

**For this article please cite**

Tuckett, A. (2005). Part II: Rigour in qualitative research- complexities and solutions. *Nurse Researcher*, 13(1): 29-42.

**Part II: Rigour in qualitative research: complexities and solutions**

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**Abstract**

This article discusses a researcher's strategies to attain rigour in qualitative research. Relying on Guba and Lincoln's (1989) trustworthiness criterion, it outlines the research strategies and operational techniques the researcher employed to meet this criterion. Research strategies included the use of a field and research participants' personal journal, audio recording and transcript auditing, and keeping a thematic log during interviews. These are examined as they contributed to rigour. Additionally, operational techniques included using the atypical (negative) case, member checking, triangulation strategies, thick description, and peer review. These are similarly examined, as they were utilised in practice.

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**Key words:** Rigour, trustworthiness, operational techniques, triangulation strategies

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**Introduction**

This article discusses the trustworthiness criterion (Guba & Lincoln 1989) and the research strategies and operational techniques (Lincoln & Guba 1985) a researcher (AT) employed to meet this criterion. Practical guidance is provided for handling some of the issues and complexities related to maintaining rigour in qualitative research. These strategies and techniques were implemented in research into truth-telling in high level (nursing home) aged care. The reader can more fully understand the researcher's experiences, research choices, and theoretical position by referring to the first article in this two part series. Suffice to reiterate here that the project, in which these research strategies and operational techniques were employed, explored the meaning of truth-telling within the care provider-aged resident dyad in high level (nursing home) aged care in an Australian context (Tuckett & Stewart 2004; Tuckett & Stewart 2004a; Tuckett 2004b in-press).

## Discussion

### Rigour in Qualitative Research

The researcher would have liked to have honored Sandelowski's commentary, that

research is both a creative and destructive process; we make things up and out of our data, but we often inadvertently kill the thing we want to understand in the process. Similarly, we can preserve or kill the spirit of qualitative work; we can soften our notion of rigor to include the playfulness, soulfulness, imagination, and technique we associate with more artistic endeavours, or we can harden it by the uncritical application of rules. The choice is ours: rigor or rigor mortis (1993: 8).

In so doing, he might have been *more* playful, sometimes soulful and even artistic. However, rigour in qualitative research 'is as much situated and linked to the politics and particularities' of centres for research as it is to 'following established methods and practices' (Ezzy 2002: 51). As a result, the following approaches were taken.

The language that describes, and the meanings attached to the terminology for establishing and assessing rigour in qualitative research vary from that of traditional positivist studies. However, the criteria for rigour, that is, the 'goodness criteria' (Miles & Huberman 1994: 277) or 'trustworthiness' criterion (Lincoln & Guba 1985: 289,300) for qualitative studies 'parallel' the traditional terms (Schwandt 1997; Guba & Lincoln 1989: 233).

Some care is required to avoid uncertainty with the use of these parallel concepts. On the one hand the understanding that positivist reliability can be aligned to 'confirmability' (Clarke & Wheeler, 1992: 1285) is incorrect. On the other hand, the citation of the work by Zyzanski, McWhinney, Blake, Crabtree, and Miller (1992) that 'reliability is equivalent to credibility and dependability, as compared to validity, which is closer to confirmability' in Boyatzis, (1998: 150) indicates someone's confusion. Finally, there is the claim that Lincoln and Guba's (1985) trustworthiness criteria includes 'triangulation, prolonged engagement, negative case analysis and auditing' (Caulley 1999: 2). This assertion is imprecise.

Drawing from the literature, Table 1.0 shows (reading left-to-right) the positivist rigour criteria and associated qualitative rigour criteria espoused by Guba & Lincoln (1989; Trustworthiness), Guba & Lincoln (1981; Evaluation Criteria) and Sandelowski (1986; Criteria for Rigour) and the respective research strategies and operational techniques (Lincoln & Guba, 1985) employed by the researcher.

Table 1.0: Criteria for rigour and the 'parallel' terms

Rigour Criteria	Trustworthiness <sup>1</sup>	Evaluation Criteria <sup>2</sup>	Criteria for Rigour <sup>3</sup>	Research Strategy	Operational <sup>4</sup> Techniques
Internal validity	Credibility	Credibility	Truth Value	Field/personal Journal Tape recorder Thematic log Auditing Transcript	Atypical (negative case) Purposeful(theoretical) sampling Constant comparison Member checking Triangulation Audit trail
External validity	Transferability	Fittingness	Applicability	Data display Simultaneous literature review	Purposeful(theoretical) sampling 'Thick' description
Reliability	Dependability	Auditability	Consistency	Field Journal Tape recorder Thematic log Auditing Transcript Nurse's story	Atypical (negative) case Triangulation Peer review Audit trail
Objectivity	Confirmability	Confirmability	Neutrality	Field Journal	Audit trail

<sup>1</sup>Guba & Lincoln (1989: 233-243); Lincoln & Guba (1985: 289, 300) <sup>2</sup>Guba & Lincoln (1981)

<sup>3</sup>Sandelowski (1986: 29-34) <sup>4</sup>Lincoln & Guba (1985: 219)

## Research strategy

### Researcher as instrument

The credibility of the research resides in part in the skill and competence of the researcher (Angen 2000). Sandelowski (2002) argues that where interviewing defines the qualitative research endeavour, training is required. The researcher had served some 'period of apprenticeship' that involved review of relevant literature and experience

- with group and in-depth interview method in Tuckett (1998) (Angen 2000),
- in facilitating small and large group discussions amongst undergraduate and post-registration nursing students focusing on general health care issues and ethics,
- in interviewing residents, patients and patients' families during admission into hospital, namely geriatric, acute adult, and emergency paediatric, and
- in mentoring undergraduate nursing students in high level (nursing home) aged care clinical practicums since 1992.

### Field and Personal Journal

Researcher field notes contributed to credibility and dependability because they are both 'analytical in themselves' and because they contain 'immediate and later perceptions and thoughts' about the research participants (Rose & Webb 1998: 560; Tuckett 2004). As such, the researcher's field notes were the medium for the employment of those strategies that facilitated the constant comparison of data (contributing specifically to credibility). Additionally, the field journal became another 'data source' and contributed to credibility and dependability in the context of data triangulation (Higginbotham et al. 2001: 247; Rice & Ezzy 2000). Furthermore, the researcher's field notes exist as a record of coding, writing and theorising that can be

made available for auditing. Finally, the researcher utilised his notes for self-reflection about the research process (Koch 1994). That is, reflection on the research process, his role and potential influence on data collection.

In the context of contributing to trustworthiness, the research participants' personal journals assisted in reducing two potentially negative influences on credible data. As have others during the research process, the researcher posed the question: 'How far did the research itself influence the findings?' (Tuckett et al. 1985: 208). For instance, the researcher (AT) tape-recorded care providers and residents and did this make them self-conscious? This potential threat to credibility was diminished through the use of the research participants' personal journal as it gave participants an opportunity to write down their understandings and meaning about truth-telling before (or after) the group discussion (Tuckett & Stewart 2004; Tuckett & Stewart 2004a).

Secondly, the research participants' personal journals reduced 'groupthink' (MacDougall & Baum 1997: 533), or 'bandwagon' effect (Carey 1995: 490) in which participants acquiesce to the majority view and are unwilling to dissent and therefore remain quiet (Sim 1998). As with the potential effect of a tape-recorder, the potential threat to credibility by groupthink was tempered by providing research participants the opportunity to write down their impressions, views, and understandings before the group discussion began.

The researcher had generated four 'stories' from his preliminary qualitative study into lying and deception in general nursing practice (Tuckett 1998). The utilisation of the four 'stories' provided an element of homogeneity for the group interview and personal journal. In this way, the story as the stimulus increased the 'consistency of judgement' about the raw information by increasing to some extent the 'consistency of setting' in which the data were collected (Boyatzis 1998: 147; Goodwin & Goodwin 1984).

### **Tape recorder, thematic log and auditing transcripts**

The tape-recording aimed to counter criticism of qualitative research as 'prone to systematic bias' (May 1991: 198). The recording of the group discussion and follow-up in-depth interview facilitated credibility and dependability of the data collection procedure (Peräkylä 1997). Whilst tape-recording removed one aspect of bias, bias during analysis was also eliminated through member checking and triangulation (to be discussed).

Furthermore, keeping a thematic log during the group discussion and follow-up in-depth interview as part of the researcher's field notes added to overall accuracy or 'authenticity' (Cutcliffe & McKenna 2002) or 'truth value' (Sandelowski 1986: 29; Ericksen & Henderson 1992: 1203, Miles & Huberman 1994: 278). This thematic log was relied upon to summarise a group discussion or an in-depth interview. Therefore, immediate notation into the researcher's field journal of themes promoted capturing ideas that were credible to the participants (Tuckett & Stewart 2004).

Auditing transcripts aimed to ensure accuracy. The use of a hired transcriber creating the verbatim transcript meant that the researcher then audited every transcript against the original audio-tape. This auditing was considered extremely important for gaining a close contact and familiarity with the data and therefore, overall trustworthiness (Boyatzis 1998). This process proved to be a lengthy, 'systematic examination' of the transcribed texts so as to 'ascertain their accuracy'

(Oxford English Dictionary 1989: 781; Pecchioni & Nussbaum 2000). Auditing transcripts recognised that qualitative data analysis continues with careful listening, reading, re-reading, and 'preliminary thematic identification (memoing)' of the taped and transcribed text (Miles & Huberman 1994: 56).

In addition, marginal remarks - that is the writing of ideas - were made directly onto the transcript. Whilst codes were written onto the left-hand side of the transcript page, corresponding remarks were written on the right-hand side of the page (Miles & Huberman 1994). Remarks included ideas about ideas (theorising), instructions for the researcher when seeking clarification in the follow-up in-depth interview, noting 'negative cases' (Peräkylä 1997: 212) and cross references to data within the same transcript or references to data in other transcripts. Making remarks during the transcript reading not only erected sign posts for later reflection but also reduced the tedium of coding (Miles & Huberman 1994). In reducing the tedium of coding, marginal remarks helped 'prevent or lessen errors and distractions' related to the researcher's mood and style (Boyatzis 1998: 16).

Furthermore, the auditing of transcripts was integral to the operational technique - member checking (discussed below). That is, useful member checking relied on the production of an accurate transcript given that an aim was to produce a valid research account (both descriptive and theoretical).

## **Operational Techniques**

### **Purposeful/theoretical sampling and constant comparison**

The operational techniques of purposeful/theoretical sampling and constant comparison were discussed in the first article of this two part series. Purposeful/theoretical sampling contributes to credibility (Roberts & Burke 1989; Brink 1991) because participants were sought on the grounds that they were likely to have and share their understanding of truth-telling. Additionally, transferability is facilitated because sampling aimed to include '...the widest possible range of information for inclusion in the thick description' (Lincoln & Guba 1985: 316) Furthermore, constant comparison of data added to credibility (Ambert et al. 1995; Brink 1991) since the research strategies employed contributed to data accuracy.

### **Atypical (negative) case**

Following-up the atypical experience (Morse 1991) or the 'deviant case' (Peräkylä 1997: 210) challenged the adequacy of insights and in turn challenged the researcher to formulate more dependable (Brink 1991) and credible conclusions (Baum 2002; Brink 1991; Denzin 1989; Guba & Lincoln 1989; Luborsky 1994; Mays & Pope 1995; Miles & Huberman 1994). Rather than discount those participants deemed outside the general, the atypical (negative) case was analysed to 'give impetus, strength and rigour' to the development of the researcher's argument (Peräkylä 1997: 212).

For example, Registered Nurse (A-RN1) represented an atypical case. Registered Nurse A-RN1's understanding about truth-telling was embedded in her role as a Registered Nurse (team leader) but also as a daughter (resident's family member). This reality existed since one of the residents in her care was her own mother. Rather than set her views aside as different, she was purposefully followed up in an

interview because she gave the researcher an insight into the consequences of this dual role/relationship and its impact on her understandings of truth-telling.

### **Member checking**

Many writers define a process of meaning confirmation or disconfirmation as 'sending it back' to the participants to ensure that what was understood was credible (Baum 2002; Ambert et al. 1995; Guba & Lincoln 1989; Ramos 1989; Kvale 1983). However, not all agree that 'member checking' (Forrest 1989: 817) or 'respondent validation' serves a useful purpose (Angen 2000; Morse 1991; Sandelowski 2002).

Angen (2000) identifies member checking as a mechanism for attempting to identify a 'fixed' or 'static' truth – a 'fixed reality'. This is inconsistent with the view that meaning and understanding are open to interpretation over time, when framed in symbolic interactionism and social constructionism (this researcher's theoretical stance and epistemology). Sandelowski (2002) believes that 'members are not always the best judge' of what counts for valid research. This view, that members make for incompetent judges (Morse 1991) is not entirely shared by this researcher.

In response and in this study, the researcher (AT) took the view that the participants needed to recognise *something* of themselves and their world in the theorising if any claim for credibility could be made. Furthermore, reading Morse closely, she states that member checking 'as an indicator of validity is nonsense' when invoked at the *end* of the study. What Morse does advocate and what was implemented in this research was the verification of content 'step by step, piece by piece, *during* the research process' (Morse 1991: 444, italics added).

An example of member checking occurred at a follow-up in-depth interview after initial coding, writing and theorising after the group discussion. The following exchange involves Registered Nurse D-RN4 (incomplete exemplar):

Researcher (AT): Let me just run past you three statements I want you to critique

D-RN4: Yes

Researcher (AT): ...There may be events or behaviours that the family are not told about - (because of the) assessment that this will cause upset to the family...family has no control and the event or behaviour does not alter the overall resident's planned care

D-RN4: I agree with that...its sort of a need to know basis.....yes, I think we would omit it.

Member checking allowed the researcher to not just 'play back' what the research participant had said (description), but to clarify and 'interpret the significance of their self understanding' in ways the participant may not have been able to (theorising) (Grant & Giddings 2002:16).

### **Two triangulations: method(ological) and investigator**

Triangulation has widespread support as an operational technique for enhancing credibility (Ambert et al. 1995; Baum 2002; Lincoln & Guba 1985; Willms & Johnson 1993) and dependability (Baum 2002; Boyatzis 1998; Denzin 1989; Goodwin & Goodwin 1984; Miles & Huberman 1994). Triangulation is understood as 'involving varieties of data, investigators, and theories, as well as methodologies' in the investigation of the same phenomenon (Denzin 1989: 237). In this definition and

attendant explanation, 'methodologies' actually refers to methods (Bednarz 1983: 38 cited in Greene & McClintock 1985).

The rationale for triangulation is an attempt to overcome any inherent weakness or bias of a single research strategy. Trustworthiness in the author's qualitative research was premised on two types of triangulation – 'method(ological)' and 'investigator' (Denzin 1989: 239).

### **Method(ological) triangulation**

Methodological triangulation refers to combining dissimilar techniques for data collection about the same phenomenon. Specifically, between-method or cross-method triangulation was utilised whereby different data collection methods such as the personal journal, the group discussion, the interview and the researcher's field journal were used to collect data about truth-telling (Denzin 1989; Willms & Johnson 1993; Tuckett & Stewart, 2004; Tuckett & Stewart 2004a). Consequently, any potential weaknesses, for example, in the group discussion (groupthink) or interview (perceived absence of anonymity) were countered by the research participants' personal journals.

A *caveat* is required to balance the proposition that methodological triangulation promotes credibility (Miles & Huberman 1994). This type of triangulation aims to enhance the credibility of overall findings through congruence and/or complementarity of the data from each method. That is, the researcher examined data to find 'similarity, consistency or congruence of results' and sought 'one set of (data) enriching, expanding upon, clarifying or illustrating the other' (Greene & McClintock 1985: 524). The researcher noted in his field notes his awareness of congruence:

July 27 2001: Thematic congruence: (1). Emergence from interviews and journal agree. (2). Emergence and congruence from different carer groups ie PCA  $\leftrightarrow$  RN (3). Emergence and congruence from across care locales.

Later, his awareness of complementarity:

September 17 2001: Credibility & (triangulation/dependability): different carer(s) perceive X about other carer(s) Y and carer(s) Y describe own perception as X. ie carer describes the action, event, understanding of the nurse and the nurse spontaneously expresses consistency (same-same)

### **Investigator Triangulation**

Investigator triangulation utilises multiple observers as opposed to a single observer (Denzin 1989). Triangulation in this research extends to triangulating analysts (Patton 1990; Denzin 1989). That is, utilising a second investigator to analyse some of the data and compare findings. In this study, the author's academic supervisor became the second investigator (DS).

As with the caveat for method(ological) triangulation, some clarification is required of the proposition that investigator triangulation promotes dependability (Miles &

Huberman 1994; Denzin 1989). During those occasions in which the principal researcher (AT) and his research supervisor (DS) independently analysed the same qualitative data and then compared findings, the intent was not to build consensual understanding, *per se*, but rather the seeking of multiple meanings to add breadth and depth to the analysis (Denzin 1989).

The process of triangulating analysts occurred on three occasions. In each case, the principal researcher (AT) and his research supervisor (DS) independently reviewed an audited transcript. Consistent with the prior discussion about analysis, 'marginal notes' were also made on the transcripts by the second investigator (Miles & Huberman 1994: 67). The researcher (AT) and his academic supervisor (DS) then met for a discussion about their respective conclusions. As part of this meeting, the principal researcher (AT) recorded the congruence and/or complementarity of the triangulation process in his field journal.

Three group discussion interviews were chosen - the group discussion for personal care assistants (PCA) at A, the residents at C and the Registered Nurses (RN) at D. The rationale for selecting these three was

- nursing home A was the site for the first group interview of personal carer assistants, evidenced the case for separating Registered Nurses and personal carer assistants (homogenising according to title) and contained an interesting atypical case,
- nursing home C represented an early resident group and was the source for an emerging idea about awareness theory (Glaser & Strauss, 1965) namely, residents' awareness that family and care providers invoke 'Don't Tell Mum'.
- nursing home D represented a later Registered Nurses group and was the source for an idea about 'easing and omitting' the truth in the residents' 'best interests', and evidenced congruence with residents' claim that family 'Don't Tell Mum'.

The use of a second investigator for improving trustworthiness in this research was arguably used in its 'simplest form' whereby the 'two observers discussed each observation until agreement was reached' (Boyatzis 1998: 150). Instances occurred during the comparison of findings, where agreement was facilitated by the principal researcher's (AT's) closer relationship with the data. This assertion can be made because of the principal researcher's constant comparison of data and knowledge of the participant's voice, emotions and body language from the group discussion, as recorded in his field notes (Tuckett & Stewart, 2004)

### **Thick description**

Thick description is proposed as advancing the claim for transferability of a qualitative study (Miles & Huberman 1994; Lincoln & Guba 1985). In order to determine what thickness adequately describes, for the purpose of transferability, this term needs some commentary.

There is some agreement that 'the burden of proof for claimed transferability is on the receiver (consumer)' (Guba & Lincoln 1989: 241) of the research. To this end, the consumer, not the researcher, 'does the generalisation...it is up to the consumer to decide what aspects of the case apply in new contexts' (Wehlage 1981:216 cited in Peshkin 1993: 26, italics added). What is to be transferable is the knowledge that emanates from the study (Morse 1999). For the knowledge to be generalisable, the 'thick' description must include the research setting and information about



participants as well as in-context data and credible interpretation. Information and description of this kind was recorded and stored in

- the researcher's field notes (field journal – see Tuckett & Stewart 2004),
- coded electronic and hard copy demographic and data files, and
- detailed during the write-up.

## **Peer Review**

Peer review, as a 'type of investigator triangulation' (Van der Heide 2001) involved the use of an 'objective other'. A reviewer was identified as appropriate and utilised premised on the following credentials:

- Previous professional experience as the Director Human Resources for State Education in Queensland (Australia) and therefore considered knowledgeable about communication in organisations,
- experience with overseeing, conducting and implementing research in education and most currently for Volunteering Queensland,
- previous peer reviewer of Tuckett (1998),
- currently Volunteer Manager for Volunteering Queensland, and
- attending three times a week to his 98year old father who is a resident at a nursing home operated by a different organisation than the one used in this research.

The reviewer read and critiqued the research data and interpretations. The reviewer's meticulous reading and marginal notes contributed to additional reflection by the researcher on both process and content. Overall, of significance, the reviewer concluded that the work was 'comparable to my current nursing home experience' and the reviewer found the research 'interesting' and he was 'associating with it the whole time' (researcher's field notes).

## **Conclusion**

This article reviewed Guba and Lincoln's (1989) trustworthiness criterion and the research strategies and operational techniques the researcher employed to meet these criteria. As an examination of a rigour route in qualitative research, research strategies including the use of a field journal and research participants' personal journals, audio recording and transcript auditing, and keeping a thematic log during interviews were discussed and reviewed. Additionally, operational techniques including using the atypical (negative) case, member checking, triangulation strategies, thick description and peer review were equally analysed. Relying on accepted methods literature this article presents examples from practice as a means to guide both novice and experienced nurse researchers in the sometimes difficult problem of maintaining rigour in qualitative research.

## Acknowledgements

I acknowledge the supervisory role of Associate Professor D.E Stewart, School of Public Health, Queensland University of Technology, Kelvin Grove Campus, Queensland, Australia. I would like to also thank colleagues of the Centaur Memorial Fund for Nurses, Queensland, for partially funding the research titled 'Truth-telling in aged care: a qualitative study'. This paper is adapted from the author's Doctoral thesis.

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