

Up and Running in your project:

a post-workshop handbook for NVivo 7.

by Lyn Richards

This Handbook is prepared for researchers using QSR NVivo 7. It is designed to take researchers beyond a first introductory meeting with the software, with project-specific advice, using the ten NVivo 7 tutorials freely available on the resource pages at <http://www.sagepub.co.uk/richards/> that accompany my recent methods text, *Handling Qualitative Data*, (Sage, London, 2005). Those tutorials are regularly updated as the software changes. You are welcome to copy this Handbook to others using the software so long as it is copied in its entirety and with acknowledgement.



[Use this page for notes]

Using this handbook

Learning software is one thing, using it is another. This handbook is for those who have had an introduction to NVivo 7, and now want to use it. You've met the software: now to have the software working for *you*, in *your project*.

Once you have met software, it can be unnecessary and confusing to keep going over instructions for tasks already done in a workshop, but which your project won't need. This handbook helps you decide which tasks you need to do, and frame how to do them.

The pages take you through ten steps to getting up and running in your own project. For each step, the advice takes you through the answers to four questions:

- What to ask about your project?
- What needs to be done now?
- What are the relevant NVivo tools?
- How to do it?

It's important to ask the questions in that order, to ensure that what you do is directed by your method, not by the software. Like any sophisticated software, NVivo 7 will do far more than you, in this or any future project, will ever want to do. If you try to do everything it supports, and invent a reason for doing it in your project, the task will become impossible and (much worse!) the project will lose its purpose.

Importantly, there will also be some processes for which NVivo doesn't offer a tool – like *thinking*. Don't assume that if something can't be done in NVivo it shouldn't be done.

At each step, there are directions to three sources of assistance in the software.

- For each, there is a detailed do-it-yourself tutorial at <http://www.sagepub.co.uk/richards/>. These tutorials are freely available online or if you prefer you can print them from the .pdf file available from www.lynrichards.org.
- For each NVivo 7 task, there is online **Help**. This is available whenever you have NVivo 7 open.
- If you need methods advice, you can go, for each of the tutorials, to the matching chapter in my text, *Handling Qualitative Data*, (Sage, London, 2005). There you'll find discussion of the goals and processes of handling data and the uses and challenges of software tools.

My goal for this handbook is to help you move the focus from learning software to using it, for what *you* need to do, for *your* research purposes. I hope it helps.

Lyn Richards

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Starting

When to start?

Now! You've tried the software, seen it working, learned many techniques. This is not a time to relax: the sooner you start in your own project, the better.

Of course, you won't be able to repeat everything you did in the workshop (but you don't need to). With this experience fresh, you'll remember and easily replay basic steps, recognize when the outcome looks right, and assess with increasing confidence when the project is in need of housework or a process is taking too many steps. If you wait to get up and running in your project, this familiarity will be lost.

Once your own data records are in your NVivo project, and you are asking questions that really matter to you, these tools will be much more easily learned. Like any sophisticated toolkit, NVivo is best learned by using it for real purposes.

How to start? A post-workshop review

There are many tools for researchers in NVivo 7, and nobody learns them all in one event. In group teaching, people learn at different paces. A useful move is to review quietly what you did in the workshop. Using the workshop outline you were given, and notes you took during the teaching, retrace each of the processes shown during your course. Check that for each topic covered, you are clear about the project items it involved, and how you created and managed them.

Starting in qualitative research

It's increasingly common for researchers to learn qualitative software without first learning about qualitative methods. To do so is not wrong or immoral, but it does add massive challenges as they start to use the software tools. Like any powerful tool, (think of the chainsaw) NVivo can be easily used to make dramatic and unintended changes. If the operator is unsure why this matters, serious damage can result.

More importantly, like any tool, its power is wasted if the user cannot understand the purposes to which it can be put. The most common result of researchers learning software without method is that they do very little with the software, reaching only for the most obvious processes, like coding, and continuing in them ritualistically. You can code for ever in NVivo and the software won't stop you. You have to know the purpose of coding, in your project, to design your codes and coding to that purpose.

Starting a qualitative project can be daunting, even if you are not also starting with a software package. If you have no training in qualitative research, but confront the need to make sense of your data, please start there. Why are you doing this project, and what outcome are you seeking?

Read! My text, *Handling Qualitative Data*, is designed for researchers who meet data before methods. If you need advice about the different methods, and the different ways they bring question, data and analysis, try the companion text I wrote with Janice Morse, *Readme First for a user's guide to qualitative methods*, (Sage, 2001, 2nd edition forthcoming). Both texts have extensive further reading lists. Note, in *Readme First* there's a special section of advice for those who can't get started!

Starting in the software

If you were introduced to NVivo 7 in a class situation where software was provided, or are using the free trial software, **do not commence your project** without ensuring you can get a full license. The trial software lasts only 30 days and can't be reloaded on the same machine. When it expires, your project will not be damaged, but it will not be possible to open it until a legitimate license is obtained.

Now to start. Don't assume you can't do it, or that you can't do it by yourself. Set out to do it, using the advice that follows, before you seek other help. Most of these steps are very simple, and the challenge is not in using the software but in using it well for your research.

Later, should you find you need more direct help, it is available. Always look for help close to you. You may need direct help from someone who can show you what you're doing wrong (or reassure you you're doing it right) or from someone able to advise on research design and strategies in the software. There are several sources of such assistance:

- Try your colleagues. If others are using NVivo, organize an informal user group to discuss and demonstrate techniques
- Check the QSR website, where you can find contact details for trainers near you, many of whom will assist either in person or by email www.qsrinternational.com.

Taking the steps

Qualitative research notoriously lacks a clear and fixed order of research processes. So of course does the use of qualitative software. In your project, it's likely to make sense to do things in a different order from the order in this handbook.

Please don't assume that there is any superior method in the order I have set for these ten steps. They are designed to fit with the ten step by step tutorials freely available on the website, and those are designed in turn to fit with the 10 chapters in *Handling Qualitative Data*. They are just the most usual order for researchers approaching a project in NVivo, and the one that best protects them against discovering too late that they could have saved work by taking an earlier step.

For example, you may be starting with no data, in a preparatory stage where creating nodes first is very useful. That's not at all uncommon, particularly in methods where a framework or theory precedes the research. So start with Step 6. But do check the ways in which nodes can be automatically created for you when documents are later imported, (Step 5) so long as you format them with headings (Step 1).

So if it makes sense in your project to do things in a different order, take time first to read through this little handbook and check that you know what other steps are to be done and how they can help your work.

Step 1: Start your project

To work in NVivo 7, you create a project that will hold all the necessary items (data sources, ideas at nodes, information at attributes etc.) as shown in the Navigation Window. So you need at least one NVivo project, and its items will be arranged in the folders provided.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click **Tutorial 1 Setting Up Your Project**

What to ask about your project?

Two questions arise before you create your project in NVivo:

1. What other structure should your project have?

- Think about access. If you are a sole researcher working on your own computer, the simple process of setting up a project will work for you. But if you are working in a team, and they will all access this project, you may wish to identify them, and perhaps set different access for members.

Go to Help and the topic on **Setting Project Properties**.

- Think about your research design, and ways to implement it clearly in your project by using folders. For example, it may require very different sources of data. Setting up folders for different purposes will help you manage the data.

2. Can your research be contained in one project?

- Think about the research sites or stages in your design. Any NVivo project can be used only by one person at a time. In a multi-site or team research project, it may be simplest to set up a project for each researcher. At any stage, they can be combined, either temporarily, to compare them, or permanently, to combine them. In NVivo 7, one project can be imported into another.

Go to Help and the topic on **Importing Projects**.



If your design requires multiple projects, to be merged later by importing, you can save time and ensure consistency by creating one basic project first, agreeing on its basic structure and then importing just the “structure” of that project – its nodes and attributes – into new projects for each of the other team members.

What needs to be done now?

1. Check you have a continuing license for NVivo 7.
2. Create a first project! If you want different access for team members, set its properties appropriately. Properties can be changed later. Other projects can be created later.
3. Get into your empty project, and **take charge**. Get comfortable with the navigation process and customize appearance.
4. Learn how to **save** your precious work – before you put in data! – and how to ensure it's safe.

The NVivo tools

You need to be comfortable with what a project is, and the items that make it up.

It's good to be aware of how the NVivo 7 application and your project can be customized using Options available on the Tools menu. Special tools are in the Properties of the project

Doing it.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 1 and in your own project, follow the steps for

1. Meeting the software – if you need to familiarize yourself with the software again;
2. Setting up your own project and getting familiar with it.
3. Learning to use Help and use it regularly
4. Saving, closing and backing up the project.

Tutorial 1 covers using the interactive Getting Started movies, then setting up your own **project**, using the online **Help** for getting familiar with the software and finding how to do particular tasks, and ensuring you can **save**, close and open a project.

For advice on the early processes of a project, logging the plans and the journey, entering the field, declaring the assumptions you bring with you, and learning the software tools you will use on the way, go to Chapter 1 of *Handling Qualitative Data*.

For assistance with the basic software processes, use the online **Help**. A section of Tutorial 1 introduces it.



Throughout this Handbook, you are pointed to the topics in both areas of the Online Help. Beginning users often don't find them, and seek assistance to do processes for which there are careful step by step instructions in the NVivo Help. From the start, get in the habit of summoning Help whenever you're unsure what option to choose or which function to use. And get in the habit of going to the second section of Help, on Working with Your Data, whenever you're unsure why you would be doing this.

Step 2: Getting your data ‘in’

Most researchers start a project with records of “real” data (interviews, field notes etc.). That’s almost always not the best way to start, since you’ve done a lot of work before those first records are made, and that work may be wasted if it is not available for analysis in your NVivo project.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click **Tutorial 2 Creating and Importing Sources**

What to ask about your project?

The questions now are:

1. For your project, what will be the data records? What’s data and what’s not?
2. Where and when can you start with data? (What will be your first data sources?)
3. How varied will your data be, and what sorts of data will you want to distinguish? Think variety of data sources.
4. How structured or free-form are these records going to be and how will you handle their management?

What needs to be done now?

1. Consider the **variety** of data sources for this project. Most qualitative projects have varied data, and if they don’t, they could be improved by variety. Don’t ignore sources that sound unimpressive. In qualitative research, your first understanding of a problem or impressions of the field are data, memos are data, your literature review is data, your research design or grant proposal are data, as is your desperate letter to your supervisor about what’s going wrong!
 - A good start is to make a Sources table with the first column listing sources you already have or intend to make. In the next column, note how it will be added to your project: (Imported? Created in NVivo as a document? Or represented by an External linked to outside data?)
2. Think **content** – how to ensure that the data in the project are as rich as possible.
 - In your Sources table, add a third column, with notes for data preparation. You may wish to add further columns for the following points.
3. Think **context**: what sorts of questions are you going to want to ask of your data sources? Are they comparative questions? Are they questions about context?
 - Ensure you are storing the relevant information about a record, in its name and description, and not losing detail you’ll need later.
4. Think **formatting**: is there is a consistent structure in any of these records, (e.g. questions always asked in an interview, or speakers contributing in a focus group)? If so, you may be able to gather the relevant data (all the answers to a question, or everything this person said) by autocoding.

The NVivo tools

You are working in the **Sources** area of your NVivo project, but there are a lot of aspects of Sources to understand. You need to be comfortable with:

- The difference between typing up a document in Word for later **import** to your project, and **typing it in NVivo** – where you can edit and annotate, code and write memos as you type.
- What **content** can be imported in a Word document, or edited in an NVivo document. Don't strip your data of richness because someone advises you that qualitative software requires limited text! Images, tables and hyperlinks can go into your sources either in Word or in NVivo.
- How to use source **properties**, particularly name and description
- **Autocoding** and how it works. To read about autocoding and how to format for it, go to **Help**, and **Coding>Auto Code by Heading Level**.



Format for autocoding if you can – if appropriate, it saves a lot of time. You don't have to use it if it later proves inappropriate, or you can use it as a crude first coding that is later improved. But if you don't format for it *now* you can't do it later.

Doing it.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 2 and in your own project, follow the steps for:

1. Making sources by importing documents from Word or other software. Note:
 - **If your documents each represent one case** you can automatically created cases for them on import. If you wish to do this, go on to Step 3 before you import a lot of documents. You can always make cases for them after import – it's just slightly quicker to do it on import.
 - **If you plan to use autocoding**, please read also the last section of Tutorial 5. You need to be clear how to place headers that will name the nodes and identify the segment to be coded. (This is one of those tasks that has to be done just right, since the process you're using is a mechanical one.)
2. Creating and editing a document in NVivo's **editor**
 - Try writing up a project log document or observation notes in NVivo, and note how you can code, link and edit as you go.
3. Creating and using **Externals** for data that can't be imported.
 - Create Externals for any non-text data, for books or for websites.

Tutorial 2 covers the immediate requirements for adding sources to your project.

For advice on making data and making the sorts of records that will help you when you want to justify your analysis, go to Chapter 2 of *Handling Qualitative Data*.

On the software processes, go to the two areas of the online **Help (Using the Software and Working with Your Data) on **Sources** and **Gathering Your Sources**.**

Step 3: Your cases, their attributes and sets

So far, the data for your project is shapeless, imported or created in individual sources. The next step is to think about useful shapes for your purpose.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click Tutorial 3 Managing data: Cases, Attributes and Sets

What to ask about your project?

1. In any study, your research design will give you the answer to: **what is a case?** The case is the object of your focus. You'll need to gather together all material about each case.
 - Your study may have more than one type of case: for example in a study of educational practices you may sometimes want to focus on and compare teachers, sometimes schools. NVivo allows you to make “trees” of cases.
2. **What do you know about your cases?** Qualitative research is usually about cases – and draws on what's known about those cases. Most researchers wish to store *information about* people, sites, events, and other phenomena, to inform the questions they ask about their qualitative data.
3. **What other ways would you like to gather data together?** Cases are just one way, and you will need others. What sorts of comparisons will you want to do? What parts of the data will you want to focus on?

What needs to be done now?

1. Decide **what is a case for your study**. Two questions are relevant.
 - Firstly, *what are you asking about?* It may be people, businesses, schools, - what cases do you want to gather material about?
 - Secondly, *what do you want to store information about?* It may be demographics of interviewees, business profile data, school characteristics.
2. Decide **what information you will have** about the attributes of cases in your study, and importantly, *how much of that information will be needed* for your qualitative analysis.
 - NVivo will accept far more attributes, and far more values for an attribute, than you will be able to use. So consider carefully what information will be needed.
3. Decide on **other groupings** of data that would be usefully held in **sets**.
 - You can make and change sets at any time – and should. But early use of sets will get you started strongly.



If you are planning on combining quantitative and qualitative data, find out now how the quantitative program you are using can exchange data with NVivo. Import and export of attributes is usually a significant process in mixed methods research. Design carefully for the “mixing” of data types.

The NVivo tools

Cases are stored at **case nodes**, where you can code all the segments of sources about that case. Then you will always be able to access everything about the case, and ask questions about all the material on a case, even though that material may be in several documents.

- You don't have to decide what case nodes to create at the start of the project. But if you do, NVivo assists with an option to create a new case node for any document you import, and code that document entirely at that case node.

Information about cases is stored as **attributes** and their **values** (such as **gender=female**). Only case nodes can have attributes. **So even when each case in your project is represented by only one source, it should have a case node.**

- Values of attributes can be numbers, strings of characters, Boolean (yes/no) or dates. You can ask about ranges of either numbers or dates.
- If you know what attributes you need, there is advantage in creating them early and consistently storing the information as cases are introduced and coded. They can be changed later.
- You can create attributes and their values and assign them to cases individually, or by importing a **Casebook** from any software that makes tables (statistics package, spreadsheet, word processor etc.).

Sets provide another way of grouping data.

- You can create a set at any time
- When you add sources or nodes to a set, this adds a shortcut. So any source or node can be in many sets. This makes them powerful for sorting data many ways.

Doing it.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 3 and in your own project, follow the steps for

1. Creating case nodes for your cases
2. Creating attributes and assigning values to cases
3. Preparing and importing a casebook
4. Making and using sets

Tutorial 3 covers cases and attributes.

For advice designing the use of attribute data, and on the ways of grouping and focusing on data, go to Chapter 3 of *Handling Qualitative Data*.

For assistance with the basic software processes, use the many topics in the online **Help on Nodes>Cases and Attributes and on **Sets**.**

Step 4: Edit and Link – to store what you see

The earlier steps in this Handbook were for setting up your project, data sources and information. If you've been following the steps in order, this is an exciting first stage when your own project is coming alive. The goal wasn't just getting data into NVivo, but using NVivo to get somewhere else.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click Tutorial 4 Editing and Linking: Up From The Data

What to ask about your project?

1. Does your research design anticipate that the data sources will be unchanged during your project? If not, how can you use editing and annotating to record your growing understanding of them?
2. What are you aiming for and how will you get there? How will you store your own ideas and (changing) interpretations, and the story of your analysis?
 - This may be the most important early decision. You need now an easy and reliable way of keeping and logging the growth of your ideas and insights, about sources, concepts and theories of what's going on in the data.
3. Will the data sources be interconnected? If so, how will you record those connections?
 - Qualitative research projects normally have connected data – that is each data record won't be handled as a unique item. As you see connections, they should be recorded – this is a task that shouldn't be put off, as next time, you might not see the connection!

What needs to be done now?

If you don't have training in qualitative research, this is the stage where you are most at danger of just doing what software will do, rather than making it do what your method requires! Editing, annotating, linking are all ways of drawing the webs of ideas and interpretation from which you'll create your conclusion. So don't rush past this stage.

Here's where you start getting “up” from the data to interpretation. So this is also the stage at which you should start a quiet process of recording your journey, what you saw, where it sent you, why you altered your interpretation, how you became confident you were understanding.

1. Get familiar with the *editor* in NVivo, so you can easily create, alter or annotate a source – including a memo,
2. Design and record the system you are going to use to *log your project* and ensure that ideas don't get wasted.
3. Optionally, try drawing a *first model* of what you are seeing in the field and expect to find in the data. Store it – to meet later.

The NVivo tools

Annotations – familiar and easy to insert in any source (document, external or memo).

Memo Links – links that tie a memo to any source or node. These are optional – don't use them if they don't work for your method. But most researchers are helped by having one place where they keep their thoughts about an interview and its context, or a concept just discovered.



Note that when you make a Linked Memo, it is “owned” by the item you linked it to – so it can't be linked to another item.

See Also Links – the way you link any data content to anything else within your project, so that when you return to this data segment, you are reminded “see also this other item”.

Hyperlinks – in NVivo these behave just like hyperlinks in Word – they're a way of going elsewhere. They can be imported from Word or inserted in an NVivo source and will take you directly to the item linked to.

Models – visual display of your data items and links, or any other items you insert.

Doing it.

For advice on getting “Up” from the data, and storing your interpretations by annotating, editing, writing memos and linking data, go to Chapter 4 of *Handling Qualitative Data*. There's more help in Chapter 7 if you are troubled by the big question above – what are you aiming for? It helps to have an answer to this.

Now, to learn the tools that will make your project start moving.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 4 and in your own project, follow the steps for

1. Using Edit and Undo
2. Annotating and using your annotations
3. Writing and linking memos
4. Using See Also links
5. Making that first model.

Tutorial 4 covers all the different ways of editing, including making memos, and the different sorts of links.

For assistance with the basic software processes, use the online **Help**. There are separate topics on **Annotations**, **Memo Links** and **See Also Links** and **Models**.

Step 5: Start Coding and Use coding

Qualitative coding gathers all the material about a topic or category so you can read, assess and use it. When you code in NVivo, it places pointers to the extracts you select to be coded. So you can do as much coding, at as many categories, as you wish. Coding can be a serious trap if it is not done purposively. If you are not familiar with qualitative coding, first find what role coding should have in your project.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click Tutorial 5 Coding, and Working With Coded Data. For advice on the purposes and dangers of coding, go to Chapter 5 of *Handling Qualitative Data*.

What to ask about your project?

Before you start coding, ask what coding your project needs:

1. Do you *need to code* your data? If so, why? What do you want to achieve by coding?
 - Coding must be purposive, never just a ritual.
2. Do you need to code *all or only some* data? If only some, which?
3. Where will the *categories* for thinking about your research come from?
 - Do you have ideas or theories preceding data collection? If so, should you be coding all the material about those?
 - Do you aim to discover categories from the data? If so, how will you do this?
4. Will you be doing the coding *yourself*, or giving the task to others?
5. Can some of your coding be done *automatically* by NVivo?

What needs to be done now?

1. Clearly establish whether you are planning coding and if so, the purpose of coding in your project – and write about it, in your research design.
2. Make a record (on paper, a white board or in a word processor or NVivo) of any categories you know you will need to code at. Having this record will help later as you assess how your ideas changed.
3. If you are not the only coder, discuss with your colleagues how you will ensure that you communicate on category creation and coding style.
4. If you have some structure to your data that enables autocoding, set in place processes to ensure that documents are consistently formatted (see Tutorial 2).



Start coding as soon as you have data to code. For qualitative work, delaying coding can be seriously problematic. The data records build up, and the task looks more formidable as each is added. Not only is it harder to get started, but your codes don't grow with the data coming in, and the coding can't inform what you do next. When you do start, what should be a very reflective process presents as a bulk job. Coding becomes more like data disposal than data interpretation.

The NVivo tools

Two project items are always involved in coding – the **source** whose content is being coded, and the **node** at which you place a reference to the relevant material.

Nodes can be created in any of four folders, **Free Nodes** (free of organization), **Tree Nodes** (stored in hierarchical catalogs) or **Cases** (see Tutorial 3) or **Relationships** (see next tutorial).

There are many ways to **code** in NVivo 7. In the tutorial you will learn how to code by **drag and drop**, how to use the **coding bar** and how to **autocode** using headers.

If you are working in a team, there are tools for coordinating coding. Nodes and optionally coding can be **imported** from one project into another. Note the advice in Step 1 that if you wish to create two or more projects for your team research you can create a basic node system and import just that structure to a second NVivo project.

Doing it.

Any coding requires several steps. You have to identify the passage to be coded, say where you want to code it, either creating a new node or selecting an existing node, and say Code! This process is one of the most important to qualitative researchers, since it is identifying meaning, storing the categories from which you build your account of the data, and gathering the data to help you refine the category.

Take time to find not only how to do it, but the range of ways you can use and which suit you best. Coding will work well for you only if it is not seen as an onerous chore – it should be like thinking aloud. (“*This* text is about something new, *this* concept...”)



If coding becomes boring or annoying, stop! Do something else, like writing a memo about the document you are reading or the category you just created.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 5 and in your own project, follow the steps for

1. Making a node
2. Coding at an existing node
3. Creating new nodes “up” from the data as you find new categories
4. Viewing your coding in highlighting and stripes
5. Working “in” the node with the coded data
6. Autocoding

Tutorial 5 covers all the ways of coding and using coding in your project.

For advice on the differences between qualitative and quantitative coding, on all the different forms of coding and their uses in qualitative research, and for warnings about the traps of overcoding, go to Chapter 5 of *Handling Qualitative Data*.

For assistance with the basic software processes, go to the two areas of the online **Help (Using the Software and Working with Your Data) on **Coding**.**

Step 6: Make and manage the nodes you need

Nodes are the containers for your ideas and for the coding that gathers data about an idea. So your project's backbone will be its nodes. If a colleague looks at your node system, they should be able to tell what you are studying and asking and finding out.

So you will be greatly helped by managing your nodes, for easy access and viewing. Using a tree-structured catalog will assist, much as the tree-structured library catalog helps you find books, and see the range of topics they cover.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click Tutorial 6 Relationships and Other Nodes: Handling Ideas

What to ask about your project?

In the previous step, you created nodes both in advance of coding and as a result of coding. This is usual – most projects will have some categories when they start, “down” from prior knowledge or theory, and will create many “up” from the data.

Now the question is, can they be brought together? And then, as the categories proliferate, the question will be, can they be organized logically?

What needs to be done now?

It depends on your method. The shape of a useful catalog of your ideas emerges in very different ways from projects using different methods. If you are starting without any idea of prior categories, start at 3. below – and for now, skip 2.

1. From your literature review and project design, sketch the beginning of a *catalog* of the topics you will need to cover in this project. A simple start is to tell a friend about your project and get them to make such a sketch.
2. Do some ordering of prior categories. Step 5 suggested that you make a record (on paper, a white board or in a word processor or NVivo) of any categories you know you need to code at.

Examine that list, shape it into a hierarchical catalog. Do some represent the same *sort of* categories as others? (“Mother”, “teacher” and “policeman” are all *sorts of* people; “altruism”, “travel” and “social contacts” may all be *sorts of* reasons for volunteering.)

3. Now, visit the free nodes you created in Step 5, and see if they are showing that some are “sorts of” a more general category. Don't ever force it! If a free node doesn't logically belong with others in a tree structure, leave it free.
4. And finally, sketch any *relationships* you are expecting to find or locating in the data. (As before, use paper, white board, a word processor or NVivo).

These sketches of catalogs and relationships should start to look like a picture of your growing project. (Remember to keep these early sketches for your log trail.)

The NVivo tools

For creating a working catalog of the categories you have brought in or discovered, the tools are all about moving nodes.

You can **cut, copy, paste, merge** a node and with it any coding you've done at it.

For recording relationships you see in the data, you can create and name **relationship types** and create **relationships** of any type, between nodes or sources.



If you have done a literature review, a good start for a node system is to import the review into NVivo as a document and code it. You will rapidly build up a category for each topic you found in the literature, and you may find that the outline of your review, if it's orderly, indicates a useful cataloguing of those topics.

Doing it.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 6 and in your own project, follow the steps for

1. using relationships
2. reviewing your nodes
3. rearranging nodes into catalogs
4. listing and reporting on your node system.

Tutorial 6 covers making and managing nodes, including relationship nodes.

For advice on handling of ideas in a qualitative project, and specific help for managing tree structured catalogs of ideas, and making them logically useful, go to Chapter 5 of *Handling Qualitative Data*.

For assistance with the basic software processes, go to the two areas of the online **Help (Using the Software and Working with Your Data) on **Nodes**.**

Step 7: Say it in a model

Some qualitative researchers rely significantly on diagrams or models to express and visualize what they are seeing in their data, and the theories they are developing. With software, modeling can do more, since the software can also show you associations that you might not have seen for yourself.

Some researchers don't use a modeling tool. As with all software tools, it is important not to feel you should use it because it's there. But take the time now to assess what may be a very new addition to your methods techniques.

In Step 4, you were introduced briefly to NVivo's modeler. Now to explore it seriously.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click **Tutorial 7 Seeing It In Models**

What to ask about your project?

1. Would you be helped by visual representations of your work?
 - Explore the possible uses of models for your analysis processes
 - Check your process for logging the project: would models assist clarity of record of where you get to at each stage?
2. Are you working in a team, and needing ways to show and compare your work?
 - Try drawing on paper flip charts, during one team session. Now transfer the pictures of the different projects to NVivo models, and discuss how you can use the live-to-data modeling.

What needs to be done now?

Nothing. You can use models at any stage.

But if you expect to use them, learn the basics now so you can use them early, and keep a record of the stages of your project. Assess carefully when you get analytic or presentation advantage from modeling, and concentrate your skills on developing these sorts of models.



Perhaps more than any tool in NVivo, the modeller can become a means of avoiding analysis! If you find you're spending too much time coloring and moving items around, test the power of your model. A very good test is to ask a colleague to read it to you – what is it telling you? Was this something you did not know before, indeed something already recorded in a memo?

The NVivo tools

Models can be created and items added to them at any time. You can place in them

- shapes you can name, color and resize
- project items, including relationships
- connectors between items.

Connectors can show direction or simply association.

You can ask to see a project item's **associated items** and have them brought into the model.

You can save any model as a **static model** – no longer live to the data



Beware of selecting to add associated items if there will be very many of them. This will not assist you to see the pattern clearly. If your model is suddenly overwhelmed by associated items, remember Undo! If you want to add associated items there are two ways of avoiding creating chaos. One is to use the Find tool (next tutorial) to locate the associated items and assess which should be added. The other is to restrict items added to just those already in the model.

Doing it.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 7 and in your own project, follow the steps for

1. Creating and shaping a model
2. Using models, adding associated items and saving the model
3. Changing styles
4. Hiding and showing groups
5. Changing layout
6. Using models to communicate your research.

Tutorial 7 covers the making and using of models.

For advice on modelling in qualitative research, go to Chapter 7 of *Handling Qualitative Data*.

For assistance with the basic software processes, go to the two topics in the online **Help (Using the Software and Working with Your Data) on **Models**.**

Step 8: Ask questions with Find and Query

So far, most of the tasks you've done in NVivo were not unlike tasks we at least attempted without software – storing data records and information, linking and coding them and managing our ideas and drawing diagrams. Software allows you to do much more in each of these areas, but the tasks are recognizably related to earlier methods.

This step is the first where most obviously you are using techniques not possible by manual methods. Software offers entirely new ways of asking questions about your project. Think of these tools as means of access to data from the beginning of a project, and start using them early – they bring you much closer to your data and allow you to search more rigorously and conclude more confidently.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click Tutorial 8 Finding Items and Querying The Data

What to ask about your project?

These tools are for most questions you want to ask about! You will need and use them – they are appropriate for any type of project.

What needs to be done now?

1. Start using **Find** as soon as there are any project items to look for.
 - Be ready to use Find whenever you wonder what's there, or want to check a hunch.
2. Use **Query** for any question about the content of your sources
 - Use Text Search Query from the start of your project, simply to check whether anyone else uses this word, or who mentioned this person. Check out the options – this is a text search rather like web search engines, and it can do subtle searches.
 - Don't relegate Queries to the end of the project, as hypothesis testers, or conclusion justifiers.

The NVivo tools

The **Find** tool is for simple or advanced questions about *your project items*. Use it for locating lost items, asking what you have in your project, checking sample characteristics.

The **Query** tool is for simple or advanced questions about the *content of those items*. You can create and run queries of four sorts: **Text Search**, **Coding Query**, **Compound Query** (combining searches of text and coding) and **Matrix Coding Query** (see next tutorial).

The **Query** tool is different from **Find** in that it offers

1. more subtle ways of asking different questions, in specified data **scopes**;
2. more complex ways of viewing, saving and using results;
3. the ability to save your **Query** in your project.

Both have **Advanced** options, with very subtle ways of asking questions.

Doing it.

Many researchers never explore the power of Find and Query in their software. And those who do may misuse it.

Start early, and develop methods of framing and recording in plain language what you are asking and what you find, so that you can properly assess what was shown.



You can **Add a Query** (in the Queries folder). This saves it, to be revisited, revised and rerun through different data, for example, or a next stage of the project. It also means that at this stage while you're playing, if you get it wrong, you can drop back into it and alter the options to get what you want!

Go to <http://www.sagepub.co.uk/richards/> Tutorial 8. For each of the ways of asking questions, frame a question in your own project, and run the query, assessing what it returned and how successful it was. Follow the steps for:

1. Using Find and Advanced Find
2. Text Search Query and its uses
3. Viewing and saving results and using them to ask more questions
4. Coding Query and Compound Query
5. Scoping a query to just the data you want to ask about
6. Using Query for your project.

Tutorial 8 covers using Find and Query, the difference between them and the processes of specifying searches and using results.

For advice on using software searches in qualitative research, and **warnings about misusing them**, go to Chapter 8 of *Handling Qualitative Data*.

For assistance with the basic software processes, go to the two topics in the online **Help** (Using the Software and Working with Your Data) on **Queries and Results** and **Querying Your Data**.

Step 9: Showing patterns with a matrix

Tables are a very familiar way of showing the relation of one lot of features to another. We use cross-tabulations to show patterns of numbers. And tables of results to show patterns of products or student grades. But qualitative tables are different – you want not just to see how many people talked about this topic, but what they said. Software can do that – and researchers can do a lot more with the data as a result.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click Tutorial 9 Exploring Patterns in Matrices

What to ask about your project?

Think tables. Don't assume that tables are for surveys, rather than qualitative work. Much of your work may be seeking and exploring patterns.

Frame a question for your project that would be well answered in a table.

For example, you may be looking for a pattern of how people's ideas about one issue differ according to their attitude on another, or how the values of an attribute like gender pattern responses to a question.

What needs to be done now?

To use this tool well, you will need to know how it is different from a “flat” matrix that can only show numbers or summaries. (A useful way of showing this is to draw up on paper a table representing some such pattern in your data. Now create the matrix in NVivo, and explore how you can extend the enquiry by reading and working in the data that belong in each cell.

The NVivo tools

Matrix Coding Query creates the table.

You specify what nodes or attribute values make the **columns** and the **rows** and the relation between them that builds the matrix.

As for any query, you can also specify the **scope** of data searched.

For most qualitative research, the critical purpose of building such a table is to return to the data and try to understand and interpret the pattern. For any matrix, you can view all the content that belongs in each cell and work with the data, because the cell is a node.

As with any query, you can specify what you do with the **result**. One option is to save the result as coding so it can be used in another search. And as for any query, you can **add** it to the project so it can be rerun.



It's called a matrix *coding* query because matrices are made of nodes that code data. The items you specify for rows or columns are nodes, and the cells of the table will contain data coded at the combination of those nodes you specify. Think of the cells as the results of a lot of individual coding queries – you just ran a bulk lot of queries and had the results lined up for analysis!

Doing it.

Start this exercise by asking which of the “seeing” processes you are exploring in your project could be assisted by matrix display. Write the question in plain language first.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 9 and in your own project, follow the steps for

1. Making a matrix and specifying its contents
2. Using a matrix
3. Saving and exporting a matrix to other software.

Tutorial 9 covers the making and using of models.

For advice on matrices and how they can be used to seek and show patterns and explore results, go to Chapter 9 of *Handling Qualitative Data*.

For assistance with the basic software processes, go to the online **Help on Queries and Results>Matrix Coding Queries**.

Step 10: Out of NVivo and into reports

The project has begun, and your final report is not on the horizon. But you have completed the first major stage of getting up in NVivo. And from now, you will need to know how to get data “out” of your project for papers and presentations.

For instructions to use NVivo 7 in this step, go to <http://www.sagepub.co.uk/richards/> and click **Tutorial 10 Reporting and Showing Your Project**

What to ask about your project?

Research reports vary from scribbled notes to impressive presentations. At this stage, you are probably making more of the former than the latter. But you will need many different ways of making reports, showing patterns, illustrating conclusions, copying data into word processors or other software for papers or presentation.

What needs to be done now?

It may assist to make a list of the different questions you have about getting data out. Then check the reporting tools to find how to do these tasks. The goal is to ensure that you can at any stage very easily provide the evidence or output required to present your work.

The NVivo tools

Editor tools support the usual copy and paste facility.

List View of any items can be exported or printed

Reports can be made from the Tools menu of any major project part.

Detail View Content and **Models** can be copied and pasted into other software.

Doing it.

Go to <http://www.sagepub.co.uk/richards/> Tutorial 10 and in your own project, follow the steps for

1. listing and reviewing items
2. Printing and reporting your casebook
3. Taking content out of NVivo
4. Making reports
5. Saving and showing models.

Tutorial 10 covers the making and using of reports of different aspects of your project, but not what you might use them for.

For advice on reporting data, and writing qualitative research, and particularly on ways of ensuring that your report is adequate and convincing, go to Chapter 10 of *Handling Qualitative Data*.

For assistance with the basic software processes, go to the two topic in the online **Help** (Using the Software and Working with Your Data) on **Reports**. **Keep using Help from now on, as you progress in your Project.Happy researching!**