Use of reflexivity in a mixed-methods study


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Abstract

Aim To present a novice researcher’s use of a reflective research diary in the quantitative measure of a mixed methods study and to recommend resulting changes to practice.

Background Reflexivity is often regarded as a useful tool for ensuring the standard of qualitative research. Reflexivity provides transparent information about the positionality and personal values of the researcher that could affect data collection and analysis; this research process is deemed to be best practice. A reflective research diary also allows researchers to record observations about the research process. However, such diaries are rarely used in quantitative research and are even contraindicated.

Data sources A reflective research diary maintained while conducting a retrospective audit of 150 hospice casenotes.

Discussion This paper raises questions about whether reflexivity is appropriate in quantitative research, whether it has the capacity to add something of value or whether it endangers the robustness of the method. The authors consider the place of grounded theory’s commitment to reflexivity in this mixed-methods study and discuss whether reflexivity offers any benefits to researcher development.

Conclusion Use of reflexivity had a positive impact on the progress of the quantitative measure of this study: it enabled work to be reviewed efficiently and served to inform future research practice. Reflexivity stimulated the acquisition of researcher skills and contributed positively to the development of confidence in the novice researcher.

Implications for research/practice Reflexivity in quantitative research practice can be an effective, ongoing means of critically reviewing work, process and researcher development. Reflexivity is recommended to other quantitative researchers.

Keywords Reflexivity, insider research, reflective research diary, audit, novice researcher

Introduction

REFLEXIVITY IS usually associated with qualitative research, the domain of which is the in-depth exploration of research topics in terms of concepts, beliefs and motivations (Parahoo 2006). It is widely acknowledged that qualitative researchers are not regarded as objective observers of social phenomena because of their social, political and cultural positioning in the worlds they study (Colaizzi 1978, Burkitt 1997, Frank 1997). Ryan and Golden (2006) saw the researcher as a participant in a dynamic relationship with the research. If researchers do not have an objective position with respect to their research, questions regarding the validity of the research arise. The adoption of a reflexive stance is seen as a way of enhancing confidence in qualitative research and establishing researchers’ credibility (Patton 1999, 2002), as a ‘necessary element of quality’ (Holloway and Freshwater 2007) and as a means of making the researcher’s position transparent (De Souza 2004).
In a mixed-methods study, it is legitimate to ask questions about the place of reflexivity: should reflexivity apply solely to the qualitative aspects of the study or should there be a uniform approach to reflexivity? The first author [SW] of this paper adopted a reflexive stance throughout this mixed-methods study as a way of opening a window on the research activities, her thoughts and interactions. This paper reports on SW’s use of a reflective diary during the quantitative phase of the research study, which involved a retrospective audit of hospice casenotes.

The research context
The audit reported in this paper is part of a larger ongoing PhD study consisting of four phases:
- A retrospective audit of 150 hospice casenotes to show the documentation of patients’ preferred place of death (PPD) over two years.
- Hospice staff focus groups.
- Semi-structured interviews with patients.
- Semi-structured interviews with carers.

Data from the four phases will be analysed using grounded theory methods. Phase one of this exploratory research, the audit, the findings of which are reported elsewhere (Walker et al 2011), was a way to acquire baseline data regarding PPD at the hospice and the only quantitative measure used in the study.

Reflexivity in qualitative and quantitative research
Reflexivity is usually associated with qualitative research methods. Polit and Tatano Beck (2010) described reflexivity as the process of reflecting critically on the self, and of analysing and noting personal values that could affect data collection and interpretation. Reflexivity has been widely used in relation to collection methods for qualitative data, particularly with regard to interviews, in recognition of the potential effects of interpersonal dynamics on the research.

In qualitative interviews, the researcher rather than an inanimate object, such as a blood pressure monitor or a questionnaire, collects the data, and in social situations, people interact with each other. These interactions can influence the data gathered, calling into question the research’s validity. Gabrielle et al (2008) recommended that a qualitative research report should contain information regarding any personal and professional factors that could have affected data collection, analysis and interpretation, either negatively or positively. Thus, reflexivity can be seen as a ‘concept used to describe the relationship between the researcher and the object of the research’ (Brannick and Coghlan 2006).

The use of reflexivity with quantitative research methods is rare because of the philosophical dichotomy between qualitative and quantitative research methods (Mauthner and Doucet 2003). Quantitative data collection can be seen as a formal, objective, systematic process in which numerical data are used to obtain information about the world (Burns and Grove 2005). The quantitative research environment is closely controlled and researchers take care to minimise the risk of bias, not least through trying to be external, objective observers. Reflexivity is usually seen as superfluous because it adds nothing to the collection of factual quantitative data. Moreover, being reflexive in quantitative research has been seen as a weakness, since it has the potential to undermine control measures underpinning quantitative research’s validity (Ryan and Golden 2006).

In phase one of the research team’s study, data were obtained according to such a method: extant information from the hospice casenotes was transferred to a data capture form, which served as the data collecting instrument, with the researcher acting as a technician.

However, the research team decided to adopt reflexivity with regard to the audit for a number of reasons. First, this maintained a consistent approach to data collection and analysis across all four phases of the study. As a novice researcher, the first author of this paper asked the naïve question ‘Why not?’, thus assuming the hypothesis that reflexivity may add something to the first phase of the research, rather than endanger the robustness of the method. Being open to hitherto unseen insights emerging from the research process by means of reflexivity, even when using quantitative methods, seemed in keeping with the exploratory nature of this research study, which was inherently inductive. The focus was on the process with researchers striving for a clearer understanding of how to pose the research problem, to learn what the appropriate data might be and to evolve conceptual tools (Blumer 1969).

The use of reflexivity with the audit was desirable for the authors’ study because it used constructivist grounded theory, a methodology that explicitly demands a reflexive stance that informs readers how researchers conducted their research, related to the participants and represented them in reports (Charmaz 2006).

From the outset of the study, the supervisory team agreed that keeping a reflective diary would benefit SW. The diary would assist in ensuring that the eventual theory generated would be
demonstrably grounded in the data and thus contain a degree of trustworthiness (Whittemoor et al 2001). Furthermore, a PhD is about more than completing research – it is about equipping the researcher with a set of ultimately transferable skills. Recording such professional change and growth in a research diary accords well with the concept of promoting an understanding of self in context (Rolfe and Freshwater 2001).

A further dimension of the study that demanded a reflexive stance was the fact that SW was formerly a member of staff at the hospice where the research was to be conducted. Therefore, anticipating concerns regarding insider research, the supervisory team decided against techniques such as ‘bracketing’ (Scott et al 2008) in which the researcher tries to ignore previous knowledge and experiences, and instead opted for the first author to make notes in the diary of her responses to any encounters that touched on insider research (Martin et al 2007).

SW therefore kept a reflective diary when conducting the audit. The diary added a further dimension to the research by allowing critical consideration of the auditing process. It also provided the opportunity to record and evaluate SW’s reactions, thoughts and feelings during this time. The reflective diary was completed as soon as possible at the end of each day of auditing to capture fresh observations about interactions with staff and data, as well as thoughts and feelings that had arisen during the day. This approach is consistent with Finlay’s (2002) notion of reflexivity as a process whereby researchers engage in explicit, self-aware analysis of their roles.

Thoughts arising from SW’s experiences of conducting the audit are presented and considered in this paper by referring to extracts from the diary. As the story of the audit unfolds, a picture of the author reflecting during the research, and on the process of the research, emerges.

Reflections

Issues about the mechanics of conducting research in an institution in which members of staff were going about their daily work were noted in the research diary. SW had to determine how to achieve a balance between being a courteous guest in a host institution that had never before allowed research to be conducted, and being persistent in gathering the required data in a timely and efficient manner. SW was frustrated when the medical records staff forgot she was coming in that day, despite being given written notice. Initially, the hospice computer containing the required information was made available to SW but had not been set up correctly for viewing information pertinent to the audit, meaning that no work could be done until the IT technician had corrected this. The entire hospice computer system was turned off for repairs for several hours on two occasions meaning that SW was required to seek permission to attend the hospice on additional days. The fact that this fieldwork was taking more time than originally scheduled made the author feel inefficient.

The research diary noted that SW had seen Real World Research (Robson 2002), but wondered whether it should have been called What Your Supervisor Never Told You Before You Started Your Fieldwork.

Robson (2002) would probably have argued that sharing information about difficulties, hitches and frustrations that researchers have encountered in fieldwork with other novice researchers could be empowering. For example, the setbacks recorded in this diary are part of a narrative in which difficulties in fieldwork were eventually overcome. Despite initial problems in accessing the required data, the audit was completed successfully.

Working with a pre-set data capture form presented unforeseen problems in accessing the required data. These problems were another feature of the potential disconnect between theoretical preparation for fieldwork and the realities of accessing data on the ground, and they were recorded in the diary.

The data capture form was developed using insider knowledge of the hospice notes system in conjunction with a member of the local research ethics committee (LREC) who was a researcher at the research team’s university.

Before fieldwork began, the data capture form seemed to be an adequate and robust audit tool. However, as was noted in the reflective diary, some of the data available in the hospice notes did not correlate precisely with the data capture form. The data from the ‘Hospice at Home’ section of the notes was problematic because the data suggested a number of possible interpretations outside the yes/no alternatives offered by the data capture form that needed to be noted during the audit so as to be picked up in the analysis. To note all the interpretations effectively, SW chose to record this data in red on the data capture sheet as an alert that it required further investigation. This decision was recorded in the research diary, pointing to its usefulness as an extra source of audit data. After reflecting in the diary on the steps taken to capture the required data, the issues with the data capture form were perceived as less problematic, more instructive of how pragmatic
research decisions are valid, integral parts of research and how reflexivity adds necessary insight into the complex dynamics that exist in quantitative research (Ryan and Golden 2006). This process gives weight to the view that keeping a contemporaneous narrative account of research activities is a valid means of recording important decisions and can also help to make research decisions.

The diary recorded that SW had noticed an emerging sense of having ideas about analysis that had started to form during this stage of data collection, and that the relationship between data collection and analysis is not necessarily linear or constitutive of one-way traffic. Moreover, the author noticed that an inductive approach to data collection and analysis was being used. An entry in the research diary asked the following question: ’Is this all a consequence of following the data as a grounded theorist?’ This was a grounded theory study – in which an inductive approach is used so that the eventual theory is derived from the study of the phenomenon it represents, rather than beginning with a theory or hypothesis that is then tested (Glaser and Strauss 1967). It seemed appropriate that the research was beginning to follow the data. Grounded theory lends itself to the exploration of emerging research ideas that may surface at any stage in the research, and the constant comparison method encourages dynamic interaction between data collection and analysis (Strauss and Corbin 1990). These observations record potentially significant research decisions or, at least they record a noteworthy stage of the research.

Professional boundaries and integrity
The diary also records SW’s status as a recent former employee of the hospice and that conducting the research meant working with former colleagues. SW had been a chaplain at the hospice for some years and had worked closely with many members of staff. Her trepidation at returning to the hospice is not yet on the computer system. Without good knowledge of the system: for example, the ‘Hospice at Home’ service notes were not in an obvious place but a member of staff directed the first author to a system filter called ‘Type of Care’, then ‘Hospital’, then ‘Review Topics’, then ‘Images and Pictures’ and finally ‘View Documents’. The research diary notes that: ‘Staff are helping me collect data. What would the LREC say? Is this a conflict of interest or is this merely part of being embedded within this context?’

Mruck and Mey (2007) argued that to be involved personally in a research topic is not necessarily a problem and may even have advantages: personal experience can lead to insights and perspectives that may remain inaccessible to outsiders. Mruck and Mey also made the point that interaction between researchers and participants is a constitutive element of grounded theory, in that it has its roots in symbolic interactionism. Symbolic interactionism (Blumer 1971) would see interaction between researchers and participants as unavoidable because it holds that people construct selves through interactions and that researchers, as active participants in their situation, would inevitably relate to the participant and the research topic under study.

Other conversations with ex-colleagues enabled SW to learn about new innovations in this area of which the researcher was ignorant. For example, the hospice had recently introduced a ‘supportive care plan’, aimed at enabling the planning of patients’ care. This plan did not directly address patients’ PPDs, although the hospice community nurse who mentioned the document hoped it might lead to conversations about PPDs. The research diary notes that: ‘This document is not yet on the computer system. Without good relationships and conversations with staff, how could a researcher find this information? Then again, I am a novice. Maybe a more experienced researcher would have asked if there was any further documentation to be found.’

The diary also noted that the first author felt momentarily dismayed at the discovery of the ‘supportive care plan’ because it seemed that the hospice was already addressing PPDs and that the research was unnecessary. The diary entry concluded, however, with an exhortation to positive thinking: the information formed part of the research and would
serve to inform staff focus groups (phase two), and patient and carer interviews (phases three and four).

Some conversations with members of staff delayed the process of data collection – some still viewed SW as a chaplain and not as a researcher. Here, the diary records that several members of staff felt free to discuss their troubles with the researcher and, in some cases, felt able to ask for advice: ‘Have you got a minute, rev?’ and ‘Oh great, I could do with a talk with you,’ are cited as typical examples in the diary. These types of encounter were perhaps inevitable and had to be negotiated sensitively and with integrity.

Many insider researchers have grappled with this issue. Arber (2006) conducted research in a hospice, where she was a researcher and a practitioner, and found that keeping a reflexive journal helped to manage the boundary between closeness to the research topic and the distance required to carry out the research in a professional manner. In the case of the research reported in this paper, some ‘insider conversations’ had an unforeseen positive effect: they generated interest in the study and several staff signed up to join the phase two focus groups.

On a more personal level, the diary noted that data collection had an emotional effect on SW, who had to read through some of her casenotes regarding patient encounters. While this did not directly affect data collection, it left SW with a sense of the poignancy of research about patients she had known and for whom she had cared and of emotional labour expended (James 1992, Smith and Gray 2001). Etherington (2004) commended the kind of critical subjectivity that keeping a research diary allows, especially in health research where researchers have generally been socialised into professional ways of thinking that can affect how they approach their research data. Keeping a research diary does not ignore the fact that the qualitative researcher is the main instrument for collecting data but provides a place for a conscious form of self-monitoring that articulates how interactions among researcher, data and process can affect the final research report (Holloway and Wheeler 2010).

Conclusion
Keeping a reflective research diary during the completion of the audit was an effective means of reviewing the research to improve and inform future research practice. In addition, the diary was useful in reviewing the development of SW’s fieldwork and analytical skills, including the ability to recognise thoughts, feelings and emotions and how they are part of the research process. In essence, the process of keeping a diary provided the researcher with instantaneous opportunities to reflect on the issues relating to process and content associated with collecting data. Self-discipline was crucial in routinely continuing this process of reflection.

References
Gaser RG, Strauss AL (1967) The Discovery of Grounded Theory: Strategies For Qualitative Research. Aldine Transaction, Chicago IL.
Rather than being a guarantee of the trustworthiness of the research (Bulpett and Martin 2010) or a safeguard against investigator bias as suggested by Lincoln and Guba (1985), the value of using a reflective diary in qualitative research may lie elsewhere. A reflective diary adds extra texture to the research in an attempt to present a complete view of the research process. Perhaps this is what Gadamer (1975) meant by 'signposting the reader' to what occurred in the research.

Combining reflexivity and quantitative methods also raises epistemological questions. In these post-modern times, it is rarely asserted that even hard science research can produce absolute certainty in its results (Maxwell 1992). Rather, knowledge is regarded as provisional, uncertain and having a variety of potential alternative explanations (Willis 2007). The acknowledgment of researchers’ positions through reflexivity can add to the research’s scientific value by demonstrating meaning and specificity (Harré 2004).

Guillemín and Gillam (2004) asserted that reflexivity is about a researcher’s personal role and about the process of generating knowledge and the factors that have influenced it. This novice researcher’s experience of using a journal as part of a reflexive approach supports this view: for example, the journal deals with the researcher’s questions concerning the following:

- Whether or not it is permissible to deviate from a pre-set data capture form.
- Issues relating to interacting with practitioners to enhance understanding of the documents in the audit.
- The challenges of the dynamic relationship between data collection and analysis in grounded theory.

Finally, using a reflective diary has greatly assisted SW in the initiation into the world of qualitative research. Perhaps unusually, initiation has been in relation to the quantitative part of the research study: an audit of casenotes using descriptive statistics. This audit led the supervisory team to speculate on the potential significance of keeping a reflective diary in relation to the other three qualitative phases of the study. Using a reflective diary in sensitive research, such as death and dying, may be an important element in helping researchers, providing a way to create dialogues about the challenges and difficult experiences potentially encountered (Owens and Payne 1999).

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Conflict of interest

None declared


