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Dancing with data: An example of acquiring theoretical sensitivity in a grounded theory study.

Abstract

Glaser suggested that the conceptual route from data collection to a grounded theory is a set of double back steps. The route forward inevitably results in the analyst stepping back. Additionally side stepping through, leading participants down lines of inquiry and following data threads with other participants, is also characteristic of acquiring theoretical sensitivity, a key concept in grounded theory. Other ways of acquiring theoretical sensitivity comprise; reading the literature, open coding, category building, reflecting in memos followed by doubling back on data collection once further lines of inquiry are opened up. This paper describes how we 'danced with data' in pursuit of heightened theoretical sensitivity in a grounded theory study of information use by practice nurses in New Zealand. Providing an example of how analytical tools are employed to theoretically sample emerging concepts.

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Background

Glaser and Strauss are the fathers' of the popular qualitative methodology and methods package known as grounded theory, first described in their 1967 seminal text *The Discovery of Grounded Theory* (1967). The main premise of grounded theory is that theory can be constructed from the data as opposed to theory providing a hypothesis to be tested through the process of data collection and analysis. One of the key concepts of grounded theory is the researcher's acquisition of theoretical sensitivity with Glaser devoting an entire book to the concept (Glaser, 1978). He suggested that the researcher, whose sensitivity will usually be of a single field, by this he means a single discipline or profession, should steep themselves in the literature when dealing with variables (codes and categories in the data). He suggested that,

'by familiarity with ways of constructing variables in other fields he may imbue his theory in a multivariate fashion that touches many fields.....Possibilities are limited only by the social psychological limits of the analyst's capacity and resources.' P. 3

Birks and Mills (2011) suggest that Glaser's view on developing theoretical sensitivity, using literature, is not very clear. These authors suggest that in reading the literature, there may be a fine line between enhancing sensitivity to developing concepts in your own data and forcing your data into an existing theory. Similarly Kelle (2007) too suggests that this fine line may be difficult to reconcile.

Strauss, following the publication of *Discovery* went on to write *Basics of Qualitative Research* (1990) with Juliet Corbin. In this book sources cited that can assist in the development of theoretical sensitivity include; the literature, professional experience, personal experience and the analytic process itself. These authors suggest that,

‘increasing sensitivity to concepts, their meanings and relationships is why it is so important to interweave data selection with data analysis. Each feeds into the other thereby increasing insight and recognition of the parameters of the evolving theory’.

These ideas resonate with the metaphor ‘dancing with data’ which is evocative of stepping back and forth in a series of moves that coalesce into one. Charmaz (2006) suggests that sensitivity is attained through stopping and thinking anew, by considering multiple vantage points, comparing, following leads and building on ideas. She suggests that theorising is not a mechanical process and that ‘whimsy and wonder can lead you to see the novel in the mundane’(p. 135). Charmaz firmly believes in the use of gerunds (a noun formed from a verb) as they foster the examination of enacted processes suggesting that attention to actions and processes rather than individuals may aid in the process of constructing theory.

Introduction

This paper describes the analytic tools the lead author (KH) used to increase theoretical sensitivity and pursue data through theoretical sampling. Initially KH employed an ethnographic technique to observe and inquire about information use by practice nurses in her own general practice, she then interviewed practice nurses from alternate general practices. The unit of analysis will be discussed, along with the processes the lead author, KH, adopted to acquire data. Although cognisant of the phases of coding in grounded theory methods used by Glaser and Strauss (1967), Strauss and Corbin (1990; 1998) and Birks, Chapman and Francis (2006), the authors preferred the style of coding and use of gerunds, developed by Charmaz (2006) for this study. Literature on information use in disciplines other than nursing was not examined in the data collection phase, as KH was concerned about ‘forcing the data’ into an extant theory. The context of practice nursing in New Zealand, the UK and Australia was reviewed in relation to Government policies of the three countries and has been published elsewhere (Hoare, Mills, & Francis, 2012). Additionally a previous study examining guideline use by practice nurses in New Zealand heightened KH’s theoretical sensitivity to practice

nurses' information use. Both of these studies provided the foundation and a starting point for this research. Monash University Human Research Ethics Committee approved the conduct of this study in 2009.

The unit of analysis

Barry Gibson writes a 'window into grounded theory' in the text *Grounded Theory, a practical guide* (Birks & Mills, 2011, p. 25) where he describes specifying the unit of analysis. He suggests that most people miss this idea when embarking on a grounded theory study. However it was described in *Discovery*, under 'specifying a concept,' in the second chapter entitled 'Generating Theory'. In *Discovery* analysis was not conducted on individuals' experiences but on the sociological setting they were a part of. KH and JM (second author) met and discussed this concept with Barry Gibson (BG) when JM was conducting research to write the book *Grounded Theory, a practical guide*. The conversation stayed with KH and along with KF's (third author) advice to tape a note with the written topic of inquiry to her computer, was uppermost in her mind when she embarked on the following study of information use by practice nurses working in general practice in New Zealand. The unit of analysis in this research is general practice. The first general practice described in this paper is a teaching practice with three team members (two general practitioners [GP] and KH) employed at the University of Auckland. Numerous medical and nursing students, GP registrars and new graduate nurses are placed in this learning environment on a regular basis and information is widely disseminated between team members including these students. Nurses from four alternate general practices were also interviewed with each of their environments' comprised of different staff compositions who disseminated information differently. BG suggests that paying attention to the unit of analysis is critical to building a solid grounded theory as each unit examined will display different properties; analysis of the data however, will eventually reveal one thing in common and will become the grounded theory.

Personal experience

Renowned grounded theorists have highlighted the importance of bringing personal experience into the research arena when conducting a grounded theory study (Birks & Mills, 2011; A. Bryant & K. Charmaz, 2007b; Charmaz, 2006; Clarke, 2005; Glaser & Strauss, 1967; A. Strauss & Corbin, 1990). Glaser (1992) suggested that the researcher must enter the arena of inquiry with an open mind. For constructivist grounded theorists however, the importance of acknowledging one's own assumptions, experience and knowledge from the outset is considered an important part of positioning yourself as the researcher (Birks & Mills, 2011). Prior to this study, KH immigrated to New Zealand from England, where she had worked in general practice, with practice nurses as a health visitor (Cowley, 2008). Prior to emigrating she assumed that practice nursing would be similar in both countries and so was surprised when her first contact with a practice nurse in New Zealand revealed that the nurse was also the receptionist – a practice she had never observed in contemporary England. KH realised that her original assumptions about practice nursing in New Zealand were incorrect. Once registered as a New Zealand Nurse Practitioner, KH worked autonomously in a general practice with practice nurses and so had the opportunity to observe their use of information. Corbin and Strauss (2008) suggest that when a researcher shares the same culture as the participants it makes sense to draw upon their own experience as even though the researcher's experience won't be identical to the participants, there will be shared elements in their experiences. The initial phase of KH's study involved employing an ethnographic technique in her own general practice, which comprised periods of observation, conversations with team members and collection of field notes and memo writing. From this initial phase, four categories emerged for KH to pursue with nurses from alternate practices (see Figure 1, Step 1).

The use of questions

If the researcher acknowledges shared experiences and reveals personal information, an equal position of power within the interview may be facilitated (Birks & Mills, 2011; Mills, Bonner, & Francis, 2006a). For example, using a case scenario, such as immunising a child, asking 'where would you go for information?' and then following up by suggesting 'I (KH) find the immunisation handbook really helpful', aided the flow of information from participants in most of the interviews (see Figure 1, Step 2). KH was conscious that being interviewed by a University lecturer and nurse practitioner may have been daunting for some of the participants. She endeavoured to mitigate against this by interviewing the nurse in her own practice at a time of her choice and KH assumed a grateful, respectful demeanour. Charmaz (2006) suggests that participants may tell painful stories which they never imagined telling you, and that their level of comfort is a higher priority than obtaining data. Knowing when to probe, listening when participants are re-experiencing painful memories and validating their experience, then slanting closing questions towards a positive note are principles to follow when asking questions.

Initial coding

Following the first interview initial codes were formulated (see Figure 1, Step 3) which remained close to the data. For example the initial code of 'being a leader' is derived in part from the following comment after asking a participant if her experiences of doing postgraduate study have changed her role in the practice:

Participant (P1): [they] ..use my intellectual property with no acknowledgement, I'm going to stop doing it.

KH: around what? [using intellectual property]

Participant: anything and everything, they [other nurses] come and ask my advice about programmes running, lots of different nursing resources and programmes run by ProCare (the primary health organisation).

The code 'helping others' is derived from the following:

KH are there certain nurses that you would willingly help?

P1- *oh no I help all of them*

K H– but some you'd feel keener to help?

P1- oh absolutely

KH – and what is it about them then.... they recognise what you've got?

P1-It's not even that ... because you respect them too. It works both ways respect. It's more of a relationship than anything. *I'd help anyone with anything... I would.*

Both of the codes described use gerunds which are verbs used as nouns and denote action. The code 'helping others' is close to the original data '*I help all of them*'. Charmaz suggests that staying close to the data when coding, preserves the participant's experience, which if ignored, the ensuing grounded theory will reflect an outsider's rather than an insider's view.

Memos

Charmaz (2006) describes memos as informal analytic notes. They are fundamental to a grounded theory (Lempert, 2007). Memos serve as the link between data collection and drafts of first papers. Memos enable a researcher to interpret the data by asking questions of it (Birks, Chapman, & Francis, 2008). They also serve as an audit trail and proof of a contemporaneous record of the researcher's developing theoretical sensitivity (Birks & Mills, 2011). The following memo illustrates KH's thoughts following the interview with P1:

'P1 feels resentment at some of the nurses coming to her to ask for information because of lack of acknowledgement of her skills in information finding. Resentment because this skill isn't recognised financially or through a leadership position. It would be interesting to interview a practice nurse whose leadership position is recognised. The importance of role models was highlighted again. Knowing how to find information comes from learning how to sort information.'

The above memo illustrates the emotion of resentment. Birks and Mills suggest that identifying participants' emotions can lead to analytic breakthroughs and give meaning to events. P1 contradicted herself by stating that she was no longer prepared to share her intellectual property and in the next breath declared that she'd help anyone. KH analysed this as conflict in herself (P1) because although she acknowledged her own skills acquired through postgraduate study, she felt resentful at sharing them because of a lack of recognition by other team members of her skills. See also Figure 1, Step 4 for an additional memo which led KH to the next two participants, new graduate nurses.

Theoretical sampling

Unique to grounded theory, theoretical sampling is driven by the researcher's developing theory (Birks & Mills, 2011; Charmaz, 2006; Cutcliffe, 2000; Glaser & Strauss, 1967). At the beginning of the study there are no prescribed numbers of participants. In this reported study, although theoretical sensitivity was heightened by the ethnographic phase, the first interviewee was chosen because she was the initial volunteer. KH's rationale for selecting participants two and three, were that the 'being a leader/role model' code was significant in the data from P1. KH theorised that new graduate nurses would actively seek role models to emulate their practice in information seeking (see Figure 1, Step 5). Theoretical sampling continues until no new codes are identified in the data at which time coding is of a more advanced nature and the researcher seeks extant theory to add explanatory power to their integrative grounded theory.

Acquiring sensitivity through professional experience

After the first interview, KH was invited to a nursing and midwifery award ceremony where a practice nurse who was also a nurse manager of a large medical centre, was presented with a leadership award (see Figure 1, Step 6). Theorising that this nurse's experience of sharing information and being a role model would differ to P1's, due to the acknowledgement of her status

as leader, she was invited to participate in the study. Only one new code emerged from this participant's (P4) interview. Through KH's professional networks, she learned of a new graduate nurse who was placed in a solo GP owner practice working with two part-time practice nurses. KH theorised that the new graduate's experience of role models would differ to that provided by P1 or P4. One of the practice nurses agreed to be interviewed.

Flip flop technique

This technique is referred to by Corbin and Strauss (2008) as turning a concept 'inside out' or 'upside down'. The researcher examines a concept from a different perspective in order to highlight significant properties. KH learnt of a practice where the two nurses worked as assistants to the GP, neither had pursued postgraduate study and KH theorised that they would have little opportunity to engage in professional development. A new graduate nurse had been placed in this practice and the concept of being a leader/ role model to a new graduate nurse in this context, KH believed would highlight different properties of this code. So from interviewing a participant who won the leadership award and who imparted information which supported the 'being a leader code', KH 'flip flopped' the concept and chose to interview one of the nurses who worked as a GP's assistant. What transpired was a significant new code, which became an in-vivo code (see Figure 1, Steps 7 and 8). Participant 5's words about the new graduate nurse were:

'Having her there has actually allowed me to become a better practitioner'.

Following this interview KH wrote the memo:

'New graduates have changed my practice too. Seeing things with fresh eyes and excitement, reminding me of my younger self. Playing with children, having fun. Finding mundane tasks interesting.'

Theoretical sampling will continue in this study by pursuing the themes of new graduate nurses as facilitators of sourcing information and seeing with fresh eyes. Additionally the negative case of a practice with no new graduate nurses will be investigated.

Conclusion

Researchers employing grounded theory methods in their research design will potentially strengthen the knowledge claims of their grounded theory if they are explicit about the route taken to theoretically sample and subsequently heighten their theoretical sensitivity. This paper has provided a practical example of a grounded theory research project at (most probably) its mid way point. The authors approach the next stages of, more data collection, theoretical saturation and abstraction of the data, with enthusiasm, anticipating a theory of information use by New Zealand practice nurses which is truly ground in the data.

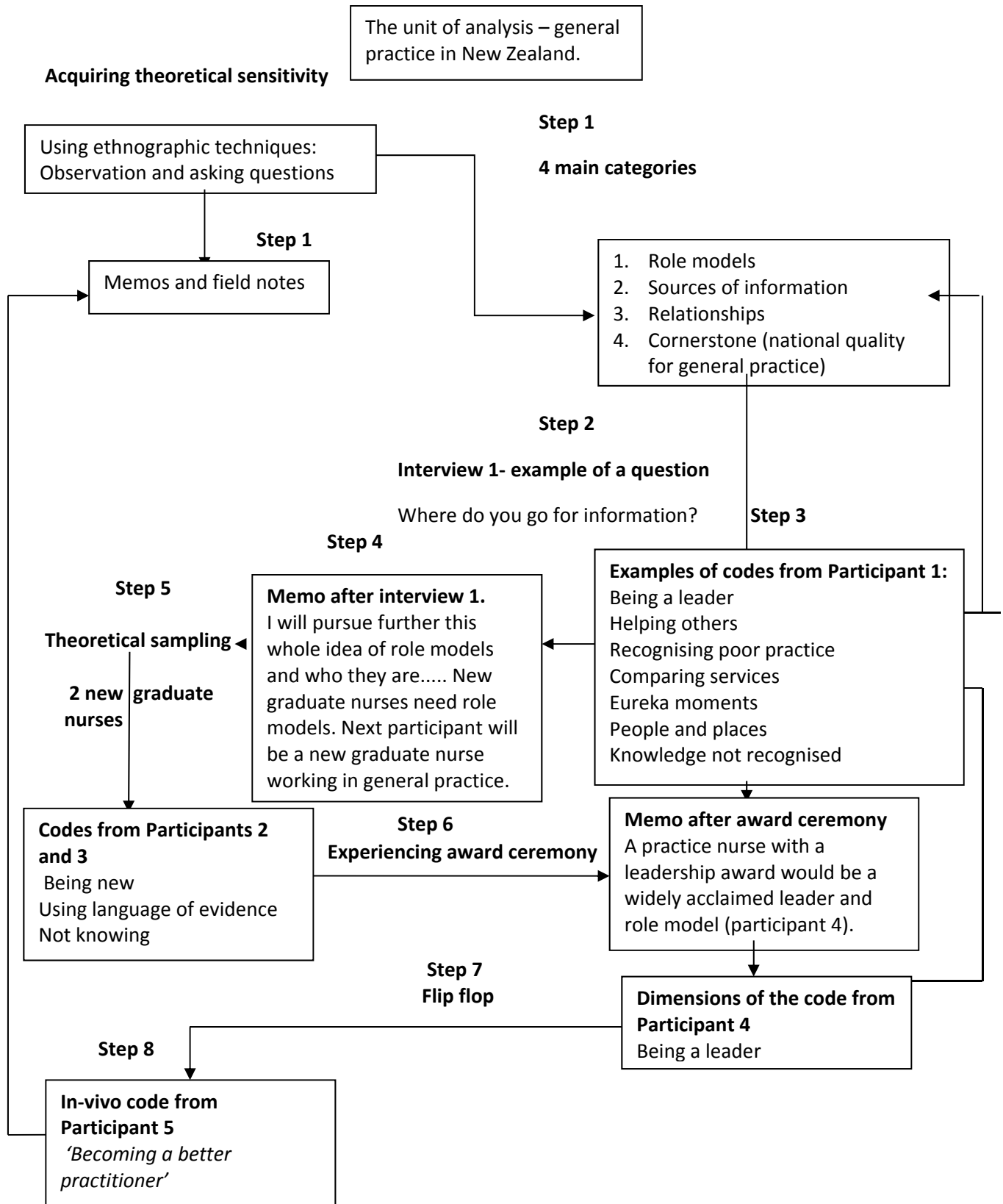


Figure 1. Acquiring theoretical sensitivity: the steps of dancing with data.

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