWS

Once you have imported data into your project, you will want to open data files to read, code and otherwise analyse them. You have the option of opening these in your project window ("docked") or in a separate window ("undocked."). When you open a file, the standard way it is displayed will be docked, as shown below:

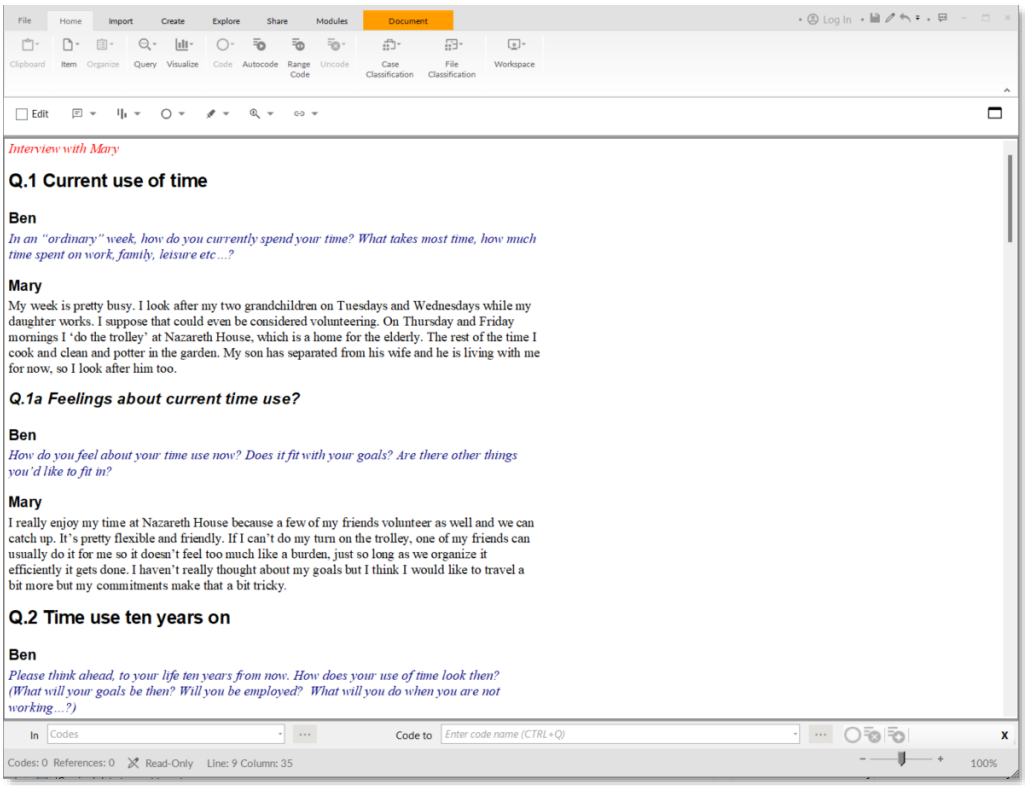
Docked



To undock a file, you can either click on Workspace on the Home tab and select "undock" (note: you must first click on the open file names, as shown below, e.g. "Grace" or "Ken" for this option to appear) , or click the icon in the top right of the Detail View , or right-click on one of the open file names below (e.g. "Grace" or "test") which will give you an option to "undock."



Undocked



ANALYSIS

Once you have some or all of your data imported or linked to your NVivo project, and hopefully have it at least somewhat organized, you are in a position to begin analysing it. In the second session, we will look at some of the tools that can assist you in reading your data, recording insights, linking pieces of data together, and sorting relevant findings into themes.

This workshop is not a substitute for qualitative research training. Achieving results through NVivo begins and ends with solid ideas about what qualitative data analysis can do and what you want to accomplish in your project. NVivo can help keep large data sets organized, structure your thinking about certain questions, and provide means to creatively explore your data. It cannot tell you what your data says about your research problem, and in almost all cases you will still have to read (or watch, or listen to, or otherwise examine) your data carefully before drawing conclusions.

WORKING WITH CODES

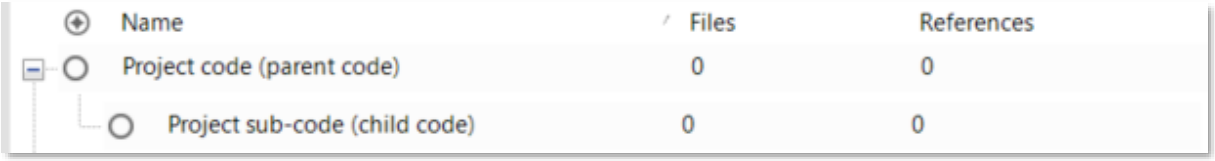
A LITTLE MORE ABOUT CODES…

In the second session we created people codes through manual coding and auto-coding. In these instances, each code represented a pre-defined category for information. However, many forms of qualitative inquiry rely on inductive approaches, where categories for data analysis emerge after data collection is completed. In this sense, codes can also be understood as thematic categories,

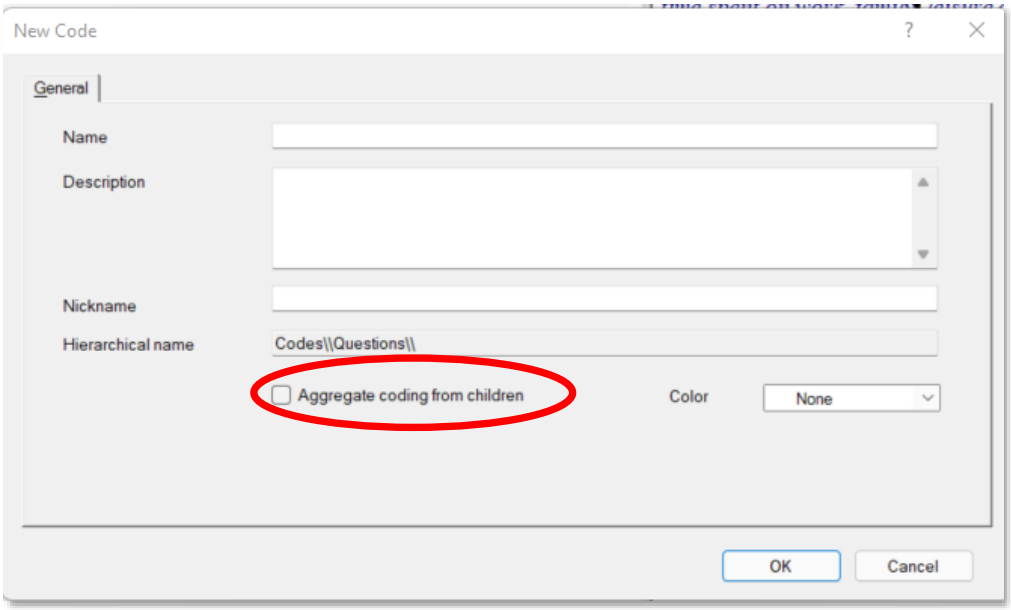
and can be created during analysis. Sorting your data into codes through manual coding can be as structured or unstructured as is appropriate to your research method.

PARENT CODES AND CHILD CODES

When you start to think about creating codes, you may want to develop a coding hierarchy. For example, if a theme emerges that is very general, and you want to sub-divide elements of that theme when sorting data through coding, you can create a parent code for the broader theme and child codes for the specific sub-themes. To create a child code, right-click on one of your existing codes and select **New Code** from the drop-down list. The new code will be created as a child of the selected code, which then becomes the parent.



If you want all of the data coded to child codes to be available in detail view when you view the content of the parent code, click the **Aggregate coding from children** box when creating a parent code. If you want to enable this function after the code has been created, open up the **Code Properties** box (by right-clicking on the relevant code) and select **Aggregate coding from children**.

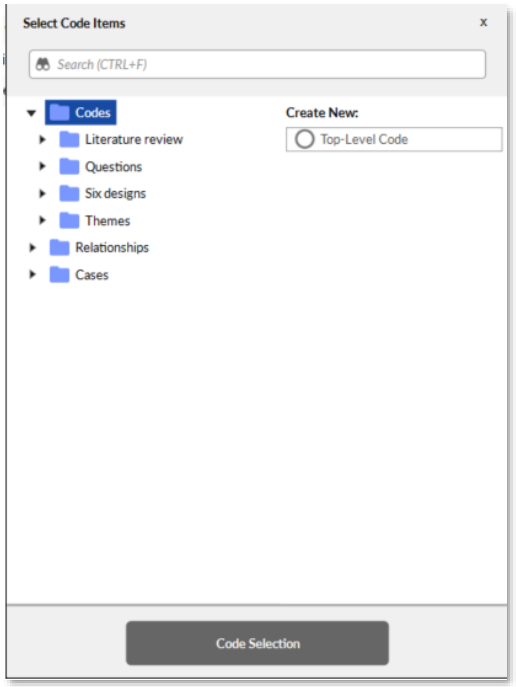


REORGANISING CODES

Parent and child codes can be re-organized as the project progresses. They can be moved between different levels of hierarchy and assigned to new parent codes where appropriate. You can re-organize using drag-and-drop, cut-and-paste, or merge functions. You can re-name codes, create new codes from multiple old codes, and re-code files and data as you see fit. Your coding structure can therefore be as fluid or rigid as you like.

CODING TEXT

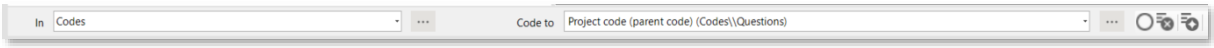
When you are examining your data, you may see a passage or quote in a text file that you think is important to your analysis. To record that passage or quote and store it in the appropriate code, simply select the text you want with the mouse cursor. Each coded selection is called a "reference". You can then place that reference in an existing code by selecting **Code** under the **Home** tab, selecting "code selection", and then selecting the appropriate code in the dialogue box:



You can click on **Create New** to create a code from scratch using the dialogue box, and code your reference to that new code.

You can also code at existing codes by right-clicking the selected text, and selecting **Code Selection** and the relevant code from the menu that appears; by using drag-and-drop coding, dragging the

highlighted text from the Detail View window to the code in the List View window; or by using the quick-coding toolbar, which can normally be found at the bottom of the NVivo interface and looks like this:



Finally, you can code "In Vivo", which means that the selected text will become the name of a new code that will be instantly created. This is a useful function when you come across a key phrase or term that you expect to see repeated in other files. You can do this by highlighting a passage, right-clicking on your selection and selecting **Code In Vivo**, or by pressing **CTRL+F8**.

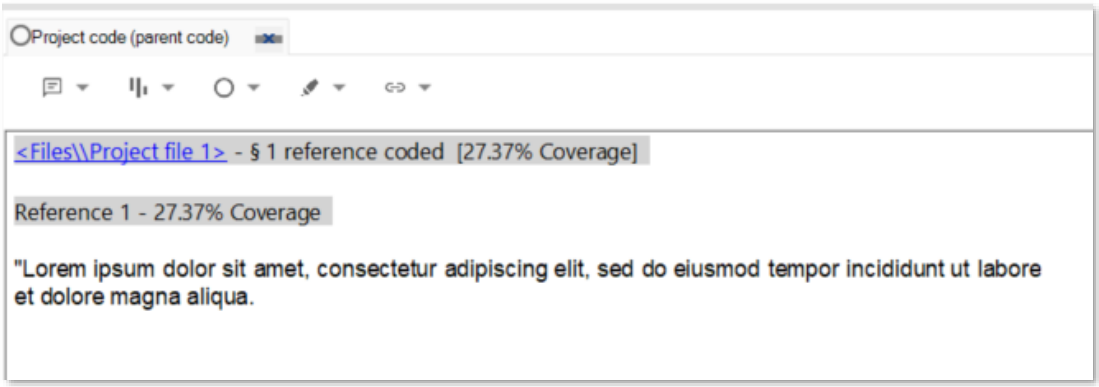
Keep in mind that you can code any piece of data at an unlimited number of codes, so do not worry if you think a passage is relevant to multiple areas of your project. You can make it a reference in as many codes as you like. However, when you want to query your data later, having one piece of text in multiple codes might become a problem to analyse efficiently.

VIEWING CODES IN DETAIL VIEW

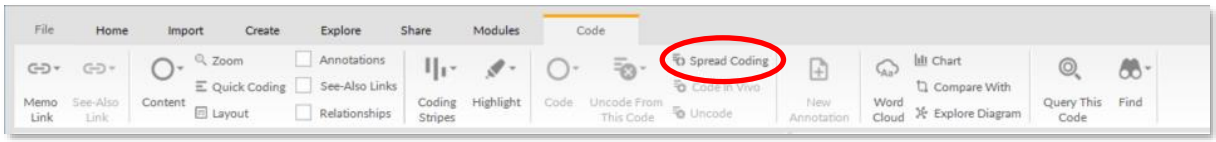
All data coded to a code will then be available when you open up that code in the detail view. Codes can be viewed in three ways, under separate tabs found on the right-hand side of the open code while in detail view. These are:

- **Summary**: Shows you a list view of all files coded at that code
- **Reference**: Shows linking and percent coverage of coding at each code
- **Dataset**: Combines Summary and Reference views

Under the **Reference** and **Text** tabs, you will see a hyperlink to that file that you can click to take you directly into the place in the file that holds the specific piece of data. You will also be able to see how many references were coded from that file to the code and how much of the file is covered by each reference.



If you want to see your reference in context, you can also use the **Spread Coding** function in the **Code** tab - to see a text on either side of the selection. The Code tab appears when you open a code.



The coding spread can be made for a custom range, and may be particularly useful if you prefer to code key words rather than whole passages.

CODING WHOLE FILES

You can also code whole files to codes by selecting a file (or multiple files) in list view and then clicking **Code → Code Whole Files** in the **Home** tab.

UNCODING

If you change your coding structure or no longer think something is relevant to a certain code, you can remove coding from references or parts of references coded in a file. You can uncode a reference through the **Home** tab, or by selecting the passage you want to uncode, right-clicking and selecting **Uncode** at the relevant code, or by switching on **Coding Stripes** (in the **Document** tab that opens when you open a File), and then right-clicking on the coding stripe you are interested in and clicking on '**Uncode**'.

CODING AUDIO AND VISUAL MEDIA

You can use most of the same coding techniques on audio and video that you use with text. If you have an audio or video file inside your project, you can open it in NVivo. It will create a waveform representing the audio file. You can click-and-drag your mouse cursor over sections of the waveform and code them as if they were text.

As with text files, when viewing audio or video references in the code in Detail View, you will see how much of the file is covered by the reference. You will also be given a hyperlink to the selection. Clicking on the link will open up the audio or video file and take you to the beginning of the reference, which you can then play through the NVivo media player.

You can also code image files. This is done by click-and-dragging your mouse cursor over the area of a picture that you would like to code, and then coding appropriately. You can add descriptive text to picture files, and this can be coded like regular text.

AUDIO AND VIDEO TRANSCRIPTS

Here you have two options. The first one is using NVivo's automated transcription function in the

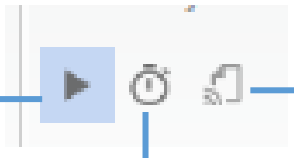
'Modules' tab – where NVivo 'reads' your data automatically and produces an instant text transcription – which will be uploaded to your myNVivo portal. There are two things to be aware of here. Firstly, NVivo Transcription uses cloud functionality – i.e. your audio/video file and transcription document will be automatically uploaded to NVivo's Cloud or the myNVivo portal – in order for NVivo to be able to 'read' your data. You must make sure that using an external cloud facility like this does not violate any Ethics and Data Protection protocols that you are following for your research project (particularly for projects involving sensitive or personal data). Secondly, you have to check if you've purchased 'transcription minutes' for NVivo to transcribe your file – you can do this in your myNVivo portal page. Or if you've already purchased minutes previously, you may not have sufficient minutes for your particular file – for example, you may have only 10 minutes remaining but your file may be 60 minutes long. You can purchase extra minutes in myNVivo. [Please note that these minutes 'expire' after a period of time if unused.] After you've sorted out your minutes, when you click on a File that requires transcribing (like a video or an audio file), you can then click on 'Modules' and then 'Transcription'. You will then be directed to log in to myNVivo if you haven't already. Once you're back in your NVivo project, you will see the following window:

The column with the number shows the duration (number of minutes) of the file. You can then select the transcription language and press Transcribe. You can then pick up your transcription in myNVivo and then import it into your NVivo project. Please remember to delete your audio or video file and transcription from your myNVivo portal, particularly if you are analysing sensitive data.

The second option is using NVivo's media player, where you can manually listen to or watch your media file and then type up or create a transcript using the program's transcription functions.

Using the different options of the **Play Mode** three transcriptions options are possible.

The **Normal Mode** (left triangle icon) works with the audio/video and the transcript as separate items.



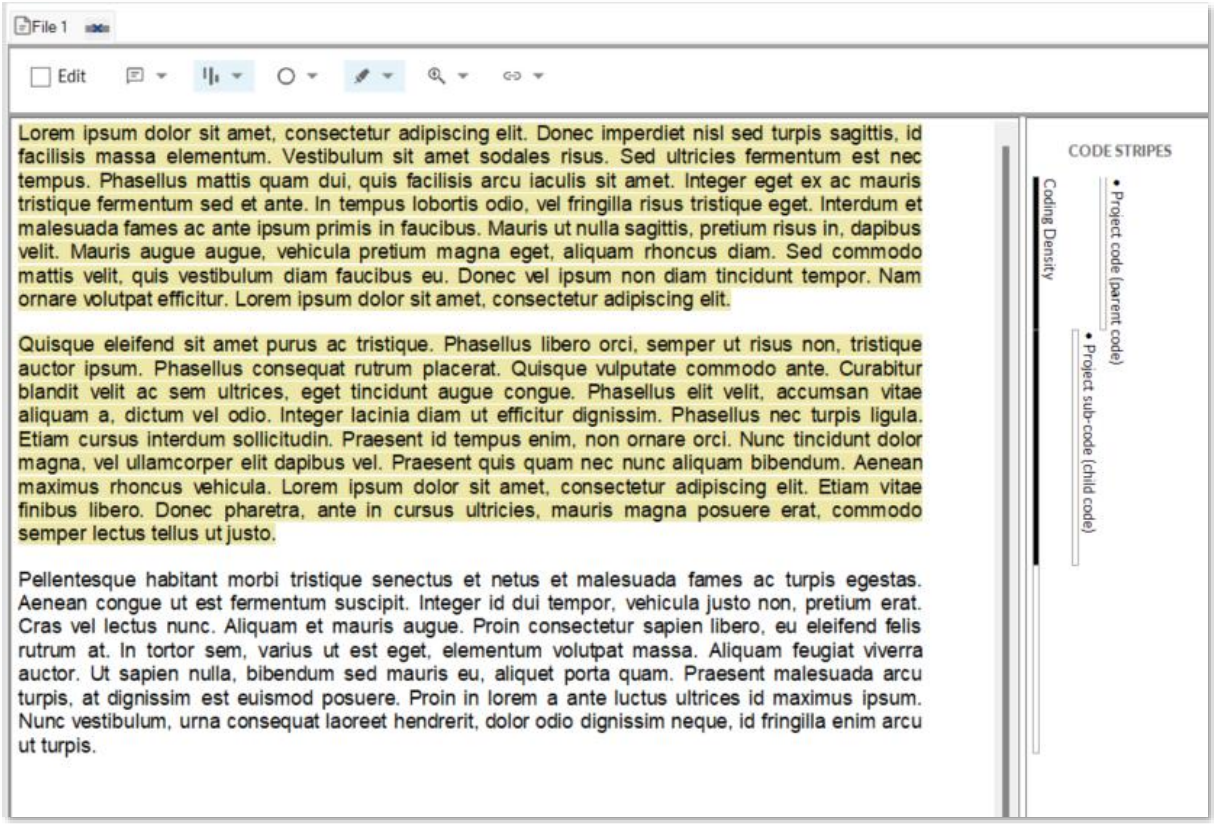
The **Transcribe Mode** (right triangle icon) enters a new row in the transcript area with its associated timespan.

The Synchronize Mode (middle triangle icon) coordinates the audio/video with the transcript.

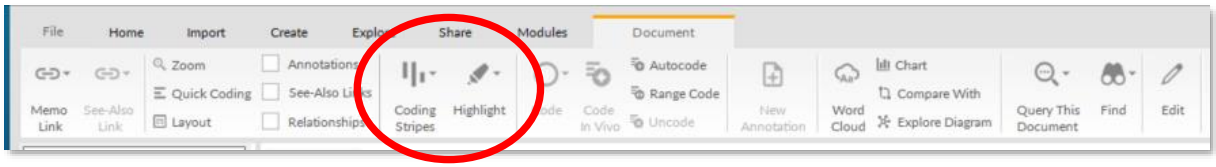
You can also import a transcript, and if your transcripts are prepared with appropriate timestamps you will be able to use NVivo's transcript synchronization functions. These will allow you to read through a transcript in sync while its audio or video file is playing. It also lets you code references from transcript text and have these linked in the node to your audio file as well.

VISUAL MARKERS OF CODING

You may want to be able to see how much of a file has been coded, and where. NVivo thus gives you the ability to add Highlighting and Coding Stripes to either some or all of your codes. Highlighting will highlight the text in the file to show where coding has occurred, while coding stripes provide a visual representation in a new sidebar. Adding coding stripes will also show you Coding Density, which reveals you how many times a particular reference has been coded at separate codes.



To add coding stripes or highlighting, open a file, then go to the **Document** tab and select **Highlight** or **Coding Stripes**. From the drop-down menu that appears, select the codes you would like to visualize. These can be turned on and off as necessary.



CREATING A CODEBOOK

You can use a codebook to record definitions of your codes, capture how your coding has evolved, present representative examples of your coding, or even document exclusion and inclusion criteria for the content that should be coded under a specific code. A codebook captures the intended meaning for each of the codes so that these can be applied as consistently as possible through time and between different members of the research team.

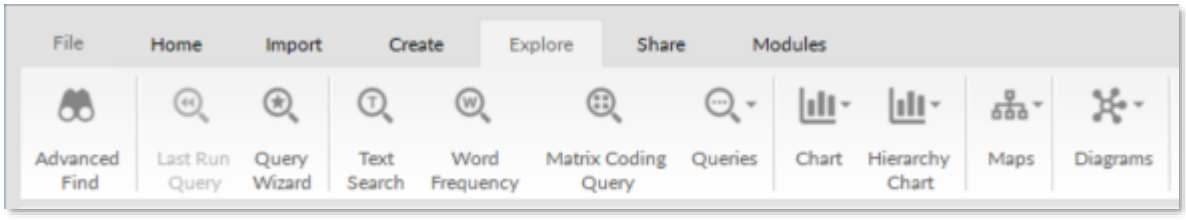
You can attach definitions to each of your codes by right-clicking on them in List View, then choosing **Code Properties** and adding a definition to the **Description** box.

To create a codebook, you would then need to run a report that lists the codes and their descriptions. Under the **Share** tab, choose **New Formatted Report** and then select **New Formatted Report via Wizard**. A new window will open where you will need to choose the option **From a View: Code**. In the next screen expand the menu under **Code** and choose the fields you would like to include in your report (in this case **Name** and **Description**). Click Next until you are asked to name your report. You will then be able to view the codebook under the option Reports in the Navigation View sidebar.

Alternatively, you can download a codebook template and import it in your project (in the **Import** tab).

QUERYING DATA

Alongside sorting your data into codes, you can run a number of processes to learn more about what is in your data. We have already examined auto-coding, and there are a number of other tools that may provide insight into text-based and coded files. You can run queries for all of your project, or for a selected group of files, codes, sets, folders, and/or annotations and memos. All of the query functions can be found under the **Explore** tab.



WORD FREQUENCY SEARCHES

You can find out how many times a specific word or group of related words can be found in all of your data, or in a selected part of it. To find the most common words in your data, you can run a Word Frequency Query. This is the most basic query function, and will query selected text files in

your project for the most frequent words. You can specify how many words you would like to see as well as a minimum length, to avoid words like "I", "a" and "the".

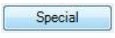
To run a word frequency query, select **Word Frequency** under the **Explore** tab, set your parameters and click 

on the top right corner of the dialogue box. You will see that the program creates your results in detail view under four tabs on the right-hand side: Summary, Word Cloud, Tree Map, and Cluster Analysis. Each of these provides a different way of visualizing your query.

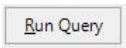
TEXT SEARCHES

Text searches provide another way to determine how often certain words appear in your data and annotations. You can also use a text search to find out how many times a certain word appears in context with another word or phrase.

To run a text search, select **Text Search** under the **Explore** tab and enter the word or phrase you would like to find in the **Search for** section of the dialogue box. You can specify your search further by looking for exact matches or similar phrases, and you can also limit your search to within selected areas of your project.

You can also add special instructions within the text box by clicking the 

button on the right-hand side of the box. These allow you to add Boolean modifiers to your query, as well as specify other words that should be nearby by clicking the **Near** option. This can help narrow your search significantly in a large dataset.

Once you have set your parameters, click 

in the top right-hand corner. Like viewing a code in detail view, a Text Search Query creates Summary, Reference, and Dataset sections. Also like coding, you can spread your text search coding (via the "spread to" option before running the text search query) so that surrounding text is included in detail view.

Running a text search query will also create a Word Tree, which shows you a visual representation of words that occur near the text you are seeking.

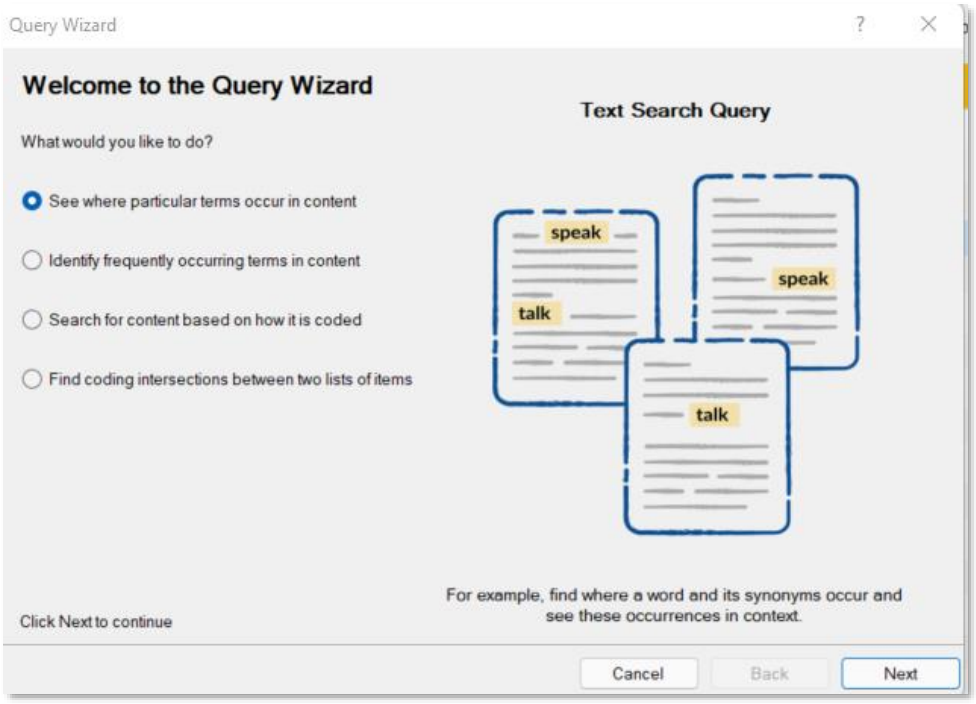
CODING QUERIES

If you want to look in more detail at the coding you have done, you can run a coding query. These allow you to examine coding within a single code to see what kinds of patterns may emerge. You can look for content coded at a specific code, cross-referenced with another code or set of codes, files, searches, classifications, and so on. This is a way of looking for overlap between categories, as well as specifying results within categories.
To run a coding query you can either use the **Query Wizard** or create one outside the Wizard using the Coding button in the **Explore** tab.

QUERY WIZARD

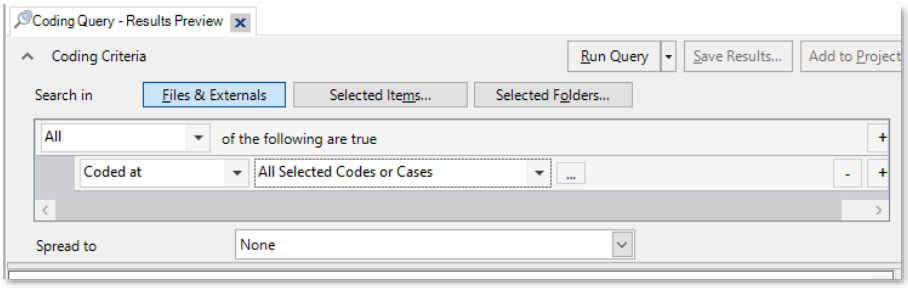
On the **Explore** tab, click on **Query Wizard**. Choose the type of query you want to run in the dialogue

box. You can select one of four options: see where particular terms occur in content, identify frequently occurring terms in content, search for content based on how it is coded, or cross-tabulate how content is coded.
Click on **Next** and follow the steps in the Wizard. In step 3 of 4, you will be given the option to select the items you would like to search in: all files in your project, selected items (particular codes, files etc.) or items in selected folders (files, externals, memos etc).
You can also choose in step 4 whether to run the query once or save the query to your project so you can run it again if you wish.



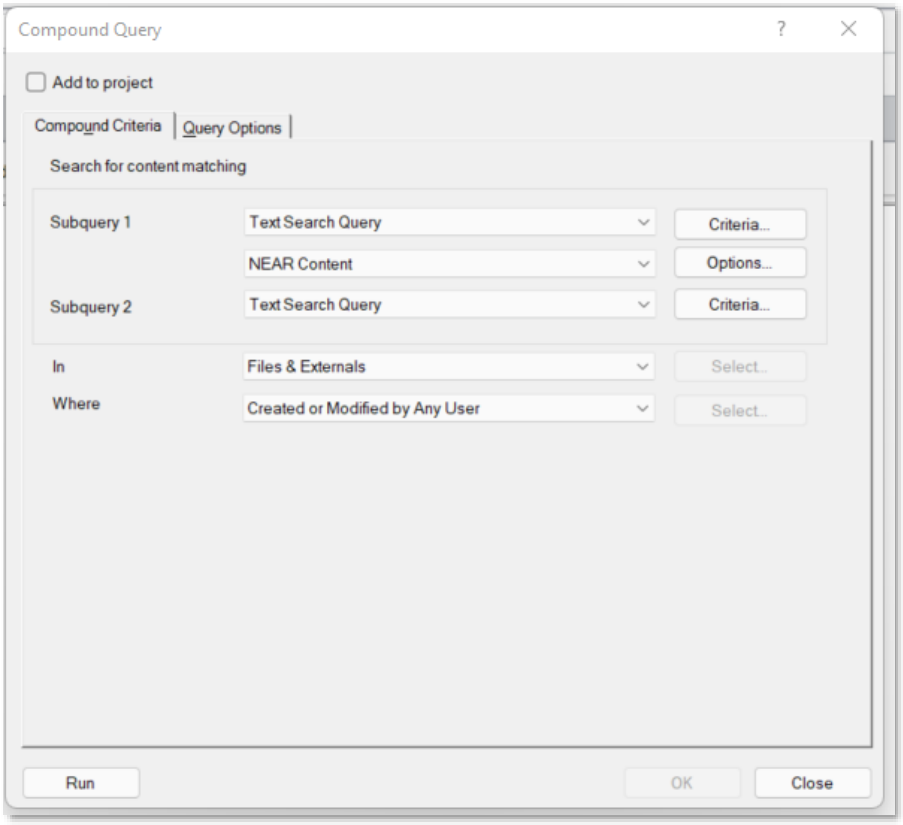
USING THE CODING FUNCTION

In the **Explore** tab, click on **Query** and then **Coding**. A new blank query will open in Detail View.
You will be given the option to select the items you would like to search in: all files in your project, selected items (particular codes, 'Data' etc) or items in selected folders (Files, Externals, Memos etc).
By default, the query will search using **All** the criteria specified. If you would like the search to meet only some if your criteria, select **Any**.
You can choose to find content that is coded at, or not coded at: **All Selected Codes or Cases**, **Any Selected Code or Case**, or **Any Case Where** (cases with specific attribute values). To add more criteria, click on the **+** button on the right-hand side. This will add a new row to your search criteria.
Click the **Run Query** button or **Run and Save Results**.



COMPOUND QUERIES

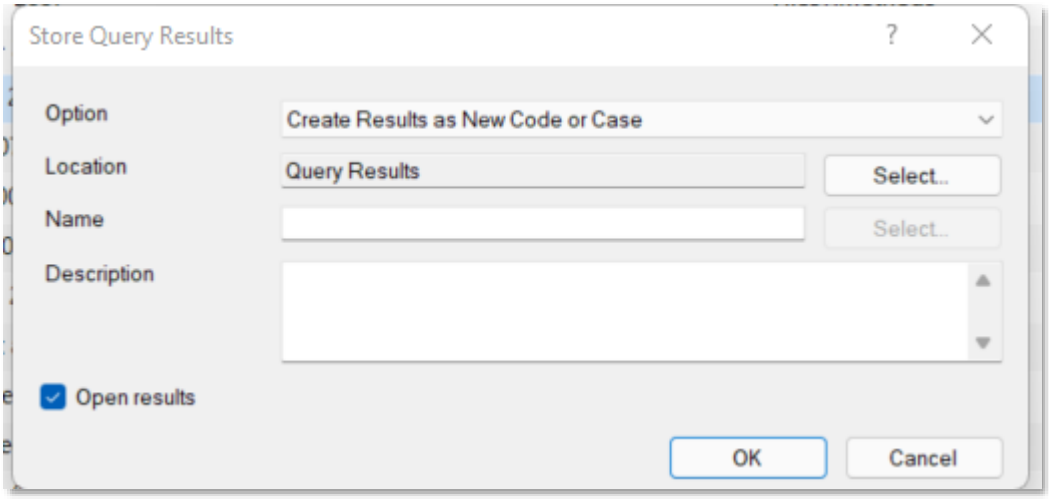
Compound queries allow you to combine a text search query with a coding query, or to combine two text search queries to look for overlap. All of the parameter rules remain fundamentally the same as with individual text search and coding queries, but in compound queries you get to refine your search with proximity modifiers, i.e. by looking for only those references that occur near, with, or not with or near, another set of references. You can find this option by going to the **Explore** tab, selecting **Queries** and then selecting **Compound.**



SAVING QUERIES

If you want query results to be available to you again in the future, you can click the **Save Results** button located at the top of any query dialogue box. Or you can save the actual Query itself and the criteria you've applied by clicking on **Save Criteria**. This will save the query under the **Queries** section in the navigation view.

You can save queries under Codes or Sets by clicking the **Save Results** button in the top right of the query tab and following the instructions in the dialogue box, which will look like this:



If you choose to create a code or set rather than merge the results with an existing code or set, this will show up in the **Query Results** folder under **Queries,** which can be found under **Explore** in **Navigation View**. Note that you cannot code new content at a code created through a query until it has been added to your other codes by cutting and pasting the code from the **Results** folder to an appropriate location in your code hierarchy.

LINKS: MEMOS, ANNOTATIONS, SEE ALSO LINKS, AND HYPERLINKING

There are a number of ways to link data in your NVivo project to the ideas and bits of writing that emerge while doing your analysis. Memos and annotations provide ways to create new, searchable and codable text that can contain ideas about how data should be used, analytical insights, notes to research team members, or reminders about research tasks still to be done. See also links allow you to connect related files between one another within the project, and hyperlinking allows you to connect to web-based information. Linking in some instances may be preferable to coding, especially where ideas connecting these pieces of data are in formative stages. **Memos, Annotations and See Also Links** are stored under **Notes** in the Navigation View sidebar.

MEMOS

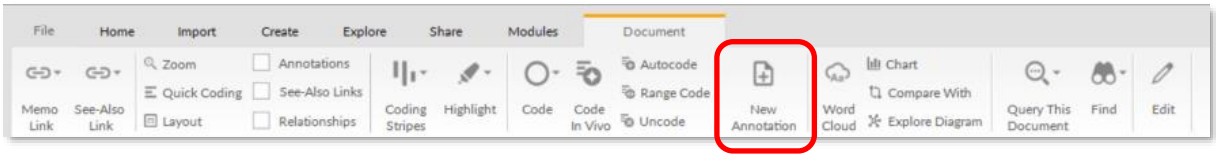
A memo is basically a document source or note that holds some conceptual thinking rather than data. You can create a memo under the **Create** tab or import one from a supported document format. You can then link the memo to a single file or code, or specific content within these via the **Home** tab. To do so, select the item you want to link to a memo (e.g. a specific code or file), click on **Item** in the **Home** tab and select either “link to new memo” or “link to existing memo.”

Selecting **Link to New Memo** will create a new memo and automatically link it to the selected file or code. Memo links can later be deleted by selecting **Delete Memo Link**.

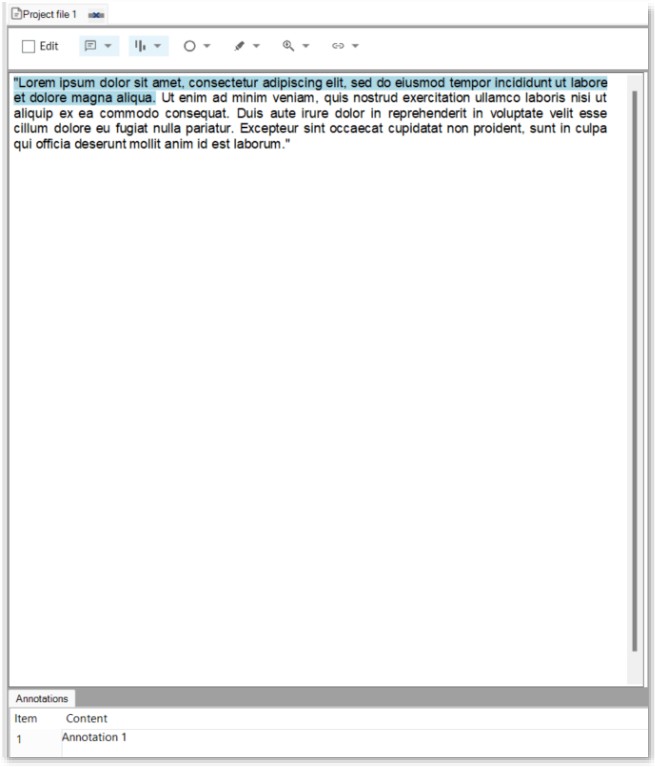
You can also create a memo containing general thoughts and leave it unlinked. Memos are stored under **Notes** in the **Memos** folder, and they can be viewed, searched, coded, and classified just like any other document file.

ANNOTATIONS

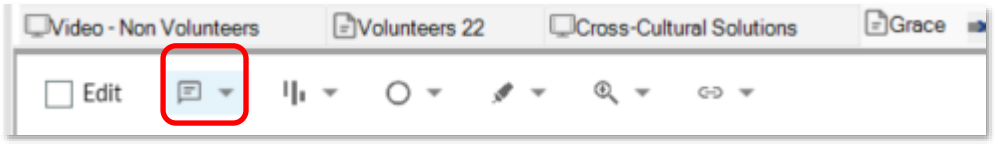
Like memos, annotations serve to record some thinking about a piece of data. Annotations are created within a file by highlighting the relevant section of the file in Detail View (e.g. if you have a document open, there will be a tab at the top far right called "Document") with the mouse arrow and selecting the text you wish to mark with an annotation, and then on the ribbon tab for the open file selecting **New Annotation.** Any piece of data that can be coded can also be annotated. You can annotate text files as well as pdfs, images, and audio and video files. You can add annotations within a file as many times as you like.



Once you have created an annotation, it will appear whenever you open that file in a window below the detail view. If you code the annotated passage to a code, the annotation window will also appear when you open the code in detail view.



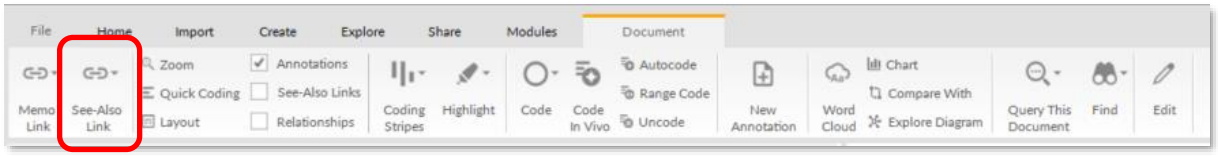
You can hide annotations from Detail View by unchecking the "Annotations" option in the **Document** tab. This can also be achieved in an open file by clicking on the button at the top-left of a file circled below, which will then give you the option to select or unselect "view annotations":



You can also delete annotations from directly from the Detail View. Alternately, you can delete them by highlighting the annotated text, right-clicking and selecting **Delete Annotation** or delete them from the **Annotations** folder in the navigation view under **Notes.**

SEE ALSO LINKS

See Also Links connect related material within your project. They can be used to connect files, codes, and specific content within those. They can also be used to create new files that are automatically linked to the selected content. To create a See Also Link, highlight the relevant section of file data and click **See Also Link** in the **Document** tab. As with annotations, a See Also Link can be created for any data that can be coded.



SETS

Sets are another way of organizing files and codes into groups for subsequent analysis. Sets are a kind of **Search**, and Search folders are handy because they can contain both files and codes at the same time, and can be searched using NVivo's query functions.

To create a set, go to the **Create** tab and click on **Static Set** (manually selected project items) or **Dynamic Set** (consisting of project items that upon opening the set meet criteria defined for each set). Name your set, describe it if you wish, and then click OK. You can then add any code or file to your set by right-clicking the item and selecting **Add to Static Set** from the menu that appears.

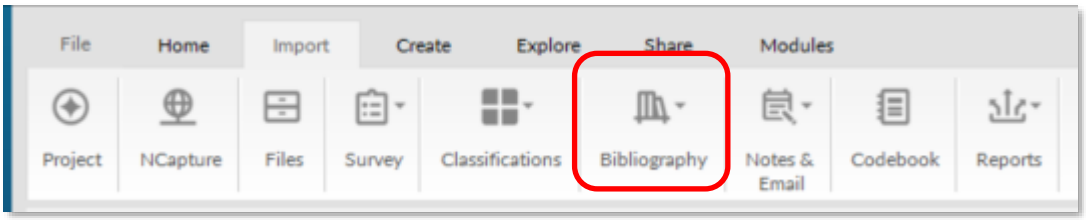
HYPERLINKING

If you want to connect your data to web-based files, NVivo provides a hyperlinking function. To add a hyperlink, you must first be in edit mode. Then, simply highlight the selected text, click **Hyperlink** under the **Edit** tab (this is in the very top right-hand corner), and insert the URL. You can also hyperlink to a file path within your computer. Note that hyperlinks can only be added to text files.

IMPORTING REFERENCE LIBRARIES

You can add your reference or bibliographic data to your project, which will make it subsequently searchable. For example, if you have a large EndNote, Zotero or Refworks library with lots of linked files, notes, or URLs, bringing these into your project is relatively easy and gives you the ability to analyse your literature alongside your data.

To import a library, click **Bibliography** under the **Import** tab and select the appropriate software package from the drop-down menu.



Select the appropriate file and follow the instructions, referring to the help sections if you get stuck. Once you have successfully imported your library, each reference will appear as a new External file.

You can also elect to have attached files added as project Files; to have URLs imported along with the reference as external files; and to have any information entered under the "Notes" sections of your library included as new memos in your NVivo project.

Each type of file you import will also create a file classification and attributes. Classifications are examined in the next section. If you make future amendments or additions to your reference library, not to worry. Just repeat the steps above, and NVivo will recognize pre-existing references, amended references, and new references, and process each accordingly. The changes you make should be updated without duplicating references or files.

OTHER AREAS OF INTEREST

As noted at the outset, this has been an introductory workshop to a very large program. Below are some signposts to intermediate functions that you can explore after the workshop if you wish.

FRAMEWORK MATRICES

Framework matrices allow you to summarise large volumes of information across cases and themes, so that you can create an overview of the content of your materials and look at the differences between individuals, organisations or other units of analysis. A typical framework

matrix would look like the one illustrated below, with rows for case codes and columns for thematic codes:

	Theme A	Theme B	Theme C
Case 1	Summary	Summary	Summary
Case 2	Summary	Summary	Summary
Case 3	Summary	Summary	Summary

To create a framework matrix, select the option **Framework Matrix**, under the **Create** tab. Name your matrix in the dialog box that opens. Under **Rows**, select the cases that you would like to include as rows in your matrix. Under **Columns**, select the thematic codes you would like to display as columns. Optionally, under **Row Header Attributes** you can select characteristics of your case codes (e.g. age, gender etc.), which will be included in the matrix.

PREPARING SURVEY RESULTS AND OTHER DATASETS

You can import datasets including survey results and demographic information in much the way you would import classification sheets. NVivo provides a number of avenues for analysing datasets. You can filter, sort and auto-code dataset content (including analysis by demographic fields), code text fields to codes, and link these results to the rest of your project. While the workshop will not deal directly with dataset creation or importation, it is worth knowing that this function exists if you are working with datasets in your research.
Keep in mind that NVivo is not designed for sophisticated analysis of dataset results such as regression testing, and you cannot produce tables or graphs from your dataset. You also cannot edit your dataset once it has been imported into NVivo.

RELATIONSHIPS

You can define relationships linking different components of your project. This function is found under codes in navigation view and is a form of coding. These can remind you and your project team that certain participants know one another, are related, work together, and so on. They can also chart things like birthplace, timelines within the research or regarding events discussed in the project, and organizational relationships as well.

MAPS

You can create visual representations of various aspects of your project. These might include relationships, coding structures, and many other dynamic aspects of your analysis. You can also build static maps or models from scratch using the relatively simple and user-friendly modelling tools. Once you have made a map, you can export it for use in other programs.

While the maps generated in NVivo can look like social networks, neither the relationship codes

nor the modelling features are a substitute for Social Network Analysis (SNA) software.

NVIVO REPORTS AND METHODOLOGICAL TRANSPARENCY

NVivo offers Reports functions, which can create automatic outputs charting your coding activities, code structure, classifications, as in the example of the codebook we created in session 2. These reports can be generated at the click of a button, or you can specify parameters for your reports if you want to look at specific bits of work or the activity of specific team members. For some (but not all) qualitative social scientists, it will be important to be able to provide an account of how you did your analysis and arrived at your conclusions. Reports can be helpful to this end. You can also review the article by Bringer et al (2004), which is an early examination of the ways in which NVivo-based analysis can be articulated to others for transparency purposes.

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Bringer, J. D., Johnston, L. H., & Brackenridge, C. H. (August 01, 2004). Maximizing Transparency in a Doctoral Thesis 1: The Complexities of Writing About the Use of QSR*NVIVO Within a Grounded Theory Study. *Qualitative Research*, 4, 2, 247-265.

Miles, M. B., & Huberman, A. M. (1994). Qualitative Data Analysis (2nd ed.). Thousand Oaks: Sage.

Paré, M-H (2014). NVivo 10 Userguide. Barcelona.

Richards, L. (1999). Data Alive! The Thinking Behind Nvivo. *Qualitative Health Research*, 9, 3, 412-428.

QSR International. (2016). NVivo 11 for Windows: Getting Started Guide [there is no PDF guide for NVivo version 12.] Available at: http://download.qsrinternational.com/Document/NVivo11/11.3.0/en-US/NVivo11-Getting-Started-Guide-Pro-edition.pdf

Richards, L. (2009). Handling Qualitative Data: A Practical Guide. London: SAGE.

Wickham, M., & Woods, M. (2005). Reflecting on the Strategic Use of CAQDAS to Manage and Report on the Qualitative Research Process. Qualitative Report, 10, 4, 687-702.

EXTRA RESOURCES

Using NVivo

- YouTube tutorials on NVivo:
  http://www.youtube.com/user/QSRInternational

- Practical support, training and information:
  http://caqdas.soc.surrey.ac.uk

- Bazeley, Patricia, and Kristi Jackson, eds (2013). Qualitative data analysis with NVivo. London, Sage.

- Guidelines on managing and documenting qualitative data:
  https://www.ukdataservice.ac.uk/manage-data

- Learning qualitative analysis on the Web – _using software:
  http://onlineqda.hud.ac.uk/Intro_CAQDAS/index.php

- Using NVivo to work in a team/Collaborating using NVivo:
  https://help-nv.qsrinternational.com/20/win/Content/projects-teamwork/nvivo-collaboration.htm

- Dendogram analysis:
  https://ncss-wpengine.netdna-ssl.com/wp-content/themes/ncss/pdf/Procedures/NCSS/Hierarchical_Clustering-Dendrograms.pdf

- Analysing surveys, preparing survey data before import, and importing survey data:
  https://help-nv.qsrinternational.com/20/win/Content/files/datasets.htm

- Preparing survey data before import, and importing survey data (previous version of NVivo but uses same principles):
  https://help-nv.qsrinternational.com/12/win/v12.1.96-d3ea61/Content/files/datasets.htm

- Video on surveys (previous version of NVivo but uses same principles):
  https://www.youtube.com/watch?v=sFIdkSjWE48

Interpreting and making sense of qualitative data

- Braun, V. and Clarke, V. (2013) *Successful Qualitative Research,* London, Sage. Chapters 8-11

- Becker, H. (1998) Tricks of the Trade: How to Think about Your Research While You're Doing It

- Berelson, B. (1952). *Content Analysis in Communication Research.* Glencoe: THE FREE PRESS.

- Bryman, A. (2012) Qualitative data analysis, Chapter 24 in *Social Research Methods*. Oxford: OUP.

- Creswell, J. (2015) *30 Essential Skills for the Qualitative Researcher*. Los Angeles: SAGE.

- Creswell, J. (2007) Qualitative Inquiry & Research Design: Choosing among five approaches.

- Fielding, J. (2008) Coding and managing data, Chapter 17 in Gilbert, N. (ed.) (2008) *Researching Social Life.* London: Sage.

- Harding, J. (2013) *Qualitative Data Analysis from Start to Finish.* London: Sage

- Lichtman, M. (2010) Qualitative Research in Education: A User's Guide

- Miles, M. B. and Huberman, A. M. (1994) Qualitative data analysis: An expanded sourcebook 2nd ed.

- Miles, M. B., Huberman, A. M. and Saldaña, J. (2014) Qualitative Data Analysis: A methods sourcebook 3rd ed.

- Schreier, M. (2012) *Qualitative Content Analysis in Practice.* London: SAGE.

- Richards, L. (2015) *Handling Qualitative Data. A practical guide.* London: Sage.

- Robson, C. (2011) The analysis and interpretation of qualitative data, Chapter 17 in *Real world research: a resource for social scientists and practitioner-researchers*. [3rd edition]. West Sussex: John Wiley & Sons Ltd.

- Saldaña, J. M. (2013) The coding manual for qualitative researchers. London: Sage.

- Silverman, D. (2014) *Interpreting Qualitative Data*. London: Sage.

- Taylor, C. and Gibbs, G. R. (2010) "How and what to code"

NVivo for Mac help sites and video tutorials

- NVivo for Mac help site - https://help-nv.qsrinternational.com/20/mac/Content/welcome.htm

- NVivo for Mac – getting started guide - https://help-nv.qsrinternational.com/20/mac/Content/tutorials/nvivo-tutorials.htm

- NVivo for Mac – case classifications and demographic data - https://help-nv.qsrinternational.com/20/mac/Content/classifications/about-classifications.htm

- NVivo for Mac – autocoding in data sets - https://help-nv.qsrinternational.com/20/mac/Content/coding/automatic-coding-datasets.htm?Highlight=autocoding

- NVivo for Mac – create cases automatically - https://help-nv.qsrinternational.com/20/mac/Content/cases/create-cases-automatically.htm

- YouTube videos: autocoding for Mac (previous version of NVivo for Mac but uses same principles) - https://www.youtube.com/watch?v=8RqR0NCZjss&t=9s

- Classifications for Mac (previous version of NVivo for Mac but uses same principles) - https://www.youtube.com/watch?v=j1UNE6KPRtQ&t=4s

Course Packs

- (Shorter) Introductory online course: https://skills.it.ox.ac.uk/nvivo-walking-before-running-code-and-retrieve-course-pack

- Full Introductory (in-person) course: https://skills.it.ox.ac.uk/nvivo-up-and-running-course-pack

NVivo 1 for Windows – Walking before Running: Code and Retrieve

Dr Susila Davis, Alex Jager & Dr Charlotte Albury

iT Centre Learning

iT services

UNIVERSITY OF OXFORD

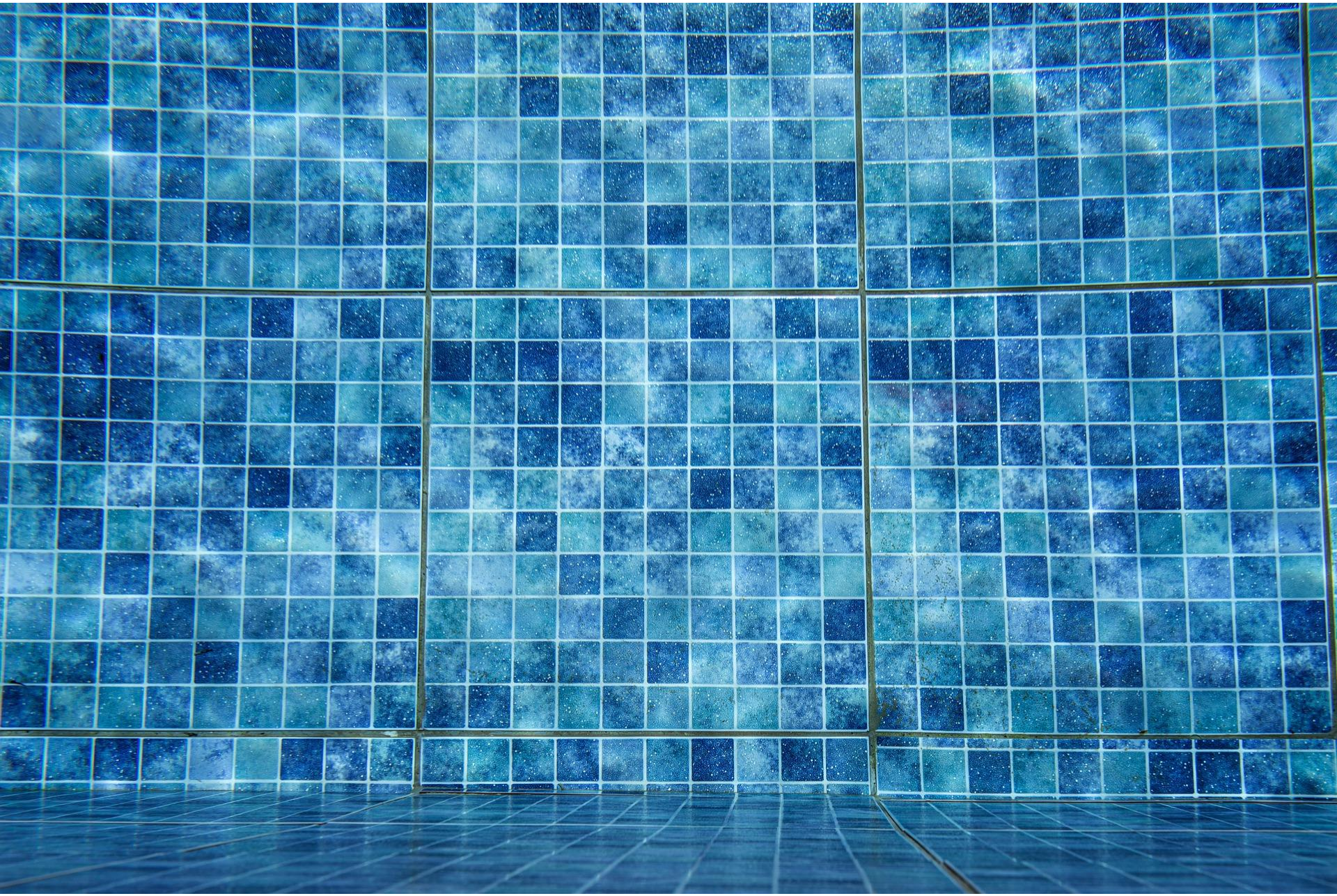
Take a moment to check you have everything you need.
Have you got your:

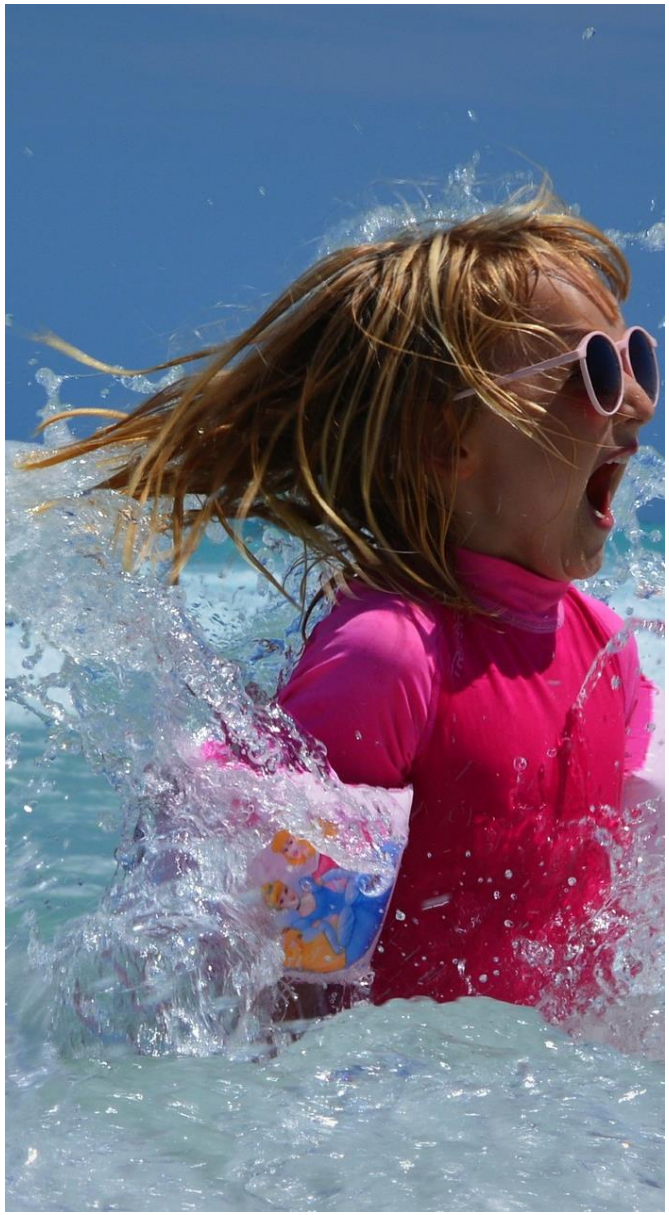
1) **Course slides**
2) **NVivo v1 installed with Licence Key enabled**
3) **Work files**/data provided for this session
4) Something to write with, and write on

We are working with data that should already be on your computer.
Have you saved this somewhere easy to find?

Learning objectives - Today you will find out how to:

- Navigate your way round NVivo
- Import text data into NVivo
- Code text data
- Make notes about your data
- Retrieve coded data using ‘queries’





FIRST THINGS FIRST…

WELCOME!

Today you're with **Susie** and **Charlotte**.

Online teaching is not as straightforward as teaching in-person. You're in safe hands, but sometimes the online environment may make the class more 'exciting'. Please bear with us.

If your computer has a problem (for example with your internet connection, or other software) this is not something we can help with.

! Mac users

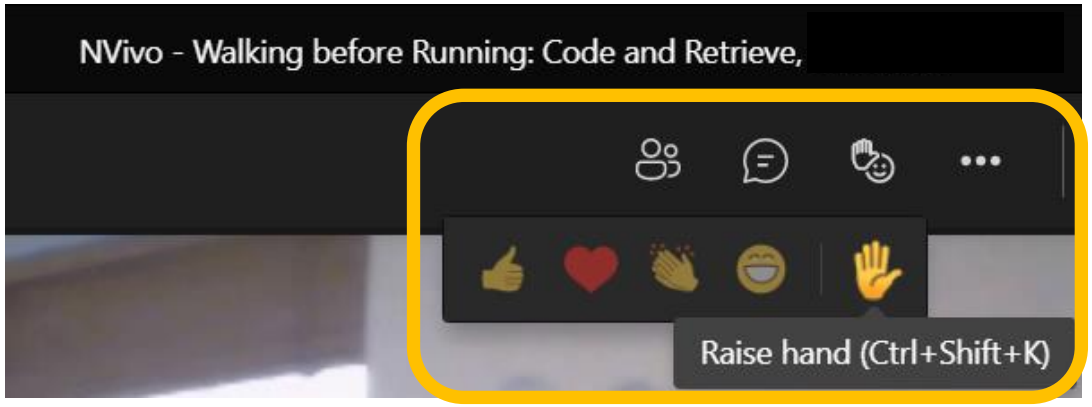
This is a **Windows** course, but we will do our best to signpost or handle Mac-related queries within the time we have – your slides include extra tips/instructions.

PRACTICAL WORK

Exercises for you to practise today & materials are all in the **ITLC Portfolio** for downloading

https://skills.it.ox.ac.uk/nvivo-walking-before-running-code-and-retrieve-course-pack

- There's two of us to help you
- You can ask questions by raising your hand in Teams, or use the chat



WHAT IS NVIVO?

NVivo is a Computer Assisted Qualitative Data Analysis (CAQDAS) software package.

Closeness to data – at least as much as can be had using manual methods – is assisted by enlarged and improved screen display, improved management of and access to multiple sources and types of data, rapid retrieval of coded text and easy ability to view retrieved segments of text in their original context. (Bazeley and Jackson, 2013).

Helps people manage, shape and make sense of unstructured information. It doesn't do the thinking for you; it provides a workspace and tools to enable you to easily work through your information.' (QSRinternational.com)

WHAT IS NVIVO NOT?

- ✕ Your data analysis
- ✕ An approach to data analysis
- ✕ A method of data analysis
- ✕ Something that tells you how to do your analysis
- ✕ Something that tells you when you've come across interesting findings

WHAT VERSION, WHAT COMPUTER, WHAT'S HAPPENING?

- Different versions of NVivo (11, 12 and 'release 1' [not 13!])
- We will be demonstrating using **NVivo v1 for Windows**
  - If you don't have NVivo 1 for Windows things may look a little different… You can open an older version file in newer version software but NOT the other way round… [NVivo will prompt you]

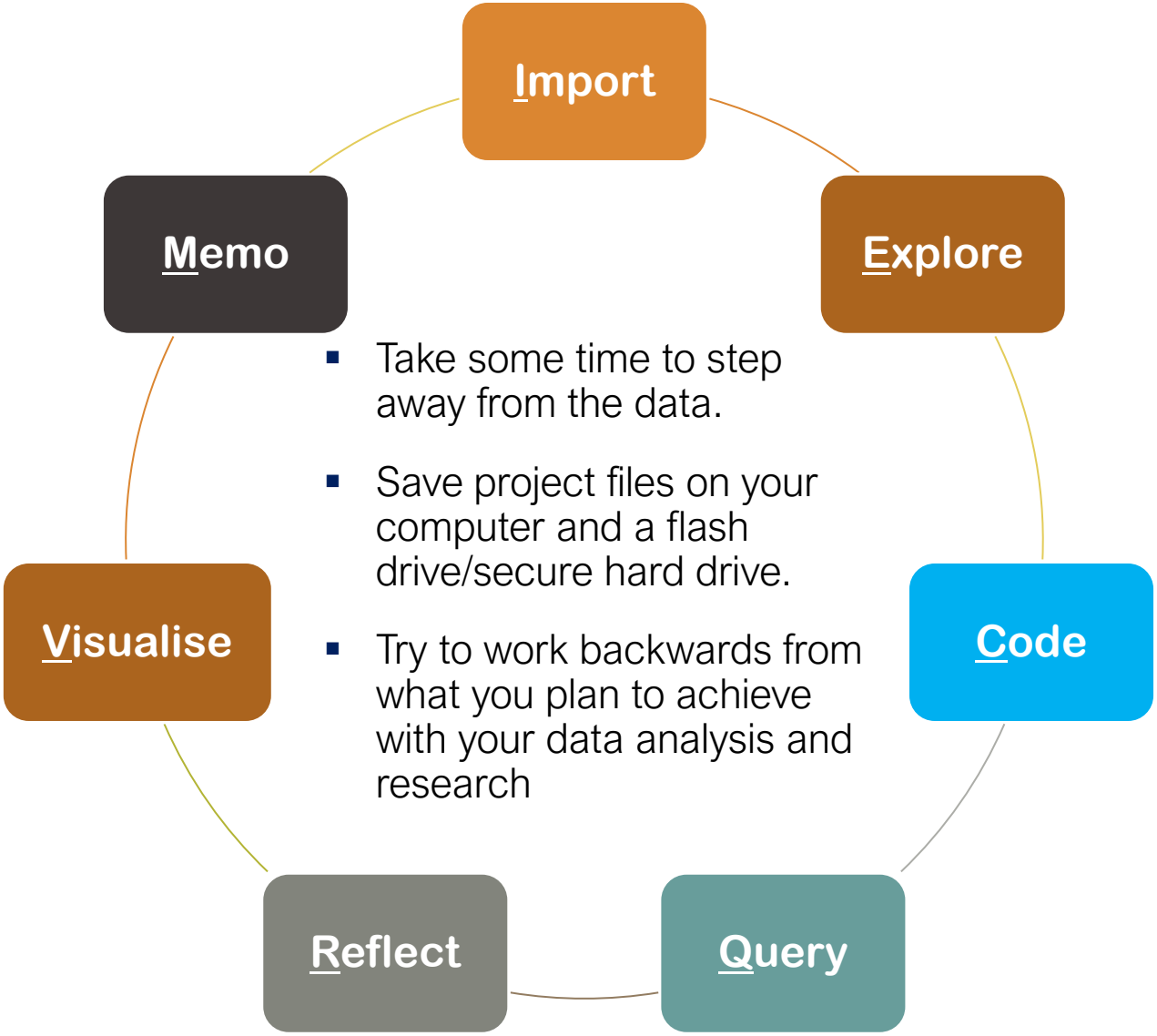
! Mac users

- NVivo for Mac and Windows are different – NVivo for Mac generally has less functionality than Windows.
  - On the Mac, you can do most of what we are showing you today, but may have to press slightly different buttons
  - There is a Windows-Mac Project Converter, but beware of converting too many times…

USING SOFTWARE: CAUTION...

Write down in the Chat some different ways or reasons why you might need to be cautious when using software to analyse qualitative data in your field.

WORKING WITH QUALITATIVE DATA



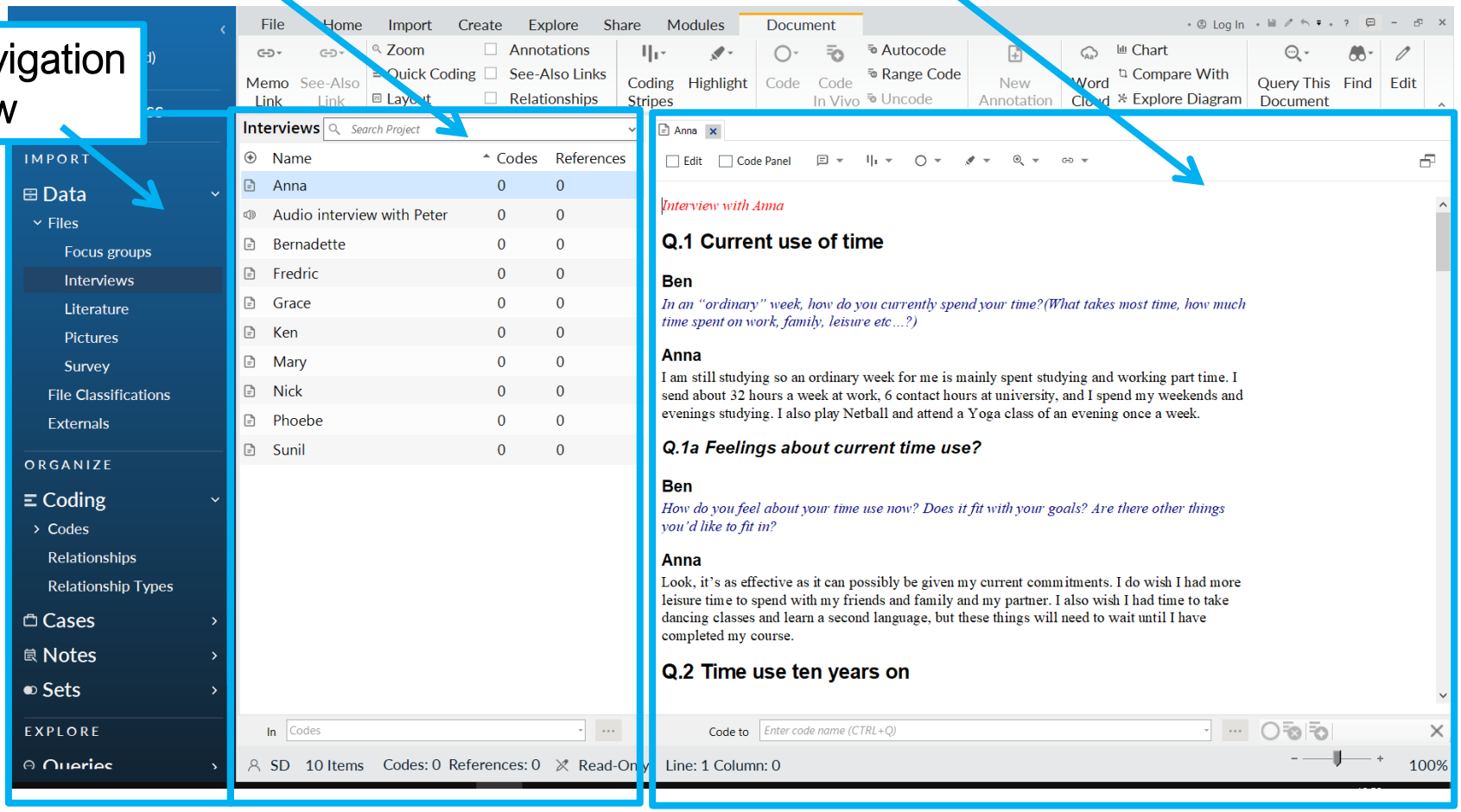
- Take some time to step away from the data.
- Save project files on your computer and a flash drive/secure hard drive.
- Try to work backwards from what you plan to achieve with your data analysis and research

THE NVIVO WORKSPACE

List view: displays content of folders

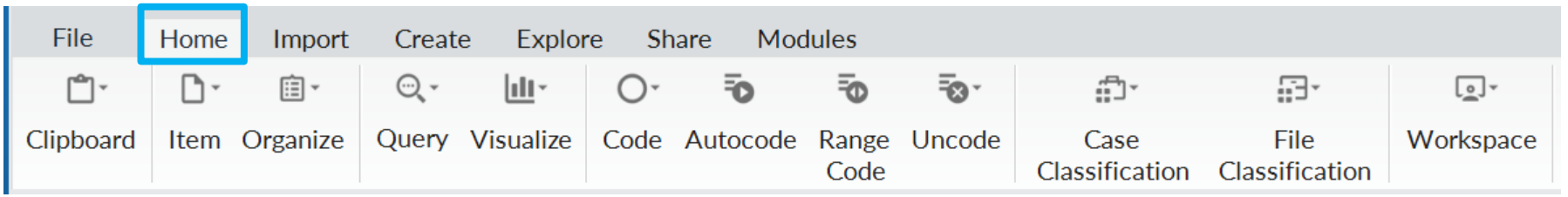
Detail view: shows the sources

Navigation view

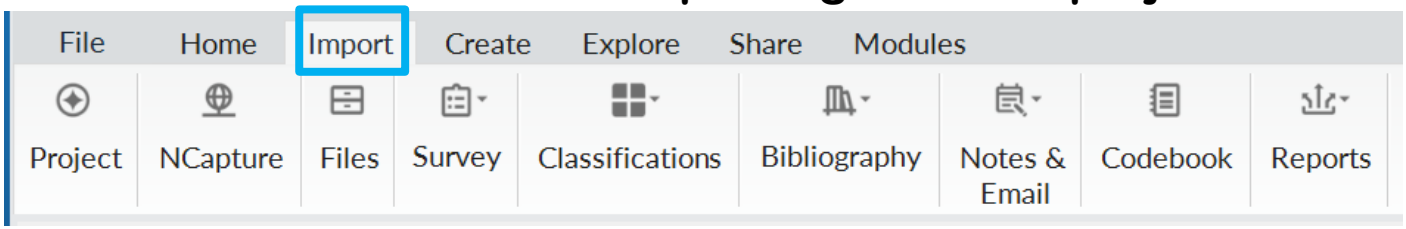


RIBBON TABS

Navigation, coding and classifications

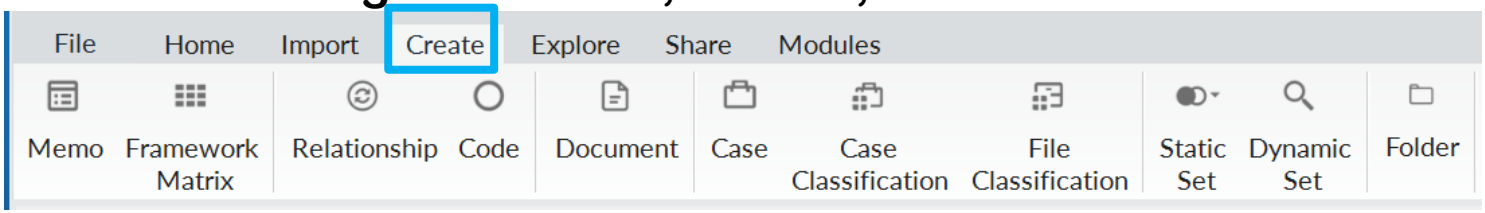


Importing files and project items

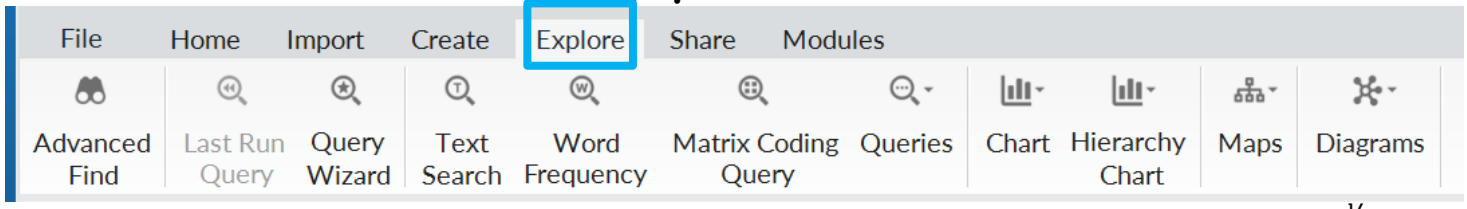


Top tip
If in doubt, right-click wherever you are, see available options!

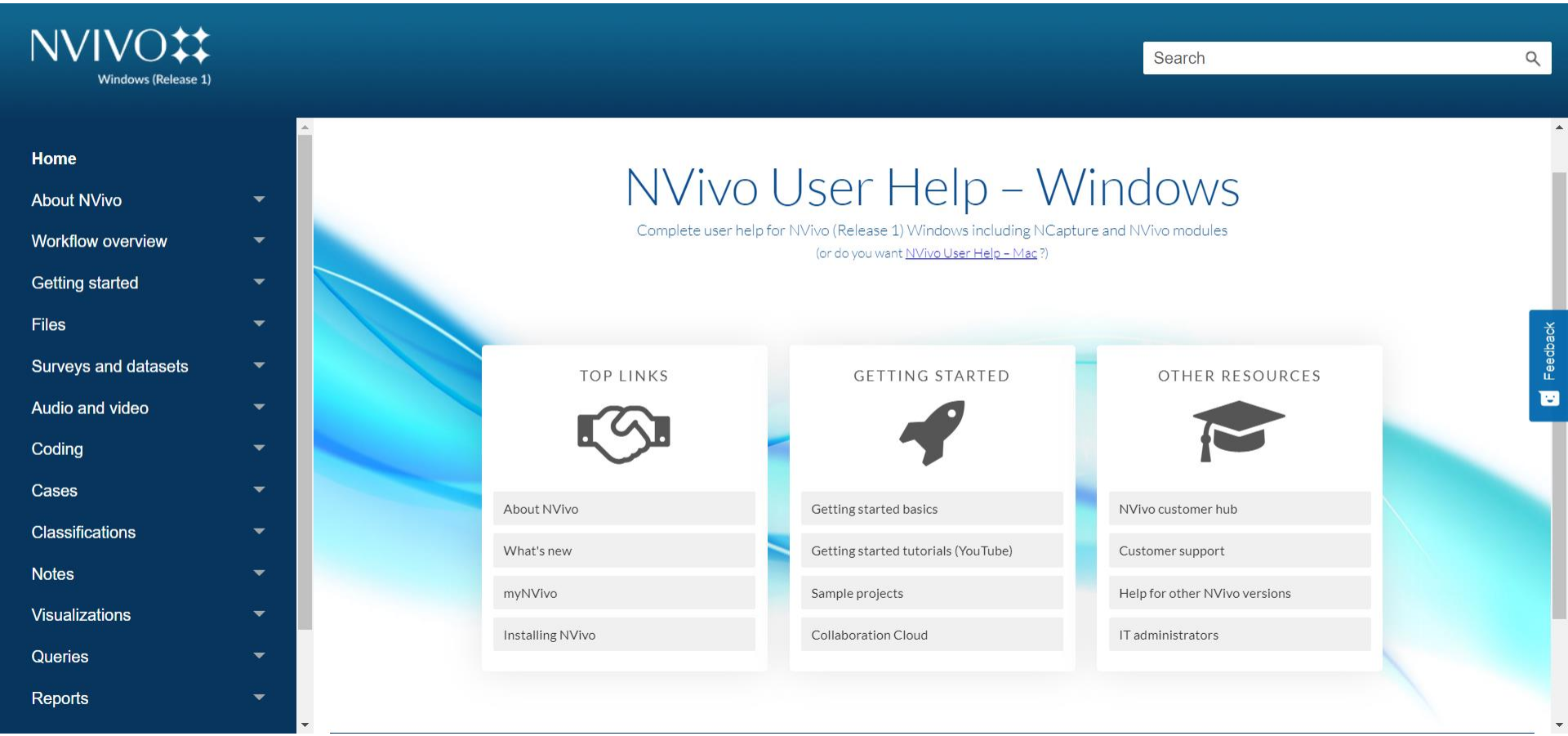
Creating documents, memos, codes and classifications



Running queries and visualisation functions



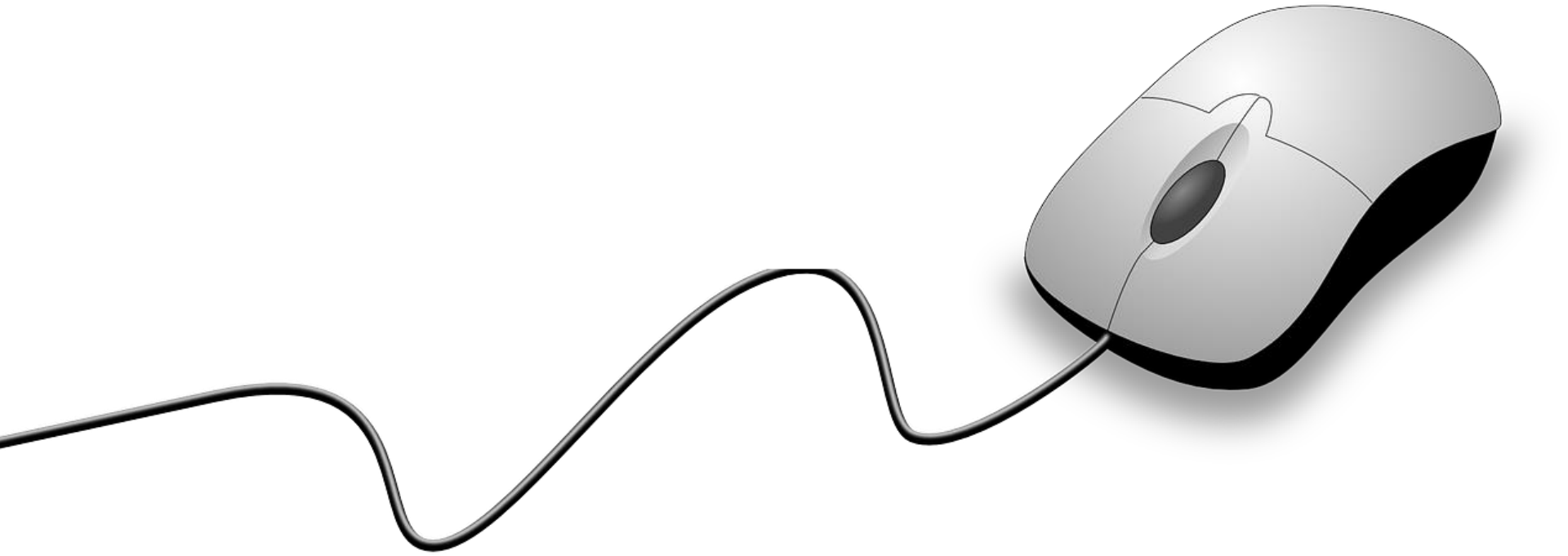
HELP SYSTEM



Help from earlier versions like NVivo 11 and 12 = also good

If you're not sure…

RIGHT-CLICK in a white space



TIME TO PRACTICE!

EXERCISE 1: Create an NVivo Project

Task 1: Create a new Project

i. Open NVivo and click on the '**New Project**' button.
ii. Leave the '**Keep a log of user actions**' box unchecked.
iii. Fill in a **Project title**, eg. Volunteering. Set the **Text content language**.
iv. Review the options Step 2 and click on '**Create Project**'.

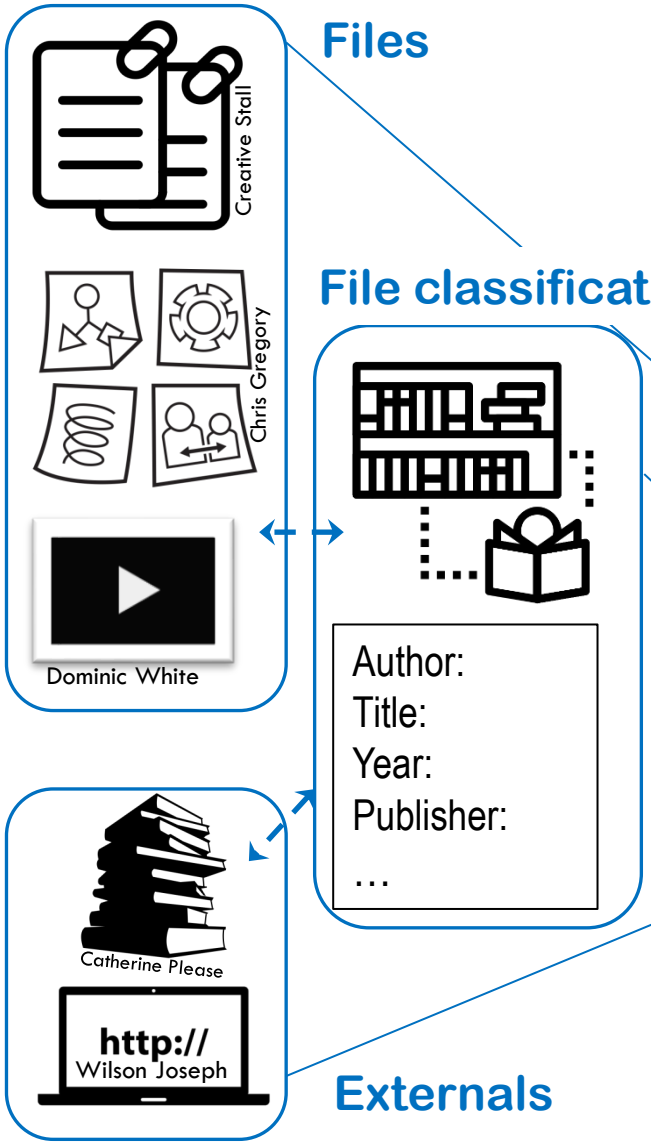
Task 2: Review the NVivo Workspace

i. Locate the Navigation view sidebar section.
ii. Click on different sections.
iii. Review the changes in the list view of the workspace.

KEY ELEMENTS: DATA

Folders

Noun project: Carla Dias



'Data' is where many of the materials connected to your NVivo project will be stored. In **Data** you can store data in three types of folders: Files, File Classifications, and Externals.

TODAY

1. Files: data you import or create in NVivo (eg. PDFs, transcripts, audio).
2. File Classifications: 'labels' with descriptive information assigned to Files (e.g. bibliographic information)
3. Externals: links to data you can't import in NVivo (eg. Websites, books).

EXERCISE 2: Import Files - Word Documents

Task 1: Import Interviews

i. Create a new folder in **Files**, name it **Interviews**.

ii. Click on the **Import** tab > click **Files** > Locate the 9 files (in 'Interviews' > 'Participant files').

iii. Leave the box that says 'Create a case for each imported file' unchecked for now. We will create the Cases later.

iv. Click '**Import**'.

Check out your Workbook for instructions on importing other types of files ☺

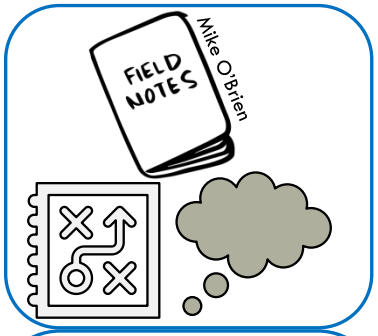
KEY ELEMENTS: NOTES

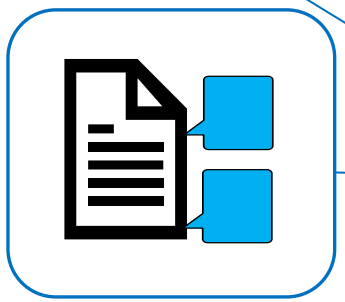
'Notes' is where you can store ideas you might have about your project, or things you might normally scribble in your fieldnotes. In **Notes** you can store data in four types of folders: Memos, Framework Matrices, Annotations and See Also Links.

TODAY

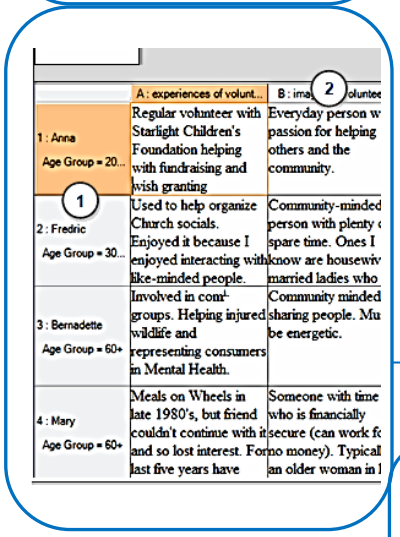
1. Memos: notes and reflections about your project.
2. Annotations: notes about a specific section of a project item, phrase or marking content for follow-up.
3. Framework Matrices: tables for summarizing data about ① cases and ② themes. Beware the word limit…
4. See Also Links: marking if a project item or section of text might be related to another

Memos

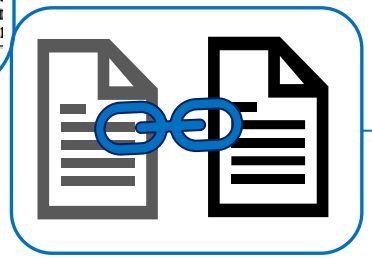




Framework matrices



	A : experiences of volunt...	B : ima… volunte
1 : Anna Age Group = 20...	Regular volunteer with Starlight Children's Foundation helping with fundraising and wish granting	Everyday person w passion for helping others and the community.
2 : Fredric Age Group = 30...	Used to help organize Church socials. Enjoyed it because I enjoyed interacting with like-minded people.	Community-minded person with plenty spare time. Ones I know are housewiv married ladies who
3 : Bernadette Age Group = 60+	Involved in com- groups. Helping injured wildlife and representing consumers in Mental Health.	Community minded sharing people. Mu be energetic.
4 : Mary Age Group = 60+	Meals on Wheels in late 1980's, but friend couldn't continue with it and so lost interest. For last five years have	Someone with time who is financially secure (can work f no money). Typical an older woman in



EXERCISE 3: Create a Record of Work (a Memo)

- Memos can be created for any purpose: what you observe during fieldwork, impressions you are left with after an interview, content of your coding protocol, strategies for analysis, etc.

Create Memos

i. In **Notes**, highlight the **Memos** folder > right click in list view > select New Memo > name new memo: NVivo course

ii. Create a memo listing the things you have learned thus far.

iii. Create another memo listing your remaining questions.

! Mac users: In **Detail View**, select the content you want to annotate. In the context menu, select **New Annotation** (or keyboard shortcut Shift+⌘+A).

EXERCISE 4: Creating an Annotation

- Annotations are useful for sections of text that you are not sure what to do with yet, but you want to make a note or comment about. Be aware that annotations are not 'searchable', whereas memos are.

Highlight some text that you're not sure how to code yet, right-click, and select **New Annotation**. Write some text to reflect ideas you might have for a future code you might create later. (**Annotations** are equivalent to Comments in Word or PDF documents)

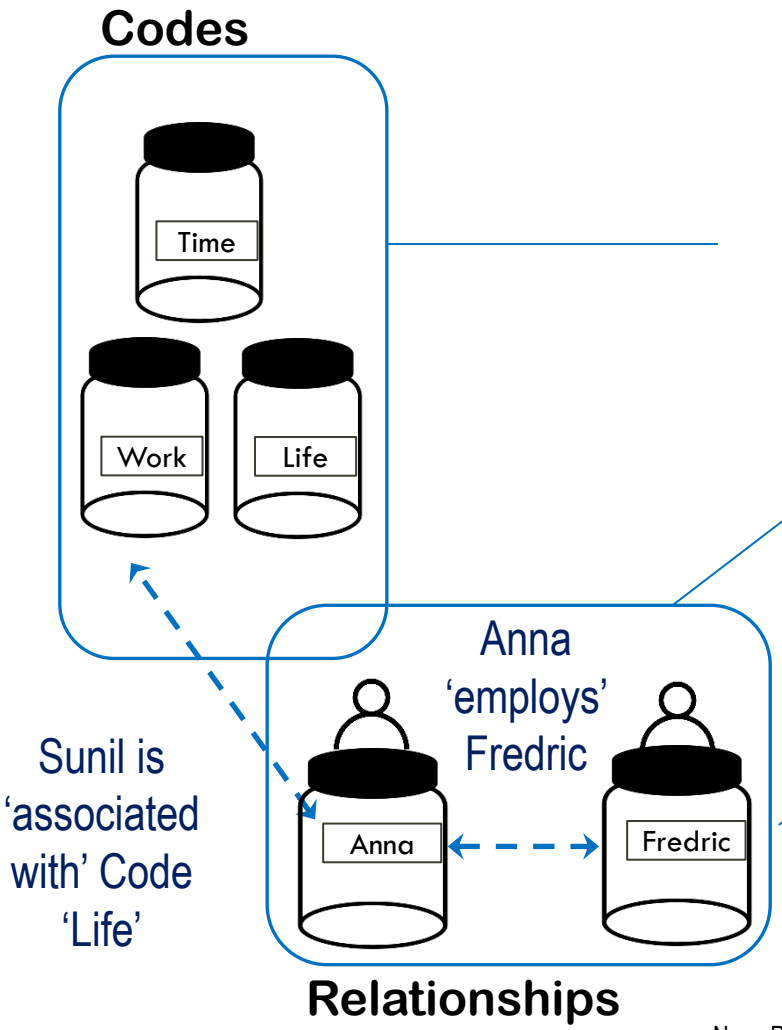
WHAT DATA DO YOU THINK YOU CAN PUT INTO NVIVO?

DATA SOURCES

Check out your Workbook for more details on NVivo's functionality ☺

Break time...

KEY ELEMENTS: CODES



Codes: 'containers' in which wholes or parts of sources are kept for analysis.

TODAY

1. Codes: identified patterns & themes (according to data, lit. review)
2. Relationships: a type of code that defines the connection between two project items
3. Relationship types: Different kinds of connection available between project items

TYPES OF CODING

Coding: the analytical process through which data is fractured, conceptualized, and integrated to form theory. (Strauss & Corbin)

- Deductive Coding
  - Codes used by other researches
  - Codes developed from literature review/extant theories
- Inductive Coding
  - Codes developed from raw data
- Hybrid Approach
  - Deductive & inductive coding

Characteristics of a good code: label; definition; descriptive (how/when occurs & any qualifications/exclusions)

CODES & CODING IN NVIVO

- **Codes** are used to identify a theme, a person, a place, a case, etc.
- Codes can be organized into **hierarchies** from a general topic (**parent code**) to specific topics (**child codes**).
- Approaches:
  1. **Manual coding**: codes are created based on selected content in the data.
  2. **Auto-Coding** questions: a code is created for each question and contains all the answers. (Ideal when working with structured data.)
  3. **Running text queries:** a code is created based on the results of text searches that retrieve the occurrences of a word in the data. (Ideal when the literature review is used to generate codes.)

CODING TEXT

- Coding at new codes

  Select the text > **Home** or **Document** tabs > **code selection at new code**

- Coding “in vivo”

  Select the text > **Home** or **Document** tabs > **Code In Vivo**

- Uncoding

  Select the text > **Home** or **Document** tabs > **Uncode** selection

! Mac users: Select your text in Detail view, go to the **Home tab**, in the **Code menu,** in **Code Selection**, click '**To New Code**', or right-click [Ctrl+click] to see your options.

EXERCISE 5a: Manual coding: basic, 'in vivo' & recent

Exploring what you've imported

i. Go into one of your **Interview Files** – e.g. **Anna**. Have a look at the interview. What structural features do you notice about that File – how are the questions and responses arranged and formatted?

ii. What kinds of Codes can you create by inductively coding your Interview File? Highlight the text you want to code, right-click and select **Code Selection.** Under **Create New,** select **Top-level Code.** Type a name for that code that reflects what you have highlighted. Click on **OK**. Open the Code you've just created and explore its content.

iii. Using the right-click method, code something '**In Vivo**' or using '**Code to recent codes**'.

EXERCISE 5b: Manual Coding – dragging & dropping

Create Thematic Codes

i. Create a folder in the **Codes** area called **Theme**.

ii. Go to your '**Interviews**' folder and open the Interview with **Grace.**

iii. Read the first passage of **Grace**. She's talking about 'doing family activities'. Create a code about the notion of **Family activities**.

iv. Select, **drag & drop** Grace's answer to the code **Family activities**.

v. Review **Mary**'s answers and code at the same code. (highlight, drag & drop).

vi. Create another code called, **'Elderly home'** and code some text.

! Mac users: Open a file in Detail View. In the **View** menu, select '**Coding Stripes**'.

EXERCISE 6: Visual Markers of Coding

Task 1: Visualize Codes Using Coding Stripes

i. Open any Interview file > go to the ribbon > in the **Document** tab > click on the icon **Coding Stripes** > select **Recently Coded**.

ii. Coloured stripes appear on the right side of the **Detail View**.

Task 2: Visualize Codes Using Highlight

i. **Document** tab > **Highlight** > Select the Codes you would like to visualize.

! **Mac users**: Auto-coding of Word files is **not** available on NVivo for Mac, but you can auto-code Excel files. Search '**Autocode datasets**' in the **Help** menu.

Demo: Auto-Coding – Question codes

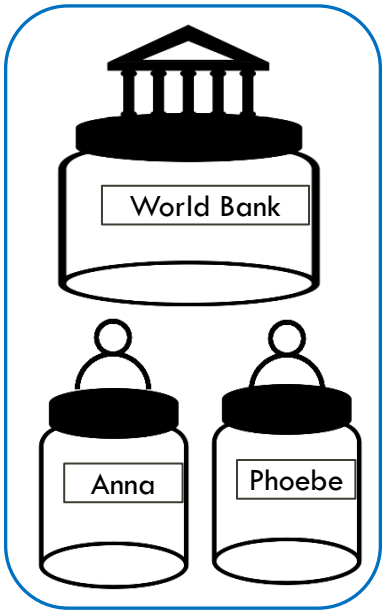
i. Create a folder called **Questions** in the **Codes** section.

ii. Go to **Files** > click on the **Interviews** folder > select the 9 interviews > right click > click on **Auto Code**.

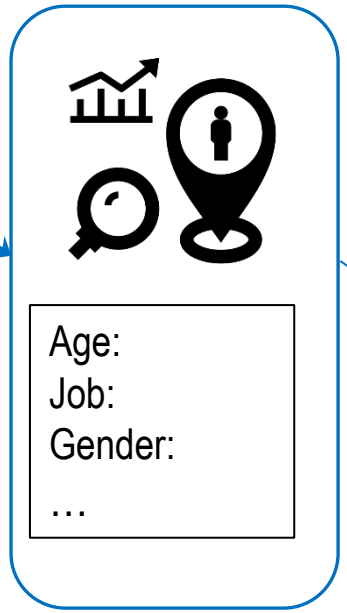
iii. In the Auto Code Wizard – Select '**Code by paragraph styles**'. **Step 1**: Select **Heading 1** and **Heading 2**, then the '**>>**' button > **Next** > **Step 2:** at the option **Under**, change to **Existing folder** > at the option **Name**, select **Questions** folder > OK > **Finish**.

iv. Review codes in the **Questions** folder.

KEY ELEMENTS: CASES



Cases



Case classifications

'Cases' is where the units of analysis and their 'labels' connected to your NVivo project will be stored. In Cases you can store data in two types of folders: Cases, and Case Classifications.

TODAY

1. Cases: units of analysis from the data (respondent, institution, country) that can be 'coded' to project items.
2. Case Classifications: 'labels' with descriptive information assigned to demographic, institutional, or geographical data about cases.

Noun Project | Jars Alex Auda Samora; Person – Stefan Parnarov; Institution – Phil Buchanan; Demographics Nithinan Tatah

! Mac users: Create cases from interviews by going to List View, select all your interview files > on the **Home** tab, click '**Organise**' > '**Create as Cases**'. Then in the 'Classification' menu, in List view, select your cases and choose a Classification. Search '[Set up cases from interviews]' in the [Help] menu.

Demo: Auto-Coding - Cases

i. We are now going to create a case for each interview participant. Return to **Files** > click on the **Interviews** folder > select the 9 interviews > right click > click on **Auto Code** again.

ii. In the Auto Code Wizard – Select '**Code by speaker name**'.

iii. Enter all the **speaker names** – use the **'Preview'** menu to help you – make sure the spellings are correct. [The names you will input are: Anna, Ben, Bernadette, Fredric, Grace, Ken, Mary, Nick, Phoebe, Sunil]

iv. Click **Next** when you're done.

v. Next to '**Create new classification**', type '**Respondents**'. Click **Finish**.

vi. You'll see that a Case has been created for each interview respondent.

CLASSIFICATIONS

- **Classifications** are **descriptive** information you assign to **sources** or **codes**.
- This information can be used to **classify** your sources or codes by groups which are called **Sets**.
- **File classifications** are used to store bibliographic information about your data.
- **Case classifications** are used to store demographic, institutional, or geographical data about case codes.
- Your Classification data can be imported from Excel or txt.
- If you work with a small number of cases and with few attributes, you may want to create a **case classification** directly in NVivo.

! Mac users: Use the '.csv' file to Import your Case Classification sheet, not the '.xlsx' file.

Demo: Case Classifications

Task 1: Import Case Classification from Excel

i. Go to the **Case Classifications** folder > right click in List View > click Import Case Classification Sheet.

ii. In the **Wizard step 1** > locate the **Case Classification Sheet** file in the Volunteering Data on your computer

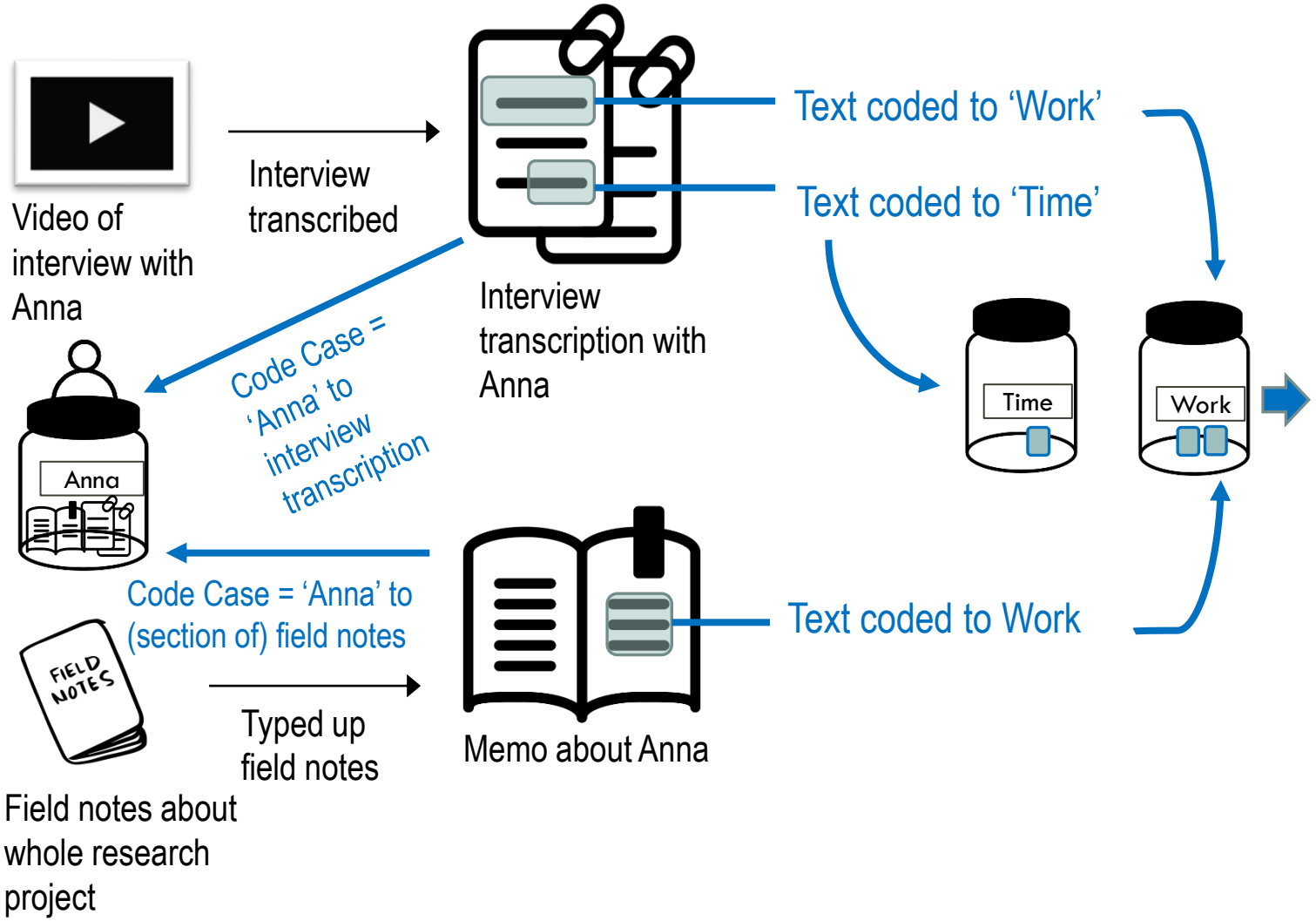
iii. In Step 3, click the option **As names**. In the **Select location** window > highlight the folder **Cases** > **OK** > **Next** > **Finish**.

Task 2: Check that your Cases are classified as 'Respondents'

i. Go to **Cases** > select all cases > right click > go down to **Classification**, is '**Respondents**' selected?

An example scenario to recap everything you've just done…

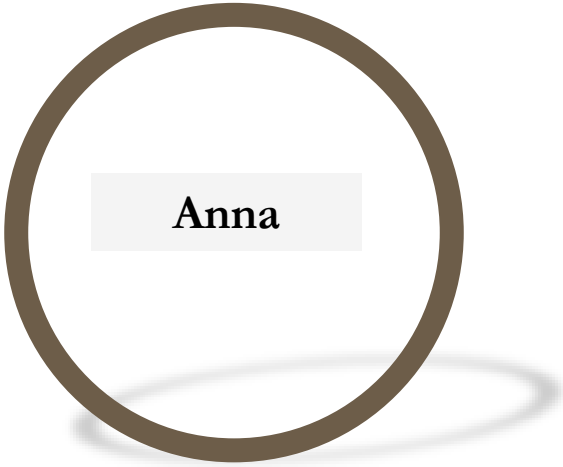
NVivo: What can I learn about Anna?

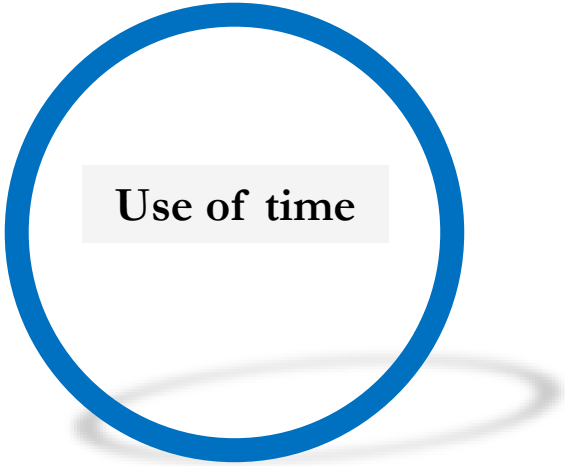


- All data referenced to Case = Anna
- All data coded at Codes 'Work' and 'Time'
- Connection between Codes 'Work' and 'Time' via Anna

HOW CAN YOU EXPLORE YOUR DATA AFTER CODING AT CODES?

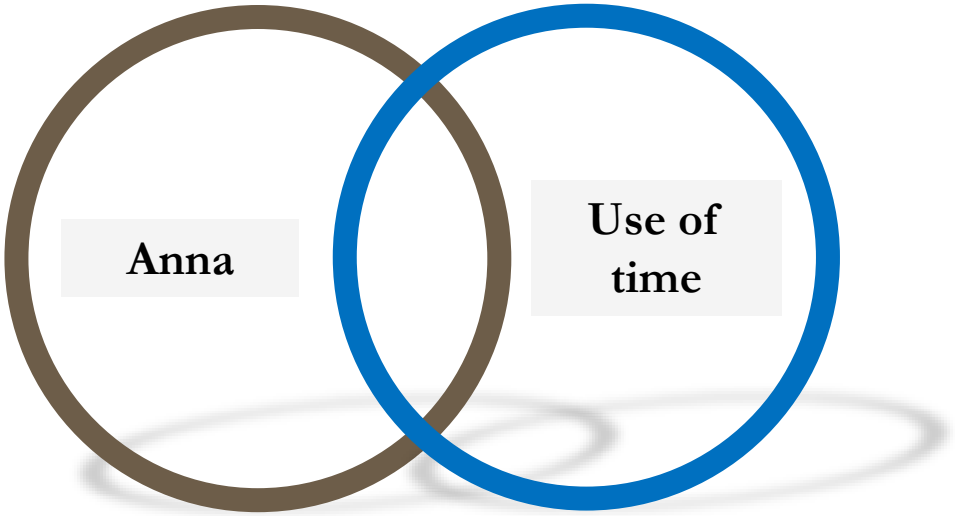
You may retrieve all the data relating to a specific person or a certain topic in your study.





HOW CAN YOU EXPLORE YOUR DATA AFTER CODING AT CODES?

Using more advanced functionality You may search for content by one informant on a particular issue.



This is called a ‘coding query’ and there's a step-by-step video here: https://www.youtube.com/watch?v=Gh2orDf1O9A

RUNNING QUERIES

- Word frequency queries identify the most frequently occurring words (or sets of similar words around a concept).
- Text search queries identify all references to a word or phrase, also looking for similar words (useful for quick coding).
- Coding queries look for content coded at selected codes, a combination of codes, or a combination of codes and attributes.
- Compound queries combine text search and coding queries, text searches where one term precedes the other or two coding queries when content coded at one code is near content coded at another.

EXERCISE 7: Word Frequency Searches

i. In the **Explore** tab > **Word Frequency** > Set parameters > **Run Query**.

ii. Examine the Word Cloud, Tree Map, and Cluster Analysis on the right-hand side of your screen.

iii. Re-try your search but eliminate shorter words or move the **Finding Matches** bar from **Exact** to **Similar**.

Check out your Workbook for more details on NVivo's functionality ☺

EXERCISE 8: Text Searches

i. In the **Explore** tab > **Text search** > Insert: volunteer > **Run Query**.

ii. Review results in Detail View; Word Tree Tab

iii. Try the same word with an asterisk at the end: volunteer* and see the difference in results

iv. Try using the Special instructions button on the right to narrow your search:
   - Asterisk (*) as a substitute for zero or more characters.
   - Question mark (?) as a substitute for a single character.
   - Use “” marks for phrases
   - You can use Boolean operators AND, OR, NOT or + (required)
   - Fuzz search: ‘color~’ will find ‘colors’ or ‘colour’
   - Specify proximity: “happy busy” ~102

Check out your Workbook for more details on NVivo’s functionality ☺

! Mac users: On the **Share** tab, in the **Export** menu, select '**Export Codebook**'. (Optional: Select which code folders you want to see.) Click '**Select**', make any necessary changes (e.g. the format of the codebook), then click '**OK**'.

EXERCISE 9: Creating a Codebook

i. Under the **Share** tab > **New Formatted Report** (via the Wizard).

ii. Select the option **From a view: Code.**

iii. Expand the submenu under **Code**.

iv. Choose **Name** and **Description** fields and move to right column.

v. Continue clicking **Next**.

vi. Name your report **Volunteering Codebook.**

vii. **Finish**.

! All users: Don't worry if your query doesn't show any results – it could be that your case classification import hasn't worked. You can practise more in NVivo sample projects provided by QSR International: search for 'sample projects' in NVivo Help online (or click here for Windows and Mac)

Demo: Matrix Query

The Matrix Query looks for content coded a pair of items and displays the results in a table.

Run a Matrix Query

i. Go to **Explore** > **Matrix Coding Query**.

ii. In the **Matrix Criteria** section > in **Rows** > click on the  > click **Select Items**.

iii. In the **Select Project Items** window > highlight the folder **Case Classification** > click on **+sign** of **Age group** > tick all values from **20-29** to **60+.** (Do not tick Unassigned & Not Applicable.) > **OK**.

! All users: Don't worry if your query doesn't show any results – it could be that your case classification import hasn't worked. You can practise more in NVivo sample projects provided by QSR International: search for 'sample projects' in NVivo Help online (or click here for Windows and Mac)

Demo: Matrix Query (cont'd)

Run a Matrix Query (cont'd)

i. In **Columns** > click on the  > click **Select Items**.

ii. In the **Select Project Items** window > click on **Codes** on the left.

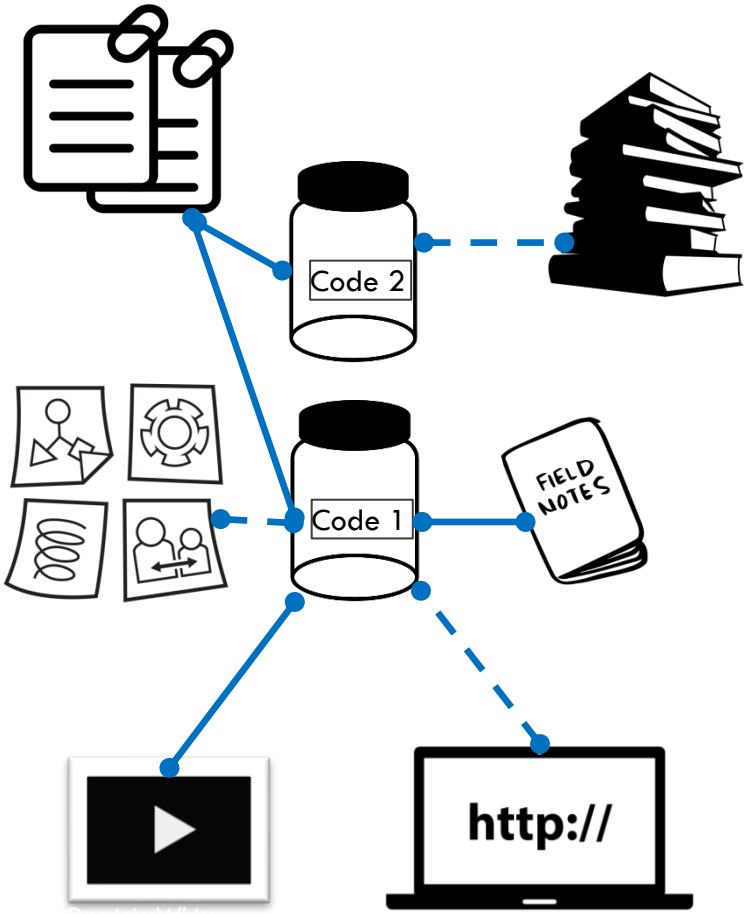
iii. On the right, **tick all codes** > **OK**.

iv. Click **Run**.

By default, the **matrix** displays the **number of coded references** for **each pair of items**.

Check out your Workbook for more details on NVivo's functionality ☺

THINKING AHEAD



NVivo can help you to:

⇨ Manage your data & literature (to keep track of and store)

⇨ Manage your ideas and keep a journal of the research process

⇨ Ask interesting questions of your data

⇨ Visualise your data, concepts, relationships

⇨ Report from the data

Adapted from Bazeley and Jackson (2013: 3)

Learning objectives - Today you found out how to:

- Navigate your way round NVivo
- Import text data into NVivo
- Code text data
- Make notes about your data
- Retrieve coded data using ‘queries’
- Float or stay above water…

WHAT NEXT?

Here are some other places **on YouTube** where you can go to find out more about NVivo, and the different functionalities. [The videos feature NVivo v12 but the principles are the same.] There are many introductory mini-lectures on key features of NVivo (qualitative data management software) – QSR International:

*Please note: these URLs are **case-sensitive***

- Analysis with NVivo 12 for Windows: https://bit.ly/3fBnWq7
- Coding with NVivo 12 for Windows: https://bit.ly/3tZN5jC
- Importing data with NVivo 12 for Windows: https://bit.ly/3u6rUfC
- Tutorials for NVivo 12 for Mac:
- https://bit.ly/33Z6oPl

Click here to check out extra resources in the Workbook ☺

*Please note: these URLs are **case-sensitive***

- QSR international have regular webinars and tutorials online: https://bit.ly/3fy7JCi
- University of Hull have developed online tutorials: https://bit.ly/3f4ZzCj
- QSR international have step-by-step instructions for NVivo's full functionality here (NVivo 1 for Windows Help System): https://bit.ly/3nxBnMU
- Download NVivo sample projects provided by QSR – search for 'sample projects' in NVivo Help online (or click here for Windows and Mac)

If you know of any other helpful resources, please let us know

Click here to check out extra resources in the Workbook ☺

Thank you!

All the best with your research and adventures with NVivo ☺

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