

Searching for meaning: a method of analysing interview transcripts with a personal computer

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Unstructured, qualitative data present a challenge to the nurse researcher. This paper offers a method of focusing on 'meaning units' as the basis of developing a category system for the analysis of interview transcripts. The use of the wordprocessing program *WordPerfect* is described as a method of automating some of the stages of this form of data analysis. Whilst the computer cannot replace the researcher as a critical reviewer and analyst, it can take over many of the more clerical tasks of the research process.

INTRODUCTION

Qualitative research methods have been widely recommended as a method of collecting data about people's subjective experience, their views and perceptions (Munhall & Oiler 1986, Somer & Somer 1991, Morse 1991). The interview method offers one way of collecting these sorts of data. When 'structured' interviews are conducted, the analysis process is relatively straightforward. All responses to a question, from each of the respondents, can be grouped together. Thus, if all respondents are asked: 'What are your views about using the lecture method in nurse education?' all of the responses to that question can be brought together and various themes within those responses can be identified relatively easily.

The 'unstructured' interview, however, poses difficulties. The unstructured interview is useful

when a researcher is trying to explore, in some depth, a variety of points of view and does not want to be constrained by a particular interview schedule. In the unstructured approach, the interviewer is free to take-up leads, explore issues raised by the respondent and to uncover layers of meaning and perception. In general, the approach has something in common with the client-centred counselling approach advocated by Carl Rogers (1967) in that the interviewer may allow the respondent to take the lead in the interview and allows the respondent's own ideas to structure it.

While the unstructured interview has much to commend it as a form of data gathering, the analysis of unstructured data can cause problems. Given the fact that each interview is likely to be different both in terms of structure and content, the 'bringing together' of ideas and perceptions is more difficult than is the case with structured interview data. A number of methods of analysing unstructured textual data have been identified in the literature, ranging from the grounded theory approach advocated by Glaser & Strauss (1967) to the more impressionistic methods of presenting research findings (Jones

1985). The approach that is described here offers a systematic method of analysing textual data by breaking the text down into meaning units, developing a category system and grouping together ideas of a similar sort. In these respects, it is similar to the process known as phenomenological analysis (Giorgi 1985, Kvale 1983) and has much in common with content analysis. What also distinguishes this method is that it makes use of the wordprocessing program *WordPerfect*. This is a fully-featured word processor which allows considerable manipulation of text. Whilst the method described here relates particularly to *WordPerfect*, the process could be easily adapted to make use of any other fully-featured wordprocessor.

Although specific qualitative data analysis programs are available (such as *The Ethnograph*), these are often expensive and sometimes difficult to get hold of. Also, the researcher is likely to be already using a wordprocessor and does not, therefore, have to 'learn' a new piece of software in order to analyse data in this way.

'WORDPERFECT'

WordPerfect is an industry standard wordprocessor that incorporates a wide number of wordprocessing and some desktop features. It has many functions that are useful to the researcher who handles text. Apart from the usual wordprocessing features, it can sort text alphabetically by line or by paragraph, it can allow the user to store and move large blocks of text and it can search and replace words and strings of text. It is available, for the personal computer, to run under direct operating system (DOS) and as a full graphical interface program running under Windows. Macintosh and Amiga versions are also available as are network packages. The researcher can use it to store and analyse text and to write interim and final research reports.

PREPARING THE TEXT

Before the method, described in this paper, can

be used, full transcripts must be made of all taped interviews. Transcription is a time consuming process and it is safe to estimate that a 1 hour interview will take about 5 hours to type out in full. When preparing transcripts, it is useful to leave wide margins around the text. If 'hard copy' is printed out, such margins can be used for notes and comments on the text. For the process described here, the text is kept on disc and the analysis process is carried out at the keyboard. Using wide margin settings – even when the text is to be kept in the computer – is helpful, as *WordPerfect* has the annoying habit of allowing the ends of textual lines to disappear off the right hand edge of the screen. Wide margin settings mean that the whole width of a textual document can be seen at any time.

CLEANING THE TEXT

The first stage of the analysis is to clean-up the text. Each transcript file is worked through and any 'dross' removed. The term dross is used by Field & Morse (1985) to describe material that occurs in transcripts which does not relate directly to the topic in hand or that is repetitious or peripheral. Deciding on what does or does not constitute dross in any given transcript is a difficult process. Only text which does not help in an understanding of the respondent's point of view should be omitted. It is better to leave the text alone if there are any doubts about whether or not something should be included or deleted. Examples of sections which might count as dross would be:

I don't know really. Like I say, I don't know . . . sometimes its like that . . . sometimes I just don't know . . .

I have got some notes about that . . . hold on, let me just get some papers out of my bag. I'm always leaving this bag behind. I must remember to take it with me when we finish . . .

Once the transcripts have been stripped of repetitions and oblique references to other things, the process of dividing the text into 'meaning units' can begin.

MEANING UNITS

Each transcript is carefully worked through and the text divided up into meaning units. A meaning unit is a discrete phrase, sentence or series of sentences which conveys one idea or one related set of perceptions (Mostyn 1985). Each meaning unit should stand on its own but it is likely to be related, more or less, to the unit that precedes it and the the one that follows it. The process of dividing the text-up in this way takes time and experience. It is often necessary to make a number of attempts at the process until an 'ah-ha!' experience occurs. Researchers new to the process of analysing text often find the business of facing a large block of text a daunting one and wonder where to start. It is important not to concentrate too hard on the task in hand as excessive concentration tends to blind the researcher to the units that 'emerge' out of the text. The following is an example of text from an interview transcript, followed by the same passage divided up into meaning units. The respondent is talking about learning counselling skills.

Example text

I found it difficult at first. At first I thought we weren't learning anything. We used a whole load of exercises in the school but they didn't seem to fit with what was happening on the ward. They didn't seem quite right. I suppose, looking back, they were a good idea. They are quite useful. I don't know though: in the end, you just have to try it out with real people. You can't do it any other way. I mean exercises aren't like real life, are they? Not really . . .

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It is possible to work through entire transcripts in this way, separating the text into meaning units. Initially, if it is found to be difficult to do this at the computer screen, then a printed out copy of the transcript can be worked on with a pen or pencil.

Once experience has been gained in recognising meaning units, the file containing the transcript can be worked on directly. Each meaning unit is separated from its predecessor by two 'hard returns' – by pressing the 'return' button twice. This has the effect of causing each meaning unit to stand on its own as a separate paragraph. This, as we shall see, is an important feature in using the wordprocessor's capacity for sorting and organising the text.

DEVELOPING A CATEGORY SYSTEM

Interview data always needs to be categorised in some way. The researcher is always looking for patterns within the data: for similarities and differences in the responses that respondents offer in their interviews. The use of a category system allows for the presentation of findings from the data.

Once all the meaning units in the transcripts have been separated out, the researcher can work through the text looking for meaning units that group together. It is here that a pad and pencil are used. As the text on the screen is scrolled through, the researcher writes down words that summarise the themes that are discussed in the interview transcripts. The headings that are jotted down are the categories under which the meaning units will be grouped together. If this stage of the process is to be

computerised, then a 'terminate-and-stay resident' (pop-up) program such as *Sidekick* or *Memory Mate* can be used to jot down category names.

At least two types of categories are possible: literal categories and descriptive categories. Literal categories labels are ones that identify, in a very literal sense, the contents of the interviews. Examples of 'literal' labels might be:

- Definitions of counselling
- Educational issues
- Training courses.

Descriptive labels, on the other hand, are less literal and are more geared towards catching the flavour of what the respondent was saying. Examples of 'descriptive' categories might be:

- Learning the role
- Becoming a counsellor
- Facing the fear.

In a sense, descriptive labels are more 'romantic' whilst literal ones are more 'concrete'. In recent years there have been a number of studies which have made use of descriptive labels of the sort outlined here (see, for example Melia 1987, Morrison 1992).

The aim of developing a category system is to ensure that all of the meaning units in the text are accounted for. A good rule of thumb is to try not to have more than 10 or 12 discrete categories: too many, and the categories contain few examples of each category. Too few categories and the text is insufficiently analysed. Once an exhaustive category system, that is able to describe all of the meaning units in all of the transcripts has been developed, each category can be allocated a letter. An example of such a system is as follows:

- A. Definitions of counselling
- B. Limitations of counselling
- C. Theoretical considerations
- D. Clinical applications.

Next, the meaning units are worked through on the computer screen and the appropriate letter is placed next to each of the units, at the left hand side of the screen, thus:

B. I'm not sure that I would use counselling in every situation. A lot of times, patients don't need counselling so much as information.

A. I would say that counselling was about helping people to sort themselves out. It's important that they do it. Counselling isn't telling people things. At least, it shouldn't be.

This process of allocating letters to units of meaning will soon show-up any deficiencies in the category system. Units that cannot be classified within the system can be left until all the other units have been allocated letters. Then, the unclassified passages of text can be explored further and one of two decisions can be made. Either one or two new categories are developed to account for the units that did not fit into the existing ones, or a broad, 'miscellaneous' category is opened. If there are a number of meaning units that cannot be classified within the system, then the category system, itself, should be considered again and, if necessary, modified.

VALIDITY

It is important that the category system that is developed remains true to the text that is being analysed. That is to say that the category system should 'emerge' out of the data and should offer a clear and true representation of the things that were talked about in the interviews. There are at least two methods of checking the validity of this method of analysis. First, the researcher can return to the respondents and show them the analysis. The method of categorisation can be talked through and opinions sought about the degree to which the category system does or does not fairly represent the respondents' intentions. Second, the researcher can ask a colleague or another researcher to develop his or her own category system from a sample of interview transcripts.

Ideally, there should be a reasonable match between two people reviewing the category system in this way. In practice, two people nearly always generate slightly different categories and

some degree of negotiation is necessary. It must be borne in mind, however, that it will always be the researcher who will have spent more time immersing in the data. At some point, the researcher has to make a decision to stand by his or her own category system. Much has been written about the issue of validity in qualitative research and the reader is referred to this literature on the topic for a more detailed discussion (LeCompte & Goetz 1982, Bryman 1988, Morse 1991).

ORDERING

Once validity checks have been run on the category system, and once the meaning units have been labelled with a letter that indicates the category to which each belongs, the whole transcript file can be ordered. Using the 'sort' command in *WordPerfect* (or other fully-featured wordprocessor), set at 'sort on paragraphs', the transcripts can be sorted into order. A wordprocessing sort command will automatically put all the 'A' paragraphs, all the 'B' paragraphs and so on, together. Thus, very quickly, all of the meaning units that have been identified with a particular category are brought together in an alphabetical list. The resultant list may look like this:

A. Counselling is sort of non-directive: it's working with the patient.

A. I don't know how you would talk about it: it's helping the other person in a particular way.

A. I think it's called client-centred. Client-centred counselling: that's what they call it in the school.

B. You've got to be careful. Counselling doesn't suit everyone. It may not be right for all patients in hospitals. You have to be careful.

B. Some don't need it. You wouldn't automatically counsel every patient.

B. It could be dangerous if you didn't know what you were doing. You could make things worse. You need to know what you are doing. That's my view.

The example above illustrates how sample unit meanings were drawn together under the headings 'Definitions of counselling' (A) and 'Limitations of counselling' (B). Clearly, in practice, there will be many more units occurring under each heading.

Once all of the units have been sorted in this way, the researcher will be left with an analysed transcript, divided up into discrete categories, with a range of meaning units sorted within each category. Having all of the units displayed on the screen in this way will allow for a further check of validity. The researcher will be able to check through each category to see whether or not the units of meaning really do fit in particular categories. If some do not, then the 'cut and paste' facilities of the wordprocessor can be used to move units into other categories. A wordprocessor enables the researcher to work very flexibly with textual documents in this way. However, it is good practice to 'save' the first sort of categories and to 'experiment' with a copy of the original sort. In this way, if the researcher is not happy with the reshuffling of units within categories, the 'original' sort can be called up.

EXPLANATIONS AND WRITING UP

The method described so far allows for the breaking-down of text into meaning units and the subsequent categorisation of those units into sections that illustrate particular points, ideas or perceptions. The fact that a variety of meanings are grouped together in this way means that the researcher can begin to look for patterns in the data. What the researcher is then bound to do is to offer some explanations for the patterns. He or she may want to ask why the data falls into these patterns; and may want to suggest the possible significance of these formations. Such interpretations may be psychological, sociological or philosophical according to the theoretical position adopted by the researcher. Alternatively, that researcher may prefer to remain at the level of simple description, and may decide to present the categories as they stand and to allow the reader to determine the significance of the findings.

Also, the researcher will need to make a decision about whether to simply present the findings as they stand or to link those findings with those from other research studies and with the literature on the topic. There seems to be a tradition in grounded theory studies to make constant links between findings and literature and Melia's study offers a good example of the successful use of this approach (Melia 1987). Clearly, though, the researcher must be cautious about his or her interpretation and checks for the validity of the interpretation may again be made both with respondents and with other researchers. The process of peer review, following submission of the research report to an academic journal may form part of this validity checking. A thorough reviewer will soon spot any tendency to 'overload the text with meaning'. It is important that the review stays close to the original text and does not get tempted to over-speculate about what respondents 'might have meant' during their interviews.

Finally, generalisation from descriptive and qualitative studies such as ones in which this form of analysis would be part, can only be of a speculative nature. The methods of sampling, the small size of the sample, and the methods of analysing the data all make it impossible to extrapolate from the findings to any useful degree. The whole point of studies of this sort is not to generalise but to offer examples and illustrations of particular situations and particular views at particular points in history. Thus, the study alluded to in the examples in this paper, might offer glimpses of how nurses felt about counselling in nursing in a particular part of the country at a particular point in their training. It would be dangerous to make more general claims than this.

CONCLUSION

This paper has illustrated one way of analysing qualitative data derived from interview transcripts. The method involves the use of a fully-featured wordprocessing program that allows

the user features such as sorting and block cut-and-paste. While the program described here was *WordPerfect* many of the other large wordprocessors also have these features. Many of the smaller ones do not have an alphabetical sort function and if they were used the method would have to be modified.

The computer program cannot take the place of the reasoning and curious researcher. What it can do is to automate some of the 'clerical' aspects of the analysis program and free-up the researcher to concentrate on understanding what the analysis offers him or her. Finally, it must be acknowledged that although the process of analysing data, as described here, looks straightforward enough, the handling and sifting through of data and the development of a coherent and exhaustive category system is likely to remain a time consuming process. It is important, though, to make use of the technology that is available. Although there are programs specially written for the analysis of unstructured data (such as *The Ethnograph*) it is hoped that this paper has illustrated how an 'everyday' program can also do the job and help in the production of carefully analysed data sets.

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