Issues in research

The philosophical bases of grounded theory and their implications for research practice

What are the implications of using a grounded theory approach in nursing research? Liz Norton discusses the issues and offers some personal insights

The research process occurs within the context of 'invisible colleges' or research communities which share conceptions of problems and methods (1). The communities subscribe to different paradigms or views of the world (1) which support different philosophical stances; there are contrasting ontologies, epistemologies and methodologies (2). It is generally believed that researchers' choice of paradigm or paradigms of inquiry will influence their work since their world view and accompanying ontological, epistemological and methodological assumptions will guide how they think and act during the research process (1, 3). But an alternative view suggests that, in practice, research methods are not necessarily determined by philosophical considerations (4, 5). The content of this paper stems from reflection upon my experience of generating a grounded theory. I aim to consider the philosophical bases of grounded theory method and to discuss the relevance of these in relation to the generation and writing of a grounded theory. I will argue that the links between ontology, epistemology, methodology and method are important and need to be observed when generating a grounded theory in order that research rigour is maintained. My account begins with clarification of the

meanings of the following terms: 'ontology', 'epistemology', 'research methodology' and 'research methods' and then I discuss these concepts as they relate to the generation of a grounded theory.

According to Guba and Lincoln (6), ontology refers to assumptions made about the form and nature of reality; it is the study of being. For example it establishes assumptions about 'reality', whether this is external to the individual or the product of individual's consciousness (1).

Epistemology refers to claims as to how knowledge of 'reality' may be gained (7); it considers the nature and forms of knowledge and reflects the relationship between the 'knower' and what may be known. The researcher's views of the nature of knowledge will influence the methodology and methods used in research; if knowledge is perceived as hard, objective and tangible, then a natural science method is likely to be used. However, when knowledge is seen as subjective, personal, unique and of a 'softer' nature, it is likely that the researcher will select qualitative methods (8).

There is often confusion about the terms 'research method' and 'research methodology' in the literature and they are sometimes used interchangeably (7). I have taken 'research methodology' to refer to how researchers go about finding out whatever it is they think can be known; 'the analysis of how research should or does proceed' (7). It provides guiding principles that help to inform decisions about procedure and research strategy (9). In comparison, research method tends to refer to specific techniques of data collection and analysis available to the researcher (7).

The three concepts of ontology, epistemology and methodology are related, in that epistemology is defined by ontology, and methodology is influenced by both ontology and epistemology (6,10); our views about what constitutes reality are thought to determine those of the nature of knowledge and together, these determine methodological principle.

Grounded theory method is derived from the theoretical framework of symbolic interactionism (3,11,12) and is considered to be an

interpretivist approach to the research process (3,11). The interpretivist approach itself, stemmed from the constructivist paradigm and emerged in the 19th century as a reaction to the positivist quest for objectivity and theory and hypothesis testing (9).

The research paradigms which underpin grounded theory then, are constructivism and interpretivism and a detailed discussion of these will follow. The realist and positivist paradigms of inquiry will also be explored in order to provide context; positivism appears historically, to have been the 'benchmark' against which other paradigms have been compared and critiqued for much of this century (12,13) and I feel that a comparative approach will best illustrate the nature of grounded theory research. The relevance of the philosophical standpoints described will be examined in relation to the practice of grounded theory research.

According to Blaikie (7) there are two broad ontological approaches to social enquiry which are described as realist and constructivist. Realist ontology assumes that social reality exists independently of the observer and the activities of social science. It also assumes that reality is ordered and that it is possible to observe and explain uniformities within it. Realist ontology sees social reality as independent of the researcher. An example of a research paradigm which supports this position is positivism (6).

Positivist ontology proposes that 'reality' is driven by laws. It is context free and generalisable (10). Positivist epistemology is based on the supposition that the social world can be investigated in the same way as the natural world. Science is independent of the researcher and the researcher can therefore gain a perspective of social life from outside it. The investigator and the investigated are independent; the researcher may study an object without being influenced by it and without the object being affected by the researcher. Bias can be controlled methodologically and quantification is privileged. Experimental hypotheses are stated in advance and tested empirically to verify or disprove them. Findings represent a single 'truth' (10) and the social world is one system comprised of variables which can be separated and explored independently in order to establish causal

relationships.

In comparison, in the constructivist paradigm of 'reality', mental constructions are formed by individuals. Constructivist, and the derivative interpretivist approaches to research such as grounded theory, assume that social reality is produced and reproduced by social actors. As a consequence there must be many constructions of reality. Constructivist and interpretivist ontologies see social realities as inseparable from researchers (1) not least because the researchers construct the worlds they research. In constructivism and interpretivism, ontology and epistemology merge because the 'knower' is inseparable from whatever can be known within the overall construction of a particular reality (3). What follows is a reflective account based on my experience of generating a grounded theory. I have included it to illustrate the value that knowledge of this ontological perspective had for me, in terms of research practice and method.

The goal of data analysis in grounded theory is the generation of a set of categories (footnote 1) and properties of categories (footnote 2) from the data and the combination of the categories into a theory (16). This goal is achieved via a four stage method called the constant comparative method. The four stages are as follows: the comparison of incidents within categories; the integration of categories; delimitation of the theory; and the writing of the theory (17).

During my research using grounded theory, I began the first stage of the analytic process with the method called open coding (15). Here, the data is divided into discrete and meaningful segments (15) which form units of analysis to be compared one by one in order to create categories (hence the term the constant comparison method of analysis) (17).

Footnotes

1. A category is: a 'cluster of coded data' (14), reflecting a 'type of concept' (15).

2. A property is: 'a type of concept that is a conceptual characteristic of a category, thus at a lower level than a category. A property is a concept of a concept' (15).

Open coding was followed by theoretical coding which involved the interpretation of data, the linking of substantive codes theoretically and the development of conceptual categories (18). In theoretical coding, the researcher is expected to draw on a higher level of abstraction than the substantive codes of the data, in order to develop conceptual categories which serve to group the individual concepts derived from open coding. Categories emerge through the comparison of incidents and properties of categories emerge through further comparisons. Each incident is coded into as many different categories as possible.

Initially, I felt clear about my aims in terms of data analysis and theory generation. I had researched the process of grounded theory generation thoroughly, and to avoid 'muddling' methods (11), had decided to follow the Glaserian school of grounded theory (footnote 3) However, as I began the processes of open and theoretical coding I realised that I was not actually interpreting the data but considering it in a descriptive sense. As the penny dropped as to what I should have been doing, I began coding and categorising again, but with a more analytic eye. On reflection, my initial limited analysis was related to a concern that I should be interpreting, categorising and theorising in the 'right' way. I realise now that I was actually resisting the method, possibly because of my biological science background and the positivist nature of my previous research activities. I was seemingly held back from using the interpretivist, grounded theory approach as intended, because I was apparently locked into 'realist mode'. Creswell (20) says that researchers take with them a world view or an outlook which determines how they view things and although theoretically I thought I was comfortable with using an interpretivist approach to inquiry I was not prepared for the challenge it posed to me personally, in practice. On reflection, I realise that I found it hard to absorb how the data could have multiple interpretations as interpretative research acknowledges. Eventually I accepted that I was

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3. Glaser and Strauss conceived grounded theory in 1967. However, their ideas about the approach eventually diverged and this resulted in two schools of grounded theory the 'Straussarian' and the 'Claserian' (3, 19).

forming categories from the accounts of participants in the study in the light of my own value systems, experiences and knowledge (21, 22). I accepted that this was both inescapable and valid; it is possible to give several accounts all of which may be 'true'. As May and Foxcroft (23) note, 'the very act of thinking about one meaning involves constructing alternatives'.

Becoming 'theoretically sensitive' (footnote 4) was also an issue. I had conducted a limited literature review at the beginning of my study and planned to read during the research process to make myself 'theoretically sensitive` to ideas emerging from the data (17). However, I had not anticipated the depth and breadth of reading I would need to undertake during the concurrent processes of data collection and analysis and found this rather overwhelming. I soon became concerned that the scope of the categories I produced, relied upon and were potentially limited by the theoretical knowledge I possessed at the time of categorising (24). Allowing the data to speak for themselves but also transcending them with 'theoretical spectacles' was more difficult than 1 had anticipated. On reflection, once I was able to internalise that according to interpretivist ontology my study was based on others' accounts of their realities and my personal interpretations of those, I felt more at ease with the research process.

I acknowledge that I was, and probably still am, a novice grounded theorist As such, I gained insight and guidance from knowing about the philosophical bases of my research. On reflection from the point of view of research rigour, if I had not been aware of the philosophical bases of my research and had not applied them to practice, I would have achieved description as a research outcome instead of a grounded theory. This, according to Stern (11) is a common.

Both constructivist and interpretivist epistemologies see knowledge

Footnote

4. Being theoretically sensitive refers to the researcher's ability to conceptualise and to formulate theory as it emerges. It relies upon the personal attributes of researchers and their theoretical insight (17).

as created through the interaction of the researcher and the researched (10). Given this assumption, interpretivists focus on the interests and purposes of all of those involved with the research process. As a result, methodological concerns for the interpretivist are quite distinct from those of a positivist persuasion (1). For example interpretive methods are not perceived to guarantee 'truth' as they are in positivism. In interpretative methods issues of validity and truth do not rely on methodology, rather they rely on the interpersonal skill of the researcher in gaining the perspectives of the researched because the researcher is the research instrument. There are no reliability and validity coefficients in interpretative research (1). Rather, researchers must be reflexive and consider the impact and effects on the researched that they may have had (and vice versa). Rigour necessitates and is determined by reflection on research (25). In terms of research method, this means researchers should acknowledge their involvement with, and their inseparability from, the research. They should present their research in the first person (25) and by writing themselves into their reports via reflexive accounts about the research process and decisions made throughout it.

According to Cocklin (26), researchers should present their actual experiences of the research process as opposed to the ones they may have anticipated or would have preferred. They are required to go beyond the mere description of analytic method and should elaborate via 'reflection in action'. This gives readers access to their experience, not least because researchers need to acknowledge their assumptions and make them explicit in order to enable the reader to evaluate issues of reliability, validity and generalisablity (27, 28). Accordingly, grounded theory research requires inclusion of such reflection not as an apology – for it may risk having what Hammersley and Atkinson (21) describe as 'something of a confessional tone...whereby the problematic, incomplete, mistaken, dubious, unethical, or uncomfortable aspects of the work are allowed to emerge' – but rather to illuminate the research process for the reader who is also, after all, part of its construction.

Interpretivists acknowledge that they are only able to glean

perspectives of research participants' lives but they aim to discover why people do what they do and to uncover possibly hidden knowledge, symbolic meanings and rules of social life. They try to explain and understand others' realities (1). For them, the social scientist needs to gain 'insider' accounts of life and should not impose an outsider's view. The social scientist should try to understand the world of lived experience from the point of view of those who live it (29). The 'mundane and taken for granted' needs to be 'grasped and articulated' (7) to provide understanding of actions.

A central view of interpretivism is that there are differences in the subject matters of the social and natural sciences and it rejects the methodology and methods of the natural sciences as inappropriate for studying the social world (7) because these disregard subjective data and neglect unanticipated events because of their 'preordinate design' (30). Instead, in interpretivist approaches to inquiry humans are viewed as thinking beings who carry emotions, values and interests with them (31). They have wills and act according to them (1). They are not just objects of research as the positivist paradigm assumes; there is a subjective side to them. Although natural science methods may work with inanimate objects they are considered to be inappropriate in the social sciences which involve research into human life.

The issue of method for the grounded theorist is how to glean 'insider' accounts; perceptions of salient issues from those they research, the human and the subjective? Exploratory semi structured and unstructured interviews tend to be the primary data collection method in grounded theory research (32, 33) and observation is another means. From a methodological point of view, the interpretative researcher is involved with the creation of knowledge through the interpretation of others' constructions, rather than through verification and falsification activities (3). Glaser and Strauss conceived grounded theory method because they felt that social researchers in the 1960s were preoccupied with testing the accuracy of the measurements they were taking and testing theory within verificational studies without due

consideration of what concepts and hypotheses were appropriate for the area under investigation (17). Glaser and Strauss believed that theory generation and theory verification should go hand in hand. Hence their aim to *discover* theory within the data they obtained by their method of systematic inquiry *discovery* being the key (17).

Interpretative research approaches such as grounded theory (which allow theory to emerge and make no prior assumptions about it), use a particular strategy of theory construction called 'abduction'. This relies on cyclical processes of data collection, hypothesis formation, testing and theorising (7), compared with other strategies of research and reasoning such as induction and deduction which rely upon linear logic.

In deductive reasoning, the researcher begins with a rule which is applied to a particular research situation and a conclusion is drawn with the 'truth' of the conclusion being based on the premises of the rule. In inductive reasoning, the linear logic goes in the other direction and observations lead to formation of a theory (7). In abductive reasoning, however, researchers form their hypotheses from actors' accounts of their social lives and test the hypotheses through further data collection and theorising. In abduction, the research begins with the researcher describing actors' everyday activities and meanings. Something is only significant to researchers if the researched tells them that it is a part of their social reality (11). Theory is constructed from actors' descriptions so that theory generation is part of the process of the research, rather than something which precedes or follows it (7) and this is fundamental to the concept of grounded theorising.

In the field of research practice, Glaser (15) warns that if grounded theorists are too specific about the area of their research at its outset, this will lead to emergent issues being suppressed with the real phenomena at work 'squelched from focus'. Instead, the research must be left open to the emergent by the identification of a broad research area. There are also implications for the role of literature reviewing activities. In comparison to other approaches to inquiry where it is it is customary for researchers to begin by reviewing the literature in order to see what others have discovered in relation to the topic in question and to set their own work in context, there is no such initial literature

reviewing exercise (15). This is because the method seeks to *discover* the concepts which relate to the research problem; hypotheses stem from the research data (14, 15) and not others' studies, hence researchers are free to discover the emergent and should not be influenced by what they think they should find (15, 17). Reading occurs in grounded theory research but it is carried out in a manner which reflects the stage of the study reached (15). Although some aspects of reading may be left to later stages of the research process, initially reading may occur in areas that are not directly related to the subject in question (15).

For example, as I had not used a grounded theory approach to inquiry before, I spent a great deal of time reading about method in an attempt to understand how I should be proceeding at each stage of the research process. Later, my reading was associated with emergent concepts. I also read others' accounts of grounded theory to gain a feel for how my work might best be presented. According to Glaser (15), this approach to the literature ensures that reading is relevant since its main purpose is to furnish the researcher with 'ideas'. Ideas, lead to 'theoretical sensitivity' which enables the researcher to identify concepts emerging from the data and to relate them to the theory being generated. Theoretical sensitivity also helps the researcher to develop hypotheses.

Glaser (15) advocates that researchers may leave the consideration of published literature which applies to their field of study, until stages in the research process when it may be integrated. The theory which is generated by the researcher may eventually be compared with the theory of others but the literature is used to explain the theory generated; the grounded theory is not derived from it (14). Effectively: '...the grounded theory stands on its own, it is not a sophisticated verificational process, honouring some extant theory that does not work or is not relevant in the first place'. (15).

Abductive reasoning is further reflected in the way that the 'stages' in grounded theory of data collection, analysis and theory building.,

occur simultaneously.

It would therefore appear that I have found clear and useful links between philosophical issues and method in relation to grounded theory research. Indeed, my experiences in generating a grounded theory have left me in no doubt as to the value of the philosophical bases of grounded theory in guiding me to being true to the method in a pragmatic sense. As I have described, the grounded theory method I was using could not have been separated from its philosophical underpinnings without compromising the consistency of the research process, data interpretation, and research rigour.

While accepting that many issues impinge on the approach researchers choose (9), with previous discussion in mind it is difficult for me to accept others' views that methods can be used divorced from their epistemological (and therefore I would also say their ontological) underpinnings (4, 5, 34). Hammersley (5) states that philosophical considerations do not have the determinate implications for method as is sometimes assumed, for example not all quantitative work is of a realist nature. Indeed, Bryman (34) argues that Glaser and Strauss (17) themselves acknowledged the feasibility of utilising both qualitative and quantitative data to generate a grounded theory. However when they said that: 'the process of generating theory is independent of the kind of data used' (17), they were not, in my view, saying that the data could be collected, analysed and theory generated in an aparadigmatic way. Data, irrespective of its qualitative or quantitative nature, cannot be used to generate grounded theory unless it is collected, analysed and theorised about simultaneously, true to the spirit and the bases of the interpretative paradigm and grounded theory method.

There are implications for research rigour if methods are used divorced from their epistemological bases. For example, if method and methodology are determined by the research question (10, 17, 35), they are not context less and data collection and interpretation processes are value laden exercises whichever paradigm a researcher chooses to use (36). It may therefore be argued that researchers need to be reflexive about the methods and processes they have used within their studies but they will be unable to be reflexive if they have no

conception of the philosophical underpinnings of their research activities. It follows then, that researchers need to be aware of their philosophical assumptions. They should make these explicit in accounts of the research process in order for consumers of the research to appraise the suitability of methodology and methods chosen to study a particular phenomenon and to check research rigour.

In conclusion, Glaser (15) states that: 'It is only by applying the methods in research that one gains the sufficient, delayed understandings of how they work and what they produce...' He writes that grounded theorists are made through their involvement with the processes involved; through their practical and theoretical experiences and not merely through texts and classes. This paper suggests that some of the theoretical experiences of which Glaser speaks (15), should be related to familiarisation with the philosophical bases of research which in turn, will inform the researcher's understanding of grounded theory method and ultimately their practice.

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