

Maximising transparency in a doctoral thesis: The complexities of writing about the use of QSR*NVIVO within a Grounded Theory study

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Abstract: This paper discusses the challenges of how to provide a transparent account of the use of the software programme QSR*NVIVO (QSR 2000) within a Grounded Theory framework (Glaser and Strauss 1967; Strauss and Corbin 1998). Psychology students are increasingly pursuing qualitative research projects such to the extent that the UK Economic and Social Research Council (ESRC) advise that students should have skill in the use of computer assisted qualitative data analysis software (CAQDAS) (Economic and Social Research Council 2001). Unlike quantitative studies, rigid formulae do not exist for writing-up qualitative projects for doctoral theses. Most authors, however, agree that transparency is essential when communicating the findings of qualitative research. Sparkes (2001) recommends that evaluative criteria for qualitative research should be commensurable with the aims, objectives, and epistemological assumptions of the research project. Likewise, the use of CAQDAS should vary according to the research methodology followed, and thus researchers should include a discussion of how CAQDAS was used. This paper describes how the evolving process of coding data, writing memos, categorising, and theorising were integrated into the written thesis. The structure of the written document is described including considerations about restructuring and the difficulties of writing about an iterative process within a linear document.

Keywords: Grounded Theory, CAQDAS, QSR NVIVO, computer, structure, writing, transparency

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In their recently revised guidelines for the training of graduate students, the UK Economic and Social Research Council (ESRC) advised that students should have skill in the use of qualitative data analysis software packages (Economic and Social Research Council 2001). The guidelines are aimed at a number of disciplines, including psychology. There are a range of computer assisted qualitative data analysis packages on the market. This paper, however, focuses specifically on NVIVO.

Qualitative Research Solutions, International (QSR) has developed two product lines for qualitative data analysis. The original programme, NUD*IST, which stands for Non-numerical Unstructured Data, Indexing, Searching, and Theorising, was first created by Professors Lyn and Tom Richards in the early 1980s when the former was looking for more efficient ways to manage her data than the chaotic task of photocopying, cutting, highlighting, and filing interviews and coding by hand. It is also difficult to conduct complex searches of the data without the assistance of a computer. Tom Richards, a computer scientist, created the answer to her problem by creating NUD*IST, a programme that was easy to use, organised data, allowed for links between the data, allowed for detailed memos to be added to the documents or coding, and enabled complex searching of the text and coding. QSR NUD*IST VIVO (NVIVO's less commonly used full name) was first produced in 1999 and was designed to provide the same services as NUD*IST but in a much more refined way. It was named for 'in vivo' coding, that is, naming a category directly from a participant's own words. The programme facilitates naming in this way but does not require it.

With the development of CAQDAS has come debate about the appropriateness of using computers to analyse qualitative data (see for example, Catterall and Maclaran 1997;

Dohan and Sanchez-Jankowski 1998; Evans 2000; Kelle 1995; Kelle and Laurie 1995; Richards 1998; Richards and Richards 1995; Seidel and Kelle 1995; Weitzman 2000).

The key issue being debated is whether CAQDAS changes the way analysis is conducted and to what extent it enhances or detracts from the quality of qualitative research. For these reasons, it is imperative that authors explain their use of CAQDAS and illustrate that it was used appropriately with their chosen methodology.

One critique of CAQDAS is that it has the potential to transform qualitative research into a rigid, automated analysis of text that, in actuality, requires human interpretation (Kelle 1995). This fear has an historical grounding in that the first computer programmes for textual analysis, developed in the 1960s, were designed for quantitative content analysis (Kelle 1995). Some researchers are, indeed, using modern CAQDAS to automatically code text for quick frequency counts (e.g., Woodman and Hardy 2001) and ignoring pertinent interpretations of the rich data (see Richards 1999, for a detailed discussion of data 'richness'). Quantifying data is an appropriate use of the software; however, it becomes problematic when researchers misrepresent their analysis (e.g., claiming qualitative analysis), do not state their epistemological and theoretical assumptions, or cite the particular computer programme in an attempt to validate their findings. The use of CAQDAS in such circumstances can then lead to a negative reputation. Whilst the computer may make it easier to conduct quantitative analysis of qualitative data, it is important to note that this can also be done using manual methods. If misrepresentation occurs, fault must lay with the researcher not CAQDAS. Blaming CAQDAS for the failings of the user is analogous to bringing criminal charges against a household tool used as a murder weapon instead of prosecuting the murderer. The good qualitative

researcher must still interpret, conceptualise, examine relationships, document decisions, and develop theory. The computer can assist in these tasks but by no means does the computer analyse qualitative data. And as Lyn Richards, the co-originator of NVIVO, cogently reminds students, “it doesn’t write the thesis either” (personal communication, 1 February, 2002).

Another concern of CAQDAS critics is that researchers may choose their theoretical perspectives and analysis techniques based on the capabilities of CAQDAS rather than adopting a theoretical perspective appropriate for exploring the research question (Lonkila 1995). Lonkila (1995) argues that programmes such as Atlas/ti or NUD*IST (and now NVIVO) were designed to facilitate Grounded Theory (Glaser and Strauss 1967; Strauss and Corbin 1998) analysis and have the potential to encourage the growth of this methodology at the possible expense of other equally viable options. To a certain extent the programming behind CAQDAS does influence manuscript preparation, coding, retrieval, and the development of analysis (e.g., cyclical versus linear and static versus dynamic) (Richards 1999). In NVIVO there are many options for document preparation (plain text, some rich text, rich text with sections, audio clips, pictures), coding (e.g., inductive or deductive, in vivo or researcher defined, manual or automated), retrieval (e.g., by node, by document, text searches, matrix searches, refined by attributes), dynamic links to memos, documents, and nodes, and visual representations (e.g., coding stripes, models). Arguably, the choices available in NVIVO return the power of analysis to the researcher who must choose wisely amongst a set of tools and is by no means required to use them all.

An arguably greater influence on the way in which CAQDAS is used is the way in which a programme is taught. In both NUD*IST and N-Vivo, the software is distributed with 'free' demonstration tutorials. Each tutorial has its own embedded epistemological and theoretical assumptions, yet they are not stated explicitly. Further, there is a lack of discussion around the appropriateness of the methodological approach adopted and the rationale for the methods of data collection and analysis. This is highly problematic if new CAQDAS 'users' are adopting a qualitative approach for the first time, especially if they lack a theoretical training in qualitative approaches to research. This may be particularly problematic within psychology in the UK given that undergraduate programmes are still dominated by the positivistic paradigm. A false expectation of CAQDAS is that it will enhance rigour and make analysis more systematic (Weitzman 2000). These expectations are only met if the researcher is experienced in qualitative research or is taught CAQDAS by a suitably practised qualitative researcher (Johnston 2001). Methodological conscientiousness must then be supported by appropriate knowledge and use of the tools in CAQDAS that facilitate organisation, consistency checks (is text being coded consistently with the definition of the category), record keeping, comparison of categories, and examination of relationships (Weitzman 2000).

One distinct advantage of CAQDAS over manual methods is the ability to organise data and analysis efficiently. Security passwords can also be programmed and multiple backups made to protect the data and analysis from theft or loss. Making an entire backup of the hard copy used in manual methods is possible but is comparatively very time consuming. Clerical tasks such as photocopying and labelling bits of text so they can be traced back to their original documents are automated in CAQDAS. This provides

quicker access for coding and retrieving data and increases the capacity of data that can be handled (Richards and Richards 2000).

One caveat, however, is that the technology does not decrease the amount of time needed for the brain to read, conceptualise, and analyse data. If researchers are persuaded into thinking that CAQDAS will allow them to analyse more data, they are likely to become “overwhelmed by the sheer volume of information that becomes available when using computer technology” (Kelle and Laurie 1995). One common fear is that the computer might distance the researcher from the data too much (Weitzman 2000). The opposite could, however, be argued in that the automation of clerical tasks allows the researcher more time to spend on analysis. Another advantage of CAQDAS is that it facilitates complex Boolean (e.g., and, or, less, not) searches that would be extremely complicated, if not impossible, using manual methods (Richards and Richards 2000). As a powerful organisation tool CAQDAS is invaluable (Côté, Salmela, Baria and Russell 1993). Furthermore, the built-in tools for recording decisions, conceptual and theoretical thinking, and links between memos, documents, nodes, and models assists in the development of a dynamic audit trail to meet the criteria of transparency.

In summary, a good researcher will use the computer as a tool to aid quality analysis. The decision of the ESRC to endorse training in CAQDAS combined with Miles and Huberman’s (1994: 43-33) comment that “the researcher who does not use software beyond a word processor will be hampered in comparison to those who do” clearly indicates that CAQDAS has been accepted as beneficial to qualitative analysis (Richards and Richards 2000). Ultimately, however, this is with the caveat that the benefits of CAQDAS are dependent upon the skills of the researcher, how the researcher chooses to

use available tools, and how CAQDAS is taught (Pat Bazeley and Lyn Richards, personal communication, 2002).

Importance of transparency for qualitative research

This paper is based on the first author's doctoral thesis and how she attempted to provide a transparent account of her use of NVIVO in the written thesis. The aim of the student's thesis, described in this paper, was to develop rather than to test a theory. Therefore, it was important to provide enough evidence for the examiners to evaluate the study with criteria designed for evaluating qualitative research within the chosen methodology, Grounded Theory (Glaser and Strauss 1967; Strauss and Corbin 1998). Sparkes (2001) recommends that evaluative criteria for qualitative research should be commensurable with the aims, objectives, and epistemological assumptions of the research project. The criteria for evaluating the methodological approach adopted in the thesis (constructivist revision of Grounded Theory) are described here. Glaser and Strauss (1967) discuss credibility, plausibility, and trustworthiness throughout their seminal description of developing a grounded theory. They argued that a grounded theory should be assessed on the detailed description of the process of the theory generation, not its verification. Grounded Theory is generally intended for the development of a substantive theory, not a grand theory that one would expect to be generalisable. The substantive theory should have enough detail and variance built in that it can be used to explain similar situations. Strauss and Corbin (1998: 267) stated that, "the real merit of a substantive theory lies in its ability to speak specifically for the populations from which it was derived and to apply back to them."

Wilson and Hutchinson (1996) outlined a number of common methodological mistakes that researchers make when purporting to follow Grounded Theory. These included premature closure (not moving beyond description into making conceptual links between categories that then form the basis for developing theory) (e.g., Côté *et al.* 1993; Johnston and Carroll 1998; Scanlan, Stein and Ravizza 1989), being overly generic and reducing the phenomena to a few stages, imposing theoretical concepts on the data (e.g., Woodman and Hardy 2001), and using terminology that is incongruent with the epistemological roots of Grounded Theory. Researchers who avoid these common methodological mistakes carefully describe (e.g., Eccles, Walsh and Ingledew 2002) and provide examples of their analytical process (Côté, Salmela and Russell 1995) as well as their research assumptions (e.g., Eccles *et al.* 2002). Glaser and Strauss recommend the following criteria that will assist in recognising when a project is ready for closure:

When the researcher is convinced that his [*sic*] conceptual framework forms a systematic theory, that it is a reasonably accurate statement of the matters studied, that it is couched in a form possible for others to use in studying a similar area, and that he can publish his results with confidence, then he is near the end of his research. (1967: 223-225).

Qualitative data analysis programmes offer the ‘revolutionary’ prospect of demonstrating methodological congruence (Morse and Richards 2002) because of a level of transparency that is simply impossible with manual methods. However, there is a lack of published literature regarding the use of CAQDAS and the impact upon methodology, methods of analysis and presentations of findings. As Richards (2002: 267) points out this is “because qualitative researchers have traditionally not written up projects with an

emphasis of working with the data.” The next section describes some of the key elements considered when writing about the use of NVIVO within a Grounded Theory study in an attempt to address the issues around transparency raised by Richards (2002: 275):

There are reasons to be concerned at so complete a lack of fit between what is being done, how it is being done and how it is presented and perceived, critiqued and progressed.....Users who write reports from which the reader cannot learn how the data were handled avoid critical assessment of old and new tools.

Writing to Achieve Transparency

When writing about the use of NVIVO for a doctoral thesis, it is important to consider the audience, the different tasks that the programme was used for, and how to structure the final written document. The following section examines a number of questions that may guide the student who is trying to decide what to include in the final document. A technical section is included at the end to guide the reader through creating and cropping screen prints for placement in a Microsoft Word document.

Awareness of the Audience

As is the case in writing any piece of work, it is important to consider the audience. Are those who are likely to be reading the thesis knowledgeable about the particular methodology and CAQDAS? Or is there such a wide range of possible methodologies and approaches to CAQDAS that it is necessary to explain in detail how they were used in the thesis? Are the thesis examiners likely to still be arguing against the use of CAQDAS altogether or do they support CAQDAS and have an awareness of more recent

debates about how CAQDAS might influence the choice of methodology and methods (Richards 2002)?

For the current project, it was decided that a detailed account of Grounded Theory and the student's use of NVIVO was necessary. This decision was justified by the lack of published Grounded Theory studies, using N-Vivo, within the student's main discipline (psychology). Furthermore, NVIVO was launched 3 years before the thesis defence, and thus it was unlikely that the thesis examiners would have extensive experience of examining a thesis that had utilised the programme. Finally, it is important for researchers to provide a transparent account of the use of CAQDAS so that readers can decide if the programme was used in a way that was appropriate to the selected methodology.

Structure of the Thesis

How to best integrate a detailed description, of how NVIVO was used within the iterative process of Grounded Theory, into the linear confines of a written thesis was one of the more challenging dilemmas faced by the student and the supervisory team. Initially the use of NVIVO was written into its own analysis chapter along with a discussion of CAQDAS. This chapter was to precede the results or findings chapter. However, it was difficult to show the process of coding and analysis without revealing too much of the research findings. There were also two data collection stages (one based around focus groups and one on in-depth interviews which occurred after the focus group data was analysed) and two distinct findings. Therefore, the supervisors and student jointly

decided to reorganise how the discussion of NVIVO and Grounded Theory would fit into the thesis.

The original “analysis” chapter was split and integrated into four different chapters: the analysis section of the focus group methods chapter, the chapter on emergent findings, the analysis section of the interview methods chapter, and the chapter on theoretical development. Setting up a project, keeping a research diary, organising the literature review, creating documents, writing memos, creating annotations, coding, searching, structuring categories, storing demographic information, and modelling were the main points discussed in the first methods chapter under the subheading of “Analysis.”

The second chapter on using NVIVO to assist with the analysis focused more on how coding stripes and coding reports were used to facilitate axial coding, and examining the data for conditions and consequences of the evolving concepts. The emergent themes and theoretical development chapters included more examples of coding and memos with data that supported the emerging concepts. For example, screen prints of a quotes within a certain category were shown with coding stripes (a way of showing what other categories the quote is categorised under). Within these results chapter, the student also included quotes and examples of questions she used to interrogate the quote as well as discussing the properties and dimensions of the emerging concepts and how these were related to other emerging concepts.

Throughout these chapters, the use of NVIVO was discussed in tandem with how the tenets of Grounded Theory were executed. The final thesis included four chapters that used screen prints and specific references to NVIVO. These were included specifically to

meet the aims of transparency in helping the reader understand how the final model presented was developed from the interview and focus group data.

The Electronic Audit Trail

The software programme NVIVO was used from the start of the research project, before the research design was developed, through to data collection, analysis, and the writing of the final document. The complete project as viewed within NVIVO provided an extensive audit trail of the student's work over the three years of the thesis. A detailed account of the analysis is found in the memos attached to categories and interview and focus group documents. The overall progress of the project can be traced through the main project journal. These memos contain questions that the student used to interrogate the data, decisions about which categories to focus on, and explanations about how the categories fit together in the developing model.

The purpose of keeping such an audit trail is twofold. In Grounded Theory, keeping detailed memos is recommended as method for conceptual development (or more simply stated, it helps to push one's thinking forward) (Glaser and Strauss 1967; Strauss and Corbin 1998). It forces the researcher to develop abstract thoughts into more clearly thought-out ones. Secondly, the audit trail is a record of the development of the project from start to finish that other researchers can later follow to examine how the original researchers came to their conclusions. The advantage of using the NVIVO project as an audit trail is that it allows for numerous active links, for example, from one memo to the next, or one category to a memo, or from the model to an original quote. The same audit trail on paper would require references to each quote, memo, category, or model and

would require the researcher to physically find each folder and access each relevant piece of paper (and possibly other relevant links) before being able to read the desired material. Within the NVIVO project, these links can be followed with just a click of a mouse, and at a speed much closer to that with which the brain is likely to be processing the information. For this thesis, however, the examiners would only have the written copy of the thesis from which to judge the student's work and her conclusions. Thus, the difficult task for the student was how to present evidence of the dynamic audit trail within the linear confines of a 300-page thesis.

The remainder of this paper explains how the student attempted to present her audit trail in a static format. This discussion is divided into the following subsections: research journal, literature review, and coding. Each section will explore some of the following questions that helped guide the student in deciding what to include in the final thesis:

How can the student demonstrate that the concepts in the final thesis were developed in a rigorous manner?

What is the purpose in illustrating a certain element of the audit trail?

Why is it important to illustrate this concept, quote, or model and not another?

Which "snap shots" will best demonstrate the development of concepts over time?

Research Journal

The central point of the audit trail was the student's research journal where personal thoughts, theoretical ideas, and any concerns relating to the research project were

recorded. Links were made to appropriate documents, memos, categories, and models. The journal itself provided evidence of academic rigour and thus deserved attention in the thesis. In addition, the research journal was an important tool for reflection on the research process including the reciprocal influence of the research on the researcher.

One advantage of keeping the journal in NVIVO, as opposed to in a Microsoft Word document or in a hardbound book, was that it allowed for links to be created to relevant documents, nodes, or even external files such as web pages or electronic photographs. Headers (titles) for each entry allowed for easily searching the journal for a particular entry (see Figure 1, the document explorer on the left side). A third advantage was the ability to code the document. The student coded the journal for theoretical notes for further examination, ideas to discuss with supervisors, and personal issues (see Figure 1, the node explorer on the right side). This coding was used to send questions directly to the research supervisors and to pull out sections for the reflective chapter.

The student used a number of screen prints as figures in the thesis to illustrate how NVIVO was used in the thesis. In the case of the research journal the student's aim was to demonstrate that she had consistently kept a journal throughout the project and that the journal was coded in such a way that facilitated searching for entries and topic areas. Therefore, she decided to show a screen print with two windows open. The bottom window displayed a partial list of documents and the date entries of the selected document, "Private Reflective Journal". The top window illustrated some of the coding categories used in the reflective journal.

Insert Figure 1 About Here

In this study some bracketing occurs in the research journal and bracketing material specific to the focus groups is located in separate memos (for example, see Figure 2). The purpose of bracketing is to assist the researcher in recognising and acknowledging one's own assumptions that might influence the data (Ahern 1999). Continued reflexivity should assist the researcher in recognising bias during the research design, data collection, analysis, and reporting phases. Ahern (1999) recommended a number of areas to include in bracketing, such as: identifying power, access, personal value systems, role conflicts, interests of the funding body, signs of non-neutrality, data saturation, solutions to having access blocked, and reflection on decisions about which quotes and literature to use in dissemination. The bracketing memo in Figure 2 was included in the thesis to demonstrate that the student recorded reflections on the proposed prompts for the focus groups. Presented in this manner, the reader has a sense that the original document is being viewed rather than a tidied up version prepared especially for the examiner.

Insert Figure 2 About Here

Literature Review

In the thesis, the student included a discussion about how NVIVO was used to organise the literature review. This section was included because there is a debate within

Grounded Theory about how to use prior knowledge in a Grounded Theory study (e.g., Charmaz 1995; Glaser 1992; Strauss and Corbin 1990; Strauss and Corbin 1998). The discussion of how the literature review was integrated into the research process provided a transparent account that allowed the reader some indication of how the student's review of the literature may have influenced the final analysis. The student felt that in this situation it was important to include a screen print with the document dates visible so that the examiner would have some idea of when particular literature was read. She also decided to make the coding categories visible to give an indication of how the literature was organised and how easily it was to retrieve notes on a desired article.

Insert Figure 3 About Here

Coding

The student explained the basic concepts of coding from a Grounded Theory perspective and then provided examples of the process of open coding and axial coding, as well as getting closeness and distance from the data (see Gilbert 2002 for a recent debate on this issue in relation to CAQDAS). This discussion included a section on rigour and the need to keep detailed notes about category names and the analytical development of categories. A screen print of the node property box showed the reader how the name, description, creation and modification date of each category was displayed in NVIVO (See Figure 4). The student also discussed her use of memos and included a table

displaying the different types of memos used, how many of each type of memo was used and the purpose of each memo (see Table 1)

Insert Figure 4 About Here

Insert Table 1 About Here

The development of coding and the category structure was illustrated through a discussion about how many categories were created in the first hour, and examples of quotes that were coded at each category. A screen print of the modeller illustrated how the student used this tool to organise the first 62 categories that she created into a more coherent structure (See Figure 5). Analytical closeness was demonstrated by quoting from a memo that recorded the detailed type of questioning used to fracture a quote in search of a category's properties and dimensions (Strauss and Corbin 1998).

Insert Figure 5 About Here

The student also included examples of how audio clips, links to newspaper articles, and internal annotations (electronic 'post-it' notes) were used in NVIVO to assist

in maintaining the contextual richness of the data (e.g. Figure 6). Similarly, the use of demographic information was discussed in relation to how it was used in the analysis and a screen print illustrated how the demographic information was stored and how it could be used to generate searches of the data. Following this, the student included a section on search functions available in NVIVO and a justification was provided for the searches conducted in this project. Because the programme has so many available functions, it is important for the student to be specific about which ones were used in the analysis process so that the reader can ascertain whether or not it was appropriate for the research question and chosen methodology (Gilbert 2002).

Insert Figure 6 About Here

Analytical distance was discussed in conjunction with axial coding and screen prints were provided that illustrated the other categories at which a quote was coded (e.g. Figure 7). Illustrating analytical distance could have also been achieved by reporting on the number of documents coded and what categories were and were not accounted for in each document.

Insert Figure 7 About Here

Technical Notes

How to Create Screen Prints

The main method for illustrating the use of NVIVO in the thesis was by including screen prints to provide “snap shots” of the analytical process within NVIVO. To create a screen print, first decide what you want to take a picture of on your computer screen. Once the desired section of a document, or coding, or model is displayed in the screen, press the Print Screen key on your keyboard. Although it may seem as though nothing has happened, the computer has taken a static picture of current screen, including all the menu buttons at the top and bottom of your display. To see what picture you have taken, open up a graphics programme. The best type of programme is one that has a tool for cropping pictures. However, the basic Microsoft Paint programme that comes with most versions of Microsoft operating systems for IBM compatible computers is sufficient. (From the Start menu, select Programs, then Accessories, then Paint.) With the graphics programme open, go to Edit and select Paste. Your screen print will appear. It is likely that you will want to remove parts of your picture (such as the buttons at the bottom of the screen) that are not necessary to the thesis. Take the selection tool (which looks like a dotted rectangle) and draw a rectangle around your desired picture by clicking on one corner and dragging the mouse to the diagonal corner. Once the area you want is selected, right click inside the rectangle and choose Copy To. This will allow you to save your selection as a bit map which can later be inserted into a Microsoft Word document as a picture. (See Figure 8). These pictures are generally only viewable in Microsoft Word documents when the page view is set to Online or Page Layout (Office 97) or Print Layout (Office 2000).

Insert Figure 8 About Here

Keeping Archives of Your Data

The purpose of including screen prints in the thesis was to augment the written account of how the student came to her final conclusions. This requires screen prints to be taken at different points in the project development. Throughout the project, the student did not try to predict which screen prints would be most useful, rather she saved a static copy of her NVIVO project at key points in the research journey. This was generally done at least once a month and always after a major coding session or after she had significantly changed the structure of the project. The name of the saved copy included the date of the save so that it could be easily found later. Major changes were also recorded in the research journal, thus making it easy for the student to locate when a major change had occurred and which saved copy of the project would be best for accessing a screen print.

Another method of tracking progress is to run reports and save these as text files or rich text files, again integrating the date into the name of the report file. NVIVO can generate a number of reports including document reports, coding reports, and node (category) listings. These contribute well to the audit trail by providing an account of what types of documents were available at a given point in time, how much of each document had been coded, what categories actually contained coding, and how many categories had been created. Any of these reports could provide the basis for a discussion in the thesis about the development of the overall project.

Copies of models at a given point in time can be preserved by keeping a static copy of the overall NVIVO project, or by saving a copy of the model in a Microsoft Word document. If this second method is undertaken, in the NVIVO modeller use the Model menu to select “Export Model to Clipboard.” This is better than using screen print as it takes a picture of the entire model, rather than just what can be seen on the screen. From within Microsoft Word, use the Edit menu to select Paste Special and then choose the Picture (Enhanced Metafile) option. Models in NVIVO are active items and reflect changes in the overall project, for example if a category is deleted from the project, this will be noted in the model. Therefore, it is important to keep some form of a static copy of models if they are to be used later as part of the audit trail.

Summary

Computer assisted data analysis software programmes have the potential to facilitate a more rigorous approach to qualitative data analysis. However, with many different methodological frameworks available to researchers, some might be tempted to use CAQDAS, in place of a methodological framework, to claim that their research analysis was rigorous. It is, therefore, of utmost importance that researchers provide a transparent account of their use of CAQDAS and how this fits within their chosen methodology. This paper set out to give a rationale for why researchers should provide a transparent account of how the chosen software programme was used. Examples of how to write about one’s use of CAQDAS, and particularly NVIVO, within a Grounded Theory framework were given. Samples of the types of figures the first author used in her doctoral thesis were also provided along with a discussion about the audience and the structure of the thesis.

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