

NVivo as an Aid towards Analytic Rigour when Researching in Non English Languages and Cultures

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Abstract

It is not unusual that researchers are active in cultures and languages other than English. Many computer assisted qualitative data analysis tools have been restricted to English, and frequently the academic supervisor may not be conversant in the language of the research domain. NVivo offers some practical and theoretical advantages to the researcher working in a language other than English, and these advantages pertain to the analytic rigour of the research.

NVivo has the capacity to display fonts other than English. This paper describes how this capacity is utilised to assist the researcher working in Mandarin. A number of processes need to be employed to assist the academic supervisor not versed in the language of participants, and these mechanisms of quality assurance are discussed. The major part of this paper discusses the advantages towards validity and rigor that NVivo can offer by facilitating the main research analytic processes in the original language.

This paper will employ the example of a research project conducted in Mandarin Chinese. The mentoring supervisor worked with the Chinese student. NVivo is employed to save time, and develop an analysis which is accurate, holistic and nuanced in the intonations of Mandarin.

Introduction

It is relatively easy to claim that qualitative research is mostly done in the English language. When researchers use another language, it would be common that that language also employed the Roman script. Hence there may be emerging an unfortunate hegemony of the English language when most practitioners, and hence supervisors of research, and qualitative research software employ English. This paper suggests that this hegemony is unnecessary and that we already have tools that facilitate researchers who are working in other languages.

Most of the languages of Europe are written using the Roman script. While there are some exceptions, the majority of languages at least employ the letters of the Roman alphabet. There are a large number of languages, especially those of the Middle and Far East, which use a range of representations from Cyrillic, Arabic letters to Chinese and other Asian ideographs. MicroSoft Windows has means of representing these characters, often employing a 'double-bit character' to display a large number of the world's languages. NVivo can use the Windows character sets to display the text of other languages.

Increasing numbers of qualitative researchers are working in languages other than English. Cross cultural studies usually refer to research across cultural and national borders (Ryen, 2003) although not explicitly to studies that cross language borders. Even though many journals are restricted to English, and researchers may prefer to publish in English, the difficulties of translating the original language into English are significantly daunting for many researchers.

This paper has two aims. The first aim is to describe in a practical manner how using NVivo can assist with non English language transcriptions. The second aim is more ambitious: to argue that working in the original language is methodologically advantageous and can increase the validity claims of the research outcomes.

Cross cultural research

Cross cultural research has a wide number of definitions (Saukko, 2003). For this paper, cross cultural research applies to those qualitative research contexts where the language of the participants is not English and the participants' conversation is recorded and transcribed for the purposes of the research. This paper

also assumes that the research project is a supervised research project as part of requirements of a higher degree. It is also relevant to note that it is likely that frequently the language skills of the researcher and her/his research supervisor are not equal and it may be that the researcher is work within his/her home context and the research supervisor is not fluent in that language. This confluence of a doctoral research project conducted in Mandarin forms the context of the case study behind this paper.

Using NVivo with different languages

QSR NVivo comes with an English language interface. The interface comprises screen directions, help files and the language of the commands, buttons and menus. There was no attempt to change this since the researcher was very competent in English. NVivo will, however, use a range of fonts so long as the files can be represented in rich text format (rtf). MS Windows comes with a large number of fonts including non English languages but a standard installation does not include the Chinese character set. This character set is available on the Windows distribution disk or via a download. The Chinese character set can be employed by Windows 95, Win NT 4 or later, Win2000 and WinXP (<http://www.microsoft.com/downloads/details.aspx?FamilyID=803A623E-C311-4591-A593-BOE24A6F38E8&displaylang=en>). The Chinese character set is described as one of the 'double bit character sets'. This is because more information is required to specify the more complex ideographs typical of Asian languages. Not only are the individual characters more complex in their formation, there are many more characters than are found in the romantic languages. The Chinese character set can be represented as rtf. Installing the Chinese characters is simply a matter of loading the CD ROM and following the prompts to install the chosen fonts. These fonts do take up a significant amount of extra memory and disk storage. Thus MS Word can be invoked to display Chinese ideographs by the Shift-Spacebar command which toggles between the character sets. To ensure that these files can be accessed by NVivo, the files are saved as rtf files from MS Word. The QSR website (<http://www.qsrinternational.com>) and its frequently asked questions (FAQ) pages (http://www.qsrinternational.com/support/faq/faq_details.asp?faq_id=Nv-203) give general directions to install another character set for the use of NVivo.

The saved rtf files are used as input for NVivo. When loaded, the files display the Chinese characters with a high level of accuracy. Some problems do exist. If the Chinese character is quite complex then NVivo may display a simplified, and not necessarily accurate, version of the character. More usually, a complex character appears as a question mark on the screen. This at least alerts the researcher that the character is there and is printable even if it is not well displayed.

Working in NVivo

With the files input into NVivo, the analytic process is very similar to working in English. Files are browsed using the NVivo interface and coded. When nodes are made the English characters are used, so the names of documents, nodes, attributes and cases are all in English. Text is highlighted and coded as though one was working in English. In vivo coding has some surprises for the first time user: the text is displayed in a confusion of symbols. This clutter can be easily overtyped with English characters to name the node. Most importantly, the text coded at the node is represented appropriately in the Chinese characters and can be subsequently transferred to a MS Word document using cut-and-paste functions.

Some difficulties occur in searching the text. It is often not easy to determine from the window the characters to search for. The easiest way is to copy from a browsed document the Chinese character of interest, or strings of such characters, paste these characters into the search window, and then search. It sometimes happens that the copy-and-pasted character is not well represented in the search window, but the routine robustly finds the required characters and faithfully retrieves them as a report, node or as specified by the user. Essentially, the story is that even if the character does not display well in NVivo if the user has copied the character then the search tool will operate as it should and find the character string. The search 'finds' will allow the identification of the required text in the original documents. One difficulty we experienced when using NVivo with Chinese text was that we could not copy from NVivo and paste into a MS Word document when browsing either a document or a node. It also seems a useful step to copy the Chinese characters into an appendix so that the interested reader has the option of checking the translation from the Chinese, as recorded in the appendix, to the English version as presented in the main part of the report.

This case study of cross cultural research

The case study we will describe comes from our work as doctoral supervisor and research student. The research project on which this paper is based comes from the second author's research in Taiwan (Lee, 2005, under examination). Taiwan has its own aboriginal inhabitants of the island of Taiwan. These peoples are distinctly different to the later arriving Han people from mainland China. Now only about 2% of the total population, the aboriginal peoples live in the mountainous central region of the island of Taiwan (Census Bureau of Taiwan, 2002). There are twelve different tribal groups each occupying a particular area. The tribal groups are of unequal size. Sadly, these aboriginal people suffer many of the same social, educational, health and employment disadvantages recorded for other aboriginal people in Australia (Beresford, 2003a, 2003b; Gray & Partington, 2003), Canada and United States (Minore & Boone, 2002).

The research questions concerned the perceptions of primary school teachers of the recent Taiwanese Aborigine Education Act 1998 and how this Act has changed education in tribal area schools. The largest and the smallest tribal area were chosen as case studies. These two case studies were selected in order to determine whether inter-tribal cultural differences or population size mitigated some of the affects of the Aborigine Education Act policy implementation. The findings of this project are contained within the doctoral thesis submitted to the University of Notre Dame Australia.

The case study employed two methods of data collection. The first method involved an extensive survey of the primary schools of the two tribal areas. This survey was personally distributed and administered in 2004. The survey also invited participants to an interview which formed the second data source. Both the survey and the interview were conducted in Mandarin, as the common language of all citizens of Taiwan. The open ended survey question was transcribed into Mandarin and then translated from Mandarin into English. The English language transcriptions were then input as data into QSR NVivo. There were 607 useful surveys returned.

From the start it had been planned to use computer assisted qualitative data analysis software (CAQDAS) to maximise the potential analytic rigour of the study (Seale, 2003). It has been presumed to employ the software on the English translation: partly because of the Australian context of UNDA; partly as the supervisor spoke English; and partly because the introduction to the software had demonstrated English language files. The length of time required to both transcribe and translate suggested that the interviews would consume a lot of time. The project produced a total of 50 interviews, each interview ranging from 20 to 45 minutes, with a usual interval of 30 to 33 minutes. Initial work on the first interviews required about five hours to transcribe one half hour of Mandarin. This transcription was done from the tape and on a Macintosh computer installed with the Chinese character set. Transcription is itself a multi-layered process requiring several hearings of the text (Silverman, 2001). The translation of that same interview took on average 10 to 12 hours of work by the author whose mother tongue is Mandarin and who is very fluent in English.

The argument for using a foreign language in analysis

The procedures described above are relatively simple. Essentially, if the researcher is fluent in both English and the language of the text there may be few problems. The NVivo interface is in English and the research reads and codes in Mandarin. File names are based on the English character set. When particular passages are selected to exemplify a position or participant's perspective the passage is identified in NVivo and then located in the original documents. The researcher then translates the passage into English. With such short passages it is frequently possible to arrange another translation to ensure that the proper sense of the characters is translated into English.

The following discussion explores the practical and methodological benefits of this process. It is not a matter of the quality of the transcription process itself, although that quality is vital (Poland, 2003). It is argued that there are distinct advantages working in the original language and only translating the relatively few chosen passages into English.

Practical issues

There are two main practical arguments for using the original language. The predominant practical argument is that of saving time. The time-saving use of the original language may offer some secondary practical benefits of increased confidentiality since external transcription services may be less likely to be employed.

Time saving

The practical advantage is one of saving a lot of time. While everyone other than the specialist transcriptionist finds converting tapes to text a lengthy process, the difficulties of translation are much greater. It may be that working from an oriental language into English is especially fraught as the idioms of speech, metaphors and conventions of language are so very different. Thus even the skilled translator can spend significant time searching for a translation of a phrase that preserves the meaning rather than just the literal conversion of the words from one language to another. It may be that translating between European languages is less fraught, although our experience is with Asian languages, but the time savings can be estimated to be of the order of twice the time of transcription in the original language.

It would be possible to get tapes professionally translated. Professional translators do work in real time and it would be possible, although expensive, to have tapes translated into English and then transcribed. This solution has its own costs, apart from the obvious monetary one. Firstly, the researcher becomes more distant from the data. Part of analytic sensitivity is being immersed in the interview: hearing the voices and re-listening to the experience evoking memories of the non verbal interactions as well as the verbal ones. Particular turns of phrase, inflections, pauses and the rhythm of the spoken record all inform the researcher. Secondly, having the text rendered for the researcher disconnects her from the struggle to best represent the encounter. Her weighing up of the correct nuance is best informed by her experience of the interview event rather than a third person. So alternate readings of the text would be relatively untested by a third party or at least the research analysis would be relatively uninformed of such alternatives. Simple checking for correctness as might be performed by reading the text against the audio record is not likely to reveal such alternatives since at least one of the appropriate renditions is the text. Lastly, sensitivity, confidentiality and safe guarding of identities are issues when having tapes externally transcribed.

At the end of the analysis a research report must be written. Presuming that this report will be in English, the selected texts chosen to indicate the movement of the analysis and exemplify the themes found within the research must be translated into English. The same problems of developing an accurate, holistic and nuanced translation of these texts confront the researcher. Is it only time that has been saved?

If time alone has been saved that of itself is significant. The main argument of this paper claims that the research analysis is better and more grounded for having been performed in the original language. The small number of texts can now merit close attention to ensure their translation is accurate, holistic and nuanced. There is a qualitative difference: the themes developed in the analysis are based on the fullest understanding of the interviews and the translated texts now exemplify that understanding. The significant analytic advantages of working within the original language rather than a translation of the conversation are now explored.

Disadvantages

There are a few, minor practical disadvantages of using the original language. One of these disadvantages is the possible loss of discussion with one's supervisor if he/she is not fluent in the written language of the research. The student researcher may be without the critique and guided reflection when one's supervisor also thinks about and reacts to the texts of the research. Hence the understanding may be a little monocular in perspective. This is seen as a minor disadvantage since all research is understood to bring personal constructions with it. As Kaufman reminds us:

Data are not simply collected. Rather, they are created only through the collaboration between researcher and informant. Data emerge in the process of dialogue, negotiation, and understanding. Both coproducers will come to that dialogue with attitudes, values, personal agenda, and conceptual frameworks that find their way into the content of the interview as it unfolds over time (Kaufman, 1994, p.128).

This paper argues that the research supervisor is also a significant coproducer of meaning as the dialogue of research supervision extends the horizons and reflexivity of both the research student and the supervisor.

An argument towards reliability

The subjectivity of qualitative research is not at question here (Drapeau, 2002). Reliability is a requirement of good qualitative research, yet reliability in qualitative research is not exactly as it is describe in quantitative research.

The reliability criterion for qualitative research focuses on identifying and documenting recurrent accurate and consistent (homogenous) or inconsistent (heterogeneous)

features as patterns, themes, world views, and any other phenomena under study.
(Labuschagne, 2003)

This paper argues that the time-saving of working within a language with which one is fluent, rather than translating into English, enables a more accurate reading of the meaning of the text. Since only those passages selected for the written paper need to be translated into English, the resources of creativity and cultural situated-ness are concentrated on these relatively few passages. Hence, these selected passages can be translated into English with full regard to the meaning that will be conveyed to English speaking readers.

This argument is more fully explored below. The advantage of not needing to render idioms into English or translate expressions in ways that lose their immediacy, power and context is an important step towards a consistent interaction with the text that forms the data.

Analytic Advantages

There are three analytic advantages of value when the analysis is done in the original language. These three advantages are discussed in the following paragraphs. Each of the analytic advantages is predicated on a foundational understanding of qualitative analysis. This understanding pertains to the quoted texts used in a qualitative report to support the findings and analysis of the research. The understanding is that the quoted text does not prove the thesis or the idea being argued. What the quotations do is give the flavour, the tenor or shape of the conversations analysed. Not that the quotations reflect what everyone in the sample is saying, nor even that the texts represent the majority of what participants said. In the qualitative tradition, the quoted text develops that theme which the researcher is claiming is qualitatively important in the conversations. This qualitative approach must accept the problematisation of language, at least as a possibility (Alvesson & Skoldberg, 2000). Thus the striking or insightful observation of a relatively few informants may be qualitatively more important than the weight of what most said, if that insight demonstrates a usefulness to better understand the phenomenon at hand. Keeping close to the text is part of the argument for validity (Minichiello, Aroni, Timewell & Alexander, 1990), and the difficulty explored in this article is: what forms the text? The response is argued to be that the text should be as close as possible to the original interview event, and hence should be in the original language.

The goal of qualitative analysis is at least twofold. The first goal is to best understand what the participant is trying to communicate: How do they see it? The second goal is more integrating in terms of what meaning does the researcher construct of the texts: How does the researcher understand it? (Holstein & Gubrium, 1995). It is argued that each of the three analytic advantages, discussed below, act towards the first goal of better understanding what each participant is trying to communicate. In this first movement of the research analysis, the researcher is attempting to see the world through the eyes of the participant, to touch the lived experience the participant is revealing and to share the understanding being offered. The qualitative researcher understands that this individual understanding is biased by the life experience of the participant and that is part of its value. The researcher will integrate the diversity of experiences, biases and perceptions in the second analytic movement when the construction of what this means in terms of themes and phenomena occurs to achieve the second goal. This twofold movement of qualitative analysis explains why qualitative researchers go to great lengths to record faithfully and exactly what each participant says and why qualitative researchers take justified pride in their skills to hear and bring to the foreground the construction of meaning developed in their analyses (Silverman, 2001). These skills form part of the argued validity claims of qualitative research (Maxwell, 2002; Weiss, 1994).

Accurate analysis

The first analytic advantage is accuracy. This first advantage is not about a literal accuracy. It is assumed that competent translation will achieve at least one rendering of the meaning of the words of the text. Accuracy here pertains to the usefulness of the metaphors of the original language so that the meaning and quality of the original conversation is faithfully presented in the translation. This accurate translation may require an increase in words or finding a completely different if equivalent metaphor in which to deliver the meaning. Accuracy may even require some explanation of the metaphor or idiom if no ready metaphor exists in the second language. This idiomatic accuracy is critical because so much of what is communicated is expressed in idiomatic or metaphoric terms.

For example, one teacher said 'Aboriginal people should be self heaviness but not totally rely on government's subsidy.' 'Heaviness', 重 in Chinese, is the same as the word 'dignity' in the context of the response. However it does not make sense in English. To translate the conversation correctly, the term used, 'self heaviness' 自重 in Chinese, could translated into English as 'dignity', 'self-esteem', 'self-respect' or 'conscious self-awareness'.

People from the European tradition often evoke metaphors redolent of Greek myths, fairy tales popularised by the brothers Grimm and the Scriptural traditions of the Jewish and Christian faiths. Participants who come from different traditions of thought and expression code their meaning from different terms of reference. When conducting research in Asian cultures these terms of reference are likely to be very different from Judeo-Christian or Euro-centric frameworks. It can be argued that the analysis is better done within the framework of the original language so that the intended meaning communicated by the participants is most clearly heard in its own cultural context.

Holistic analysis

The second analytic advantage is a more holistic analysis. The term holistic analysis refers to the sense that an interview is more than the sum of its parts. In a semi-structured interview protocol participants respond to questions as prompts to reveal their story or explain their perspective. This central assumption in such a semi-structured interview is that the interview is a more active engagement than a question and response format, and becomes a conversation. As this conversation unfolds, the participant develops ownership of the conversation shared with the interviewer. This shared ownership is evidenced in the flow of the conversation as each player listens and then speaks and the interviewer follows the insights communicated by the participant. As such a conversation unfolds the sequence of a particular interview protocol may become fluid and some unanticipated ideas and intuitions be explored even if parts of the protocol be less developed due to time constraints. This process argues that the interview event is greater than the sum of its component questions and answers. There is a flow, a journey and an evolution in most semi-structured interviews. The researcher must respect this evolutionary flow and be able to distinguish when later ideas are developments or even re-workings of previously expressed ideas. The participant may come, during the interview process of investigation and reflection on what they do actually hold as important, to the opposite conclusion to one already expressed. The linguistic and cultural norms of this dialectic are embedded in the original language and it is in the original language that such analysis is best performed.

An example may clarify this point. One teacher said that the characteristic of Aboriginal people are mostly ‘樂天知命’ The idiom refers to ‘optimistic personality’, to accept what happens to them in their lives. But this idiom also implies that there is a negative meaning, in particular when the teacher refers this to describe Aboriginal people. It implies that they (Aboriginal people) are not responsible for their behaviours. This lack of responsibility is in the sense that if they loose their job, the government will help them; if they don’t have money to send children to school, the government will provide financial support. So they don’t need to worry about their children’s education at all. This negative understanding of the term can only be validated from the context around the term in order to grasp the situated meaning of the term as the teacher employs it.

One level of this dialectic is the appreciation of the cultural norms of argument. A deeper level is that of humour and how humour is communicated with respect to the situation or context of the meeting between the participant and interviewer, and medium of communication. Another level is the hearing of what is not said, being aware of the cultural sensitivities that make some ideas difficult to mention but can be referred to in an oblique manner. Still deeper is the level of sharing the cultural norms of the participant, of being less a foreigner trying to understand, like an expatriate ethnographer, and more being a reflective participant able to sense the matrix of interconnectedness. In these senses, analysis within the original language keeps the analyst in touch with this rich textured meaning of the participants. Thus the analysis offers an improved opportunity to develop an analysis that respects the whole world view of the participants, and hence in this sense is a holistic analysis.

Nuanced analysis

The third analytic advantage is the better grasp of the nuances of the text, what could be called the life of the text. The life of the text relates to the personal flavours each participant imparts to their conversations. Even when participants are expressing similar ideas and feelings their personality will be embedded within their expressions, tones, rhythm of speech and use of images. This may be called the ‘voice’ of a participant and is the expressed individuality of the participant. This embedded individualism is the life of the text, the sense that one can grasp some of this individuality in the transcription. As the text is translated the life of this text is threatened by a more uniform translation. In many ways homogeneity is inevitable when a translator is confronted with many hours of interviews, and is certainly most difficult to counteract since translation is itself a personally creative act.

Working within the original language allows the researcher to balance the nuances of the metaphors and evaluate the information and thoughts of the participant in the context of the whole interview. This is what a nuanced analysis offers, a reading in the context of the whole fabric of the interview as a record of the communication between the researcher and the participant.

Disadvantages for analysis

Are there analytic disadvantages in the process described? It is possible that at least three disadvantages do exist. The first disadvantage pertains to shared and collaborative analysis. If a project involves a number of researchers and analysts the difficulties of developing collaborative translations seem to escalate when more than one translator is active on a given text. Yet if the work is to be truly collaborative the translation cannot be delegated to a single individual due to its central importance in the analytic task. Such a difficulty will need time and mutuality to reconcile difficulties and tensions. It could be said that few such collaborative projects seem to be in progress at the moment and higher degree research is often individual. Be that as it may, collaborative research is likely to increase and funded research projects at regional or national levels frequently require collaboration. Such CAQDAS as are now available also facilitate this collaborative analysis and can be seen therefore to encourage an increase in collaborative qualitative research.

The second analytic disadvantage relates to the openness to which researchers aspire. If the data is in the original language, only those well versed in that language can read the full accounts and verify the validity of the analysis. When an academic supervisor does not have the skills of the language in which the interviews were conducted it is more difficult to verify that the analysis conforms to procedural norms. This inability to read the original texts may mean that the research process is less open to critique and discussion than may be preferred.

The third analytic disadvantage concerns reporting to the original participants. Reporting may be understood as either informing the participants of the findings by sharing resultant papers or the wider sense of reporting in the original language to professional groups representative of the concerns or professions of the participants. When the report is in another language and has to be translated back into the original language, considerations of time, energy and other resources may limit the production of such scripts.

None of these three analytic disadvantages weigh heavily with the authors. Each of these disadvantages pertains to a more or less extent whether the analysis is done in the original language or in English. Each of them can be addressed by careful planning and allocation of resources. The latter two analytic disadvantages seem to be more serious when the researcher intends to return to his/her country of origin and continue to work in the original language. Returning from study overseas requires a number of personal and professional adjustments and the careful planning of publishing one's research output is one of the wise decisions to be addressed when one prepares to return to one's culture.

There are several practical disadvantages when using NVivo to analyse the text of a foreign language. Some languages are not as declarative as English. In Chinese there are many ways of speaking about a topic in a circumlocutory manner – as perceived from a Western perspective. This suggests that text searches to find particular expressions are even more prone than in English to not find all the times the participants has talked about the topic. Hence the use of strings of characters expressing similar ideas could be employed, although it is more useful to remember that text searching can be misleading and to rely upon a close reading of the text in the original language (Richards, 1999).

The other practical disadvantages have already been mentioned above. Essentially, NVivo offers a 'read-only' facility when using Chinese characters. Characters cannot be selected, cut and pasted when browsing either a node or a document. Hence, the original documents must be the source of text for one's report to limit retyping, but NVivo does a good job of identifying where in the original document the text can be found. Lastly, NVivo sometimes inaccurately or incompletely displays the Chinese character. This problem can occur when the character is complex or the paragraph is a long one. The problem sometimes occurs with the first character of a new sentence in a long paragraph. Alternatively, this problem can occur if the line contains an unusually large number of complex characters. NVivo understands a paragraph to consist of all the characters between two successive paragraph marks. When the character cannot be displayed in NVivo, the efficient step is to read the original text in the file produced by the word processor and commonly in hardcopy. Neither of these practical disadvantages seriously limits the analytic process and each is more a matter of presentation which can be readily worked around.

An argument towards validity

The arguments above are about advantages and disadvantages for qualitative analysis. The arguments are about the validity of the research (Kirk & Miller, 1986). Trustworthiness is the perceived defensibility of the analysis developed by the researcher. Trustworthiness is both methodological and procedural as well as pertaining to the skill of the researcher (Kvale, 2002). The following criteria of trustworthy cross cultural

research: accurate, holistic and nuanced analyses form a ranked series of difficulty and increasing consequence for the validity of cross cultural research.

An accurate rendition of the text is critical for the research to be considered trustworthy. Accuracy must go beyond the mere rendering of a dictionary translation to the respectful conveying of expressions so that their sense in the conversation as it occurred is achieved. In this sense of translation some phrases may need to be explored in order to accurately establish the sense and meaning rather than just the words themselves mean. The conversation with participants is about shared meaning and that is the meaning that must be accurately rendered in order for the research to be considered trustworthy.

A holistic analysis is also required for trustworthy research in cross cultural settings. By holistic research is meant that the meaning within the context and tacit world view of the participants is rendered into the other language. Thus the cultural norms and expressions must be made intelligible and transparent even at the cost of brevity and simplicity. Such a holistic analysis will attempt to render transparent humour and the enculturated ways of mentioning that which it might be impolite to verbalise into forms that the reader can access even in another language.

A nuanced analysis is the third and possibly most demanding criterion to achieve for valid cross cultural research. Nuanced analysis requires that the 'voice' of individual participants be retained even through translation which can itself be a homogenising process. When the individuality of participants is retained the research has most potential, with the preceding accurate and holistic analysis achieved, of offering the potential for trustworthy research outcomes.

This paper argues that the trustworthiness of the qualitative analysis is potentially increased when the analysis is done within the original language of the data collection. This working within the original language maximises the researcher insight into the nuances of the conversation so that the analysis is alive to the full extent of the communication between respondents.

Supervising cross cultural research

The first thought that might cross one's mind is that the potential for difficulties is high in supervised cross cultural research. This paper argues that it need not be so. Certainly there are negotiations that must be undertaken: roles and positions of power; what substantiates claims to knowledge; what 'academic' work looks like and requires, and even modes of address. Yet, when looked at carefully, these negotiations are little different from those negotiations a supervisor has with students of one's own culture, except that the former have the distinct advantage of being more overt and planned.

This section does not intend to survey the literature on supervisor and student relationships and/or conflict. There are a number of general guides which discuss this area (Bench, Graber, Staben & Sohn, 2002; Cryer, 2000; Dunleavy, 2003; Fitzpatrick, Secrist & Wright, 1998; Holbrook & Johnston, 1999; Leonard, 2001; Lucas & Lidstone, 2000; Walliman, 2001) as well as more specific issues of misconduct or unethical behaviour (Hackett, 1994; Parker & Szymanski, 1996; Payne, 2000; Potter, 2002). This section will focus exclusively on those issues that are specific to cross cultural research.

Difficulties of cross cultural supervision

There are a number of difficulties for the supervisor of cross cultural research. The first likely difficulty is the relative lack of knowledge of the context of the research. This difficulty can be overcome in the early stanza of the research relationship with the student explaining and describing the context and even advising on some accessible literature. The next two possible difficulties are more substantial and likely to affect the supervisor's role in the research relationship.

The second potential difficulty is that the supervisor may not understand the participants' world view. When both language and world views are different, there is potential for significant mis-communication. While the reading recommended above may help in part, there is really only one solution in my experience to this difficulty – the supervisor needs to become the learner and the research student the mentor. This role reversal has natural benefits for the relationship as a whole and models the sort of academic learning that the supervisor wants the student researcher to develop. This role reversal takes some energy of the supervisor and also some humility, and the pay off can be significant not only in terms of the relationship but also the supervisor's own academic development.

The third potential difficulty is that the supervisor cannot read the texts in the original language. Not only can the supervisor not read the texts, but she/he cannot usefully listen to the audio records in order to facilitate understanding of the interviews.

Sometimes the question is asked, 'If you cannot understand the interview yourself, how do you know that the interviews have actually been done?' This is a fair question and one that goes to the heart of trust in the supervisor/research student relationship. Of course, this question pertains to all student work, whether quantitative or qualitative, and the answers similarly pertain to all research. The usual answers cluster around four main ideas.

1. One has a sense of the truthfulness of another grounded in their dealings in coursework, other interactions, the openness with which they discuss work and ask questions and the readiness with which they listen to advice;
2. Wholesale cheating is very rare and quite difficult to achieve. Although many experienced academics have encountered some instances of cheating at undergraduate levels, there are fewer instances reported in postgraduate research. This is not to claim that it does not happen, but it is rare and one's sensitivities are raised if truthfulness is not strongly evident in the relationship;
3. It is no difficult to get spot checks done. Small parts of the work are often easily scrutinised, especially in cross cultural work when back translation of some initial correspondence to potential participants might be undertaken for accuracy or research ethics requirements;
4. Experienced researchers have a tacit understanding of the variability and inconsistencies that arise in empirical data. Data collection that proceeds without these ups-and-downs raises a 'quizzical eyebrow' and may occasion a more careful inspection. Such variability of empirical data is hard to replicate artificially and in so doing a sense of sameness is frequently introduced as the pseudo-data comes from the one mindset and this sameness is the opposite of empirically gathered data.

The qualitative researcher has no fear of these questions of the supervision role. Indeed, as a qualitative researcher one issued to the gradual interrogation of data and relationships in terms of trustfulness and trustworthiness. One is used to using intuition to 'join the dots' and gradually building a picture based on small pieces of evidence and experience rather than a single 'test' or logical proof. This is not to claim infallibility, but it is a claim to trust the very skills that makes one a qualitative researcher in the first place.

Advantages for supervision

There are several advantages of supervising cross cultural research, even when one does not speak the language of the research participants. The first advantage is that some of the remedial steps a supervisor takes to address potential difficulties, like dis-continuous world views, makes the supervision relationship that much more rich. The second advantage is that the growth in knowledge and cultural awareness is a substantial reward for the supervisor. It is the third advantage, that of being disconnected from the language of the text, that will be more fully explored.

The third advantage of to the supervisor relationship is that the supervisor is consciously involved in coproduction of the research data and research meaning with the student. Just as Kaufman (1994, p.128) makes the point that researcher and participants are coproducers of the data, so the supervisor, being in coproduction of the data and research meaning, is made more conscious of this activity by the very knowledge that the research student is required to lead the supervisor into the data production i.e. the supervisor depend son the translation of the participants' conversations. This argument is analogous to the sense of subjectivity in quantitative and qualitative research: both quantitative and qualitative research paradigms have subjective elements and one methodological strength of qualitative methods is an awareness and reflection on this subjectivity (Drapeau, 2002); so in terms of the coproduction of research meaning that the supervisor is aware through lack of language skills that the supervisor and the research student are collaborating in meaning-making is a strength developed and owned through reflexivity. That the supervisor is outside his/her context and its constraints of context and tacit understandings, and hence needs to listen intently to the student's world view and perception makes the research relationship more equal, more honest and more real. It is this sense of grounded collaboration, when the relationship between researcher and supervisor works well, that offers a significant advantage to all parties in cross cultural research.

Conclusion

This paper has attempted to show that NVivo offers significant assistance to those who work in cross cultural situations, especially when one of more co-researchers is not fluent in the language of the research participants. To exemplify this argument the case of the authors was explored. In this instance the researcher was fluent in Mandarin and the research supervisor was not fluent in Mandarin. The research supervision relationship was judged to have profited from this situation due to the increased reflexivity of both partners. NVivo was used to analyse the developing research data and its ability NVivo's ability to represent non Roman scripts and character sets proved to offer both practical and methodological advantages in the research that promoted the trustworthiness claims of the research findings.

It is hoped that the experiences of the author encourages other research supervisors to engage in cross cultural research not only for the benefits to the potential student researchers and their fields of research but also for the professional and personal benefits accruing to the research supervisors. Potential research supervisors can be assured that using the qualitative analysis software NVivo can bring increased trustworthiness to their shared work and that such collaborative work can produce outcomes of high validity and usefulness.

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