CHAPTER FOUR

SEARCHING FOR MEANING: METHODOLOGICAL CONSTRAINTS, CHALLENGES AND DECISIONS

To get closer to the sense ... requires a different manner of proceeding, a manner not dependent on language, rationality or culture; it requires a simple openness to that which meets us at every turn, in every thing, every thought, feeling, idea, person. (Smith, 1996, p.9)

The previous chapters concluded that reflection is best conceptualised as a complex and holistic search for meaning. This chapter considers how that search for meaning might be investigated and portrayed, given current methodological constraints. As with any research question or challenge, there are numerous methods from which to choose (see, for example, Cooper & Hedges, 1994; Denzin & Lincoln, 1994; LeCompte & PREISSLE, 1993; Tesch, 1990). Decisions ultimately depend upon the researcher's ontological, epistemological and methodological beliefs (Guba & Lincoln, 1994; Pitman & Maxwell, 1992) and purpose in conducting the research (Morse, 1994; Bogdan & Biklin, 1992; Eisenhart & Howe, 1992; Ely, 1991). For this reason, this chapter begins with a summary of the beliefs underpinning the present study. The methodological challenges arising from these beliefs are then discussed and the decisions made in response to these challenges are then outlined.

PART 1: BELIEFS AND CHALLENGES

Beliefs shape the researcher's view of the world, and perceptions about how it should be studied and understood (Denzin & Lincoln, 1994). As such, they constitute interpretive frames through which research is conducted and affect all aspects of research design. Because we cannot divorce ourselves from our beliefs (Olesen, 1994), and as there is no neutral epistemological, ontological or methodological vantage point (Rothberg, 1990), it is essential to clarify the beliefs and assumptions underpinning any research project (Enz, 1992).

This thesis reflects three fundamental beliefs: an ontological belief in the reality of an interconnected universe; an epistemological belief that meaning is created and revealed rather than acquired; and a methodological belief in
the significance of meaning as a basis for inquiry. These beliefs and the key assumptions arising from them are outlined below.

FUNDAMENTAL BELIEFS
The fundamental ontological assumption underpinning this thesis is that the universe consists of complex interconnections of dynamic energy events rather than solid structures or substances (Kesson, 1996; Zohar, 1990; Berry, 1988; Sheldrake, 1988). Given this state of flux, interconnections and relationships, not supposedly static entities, are of primary importance (Ross, 1993; Bateson, 1979). These interconnections and relationships might best be described in terms such as energy, rhythm, pattern, tension, possibilities, chaos, stability, balance, harmony and movement (Ross, 1993; Skolimowski, 1992). Because "unrelated separateness" (Spretnack, 1991, p.21) is an illusion, compartmentalisation and rigidity are likely to constrain understanding. Awareness of connectedness and fluidity, on the other hand, might enhance understanding.

Epistemologically, this thesis assumes that understanding is more likely to be constructed from perceived connections or revealed through the medium of human consciousness, than acquired through the accumulation of independent entities of knowledge. Given the natural urge to fill vacuums in understanding with connections arising from the interplay of experience, memories, images, emotions, insight, logic, beliefs and values (Skolimowski, 1992; Fuller, 1990), understanding can be seen as a dynamic process of exploring and balancing possible connections in order to make meaning (Fuller, 1990). Yet, from the perspective of this thesis, the interconnected nature of the universe means that human consciousness "is rooted in a deeper reality" (Tarnas, 1991, p.435) than the surface reality of individual interpretations and constructions. When consciousness is receptive "the world's truth realizes itself within and through the human mind" (Tarnas, p.434). Just as "the plant at a certain stage brings forth its blossom, so does the universe bring forth new stages of human knowledge" (Tarnas, p.435). This thesis uses the terms participatory epistemology (Tarnas, 1991) and participatory consciousness (Heshusius, 1994) to describe meaning arising primarily from revelation. It assumes that constructed and revealed meaning interact fluidly on a continuum of meaning.
Methodologically, this thesis is based on a belief in the primacy of meaning as a medium for inquiry. Focusing on meaning involves investigating how people interpret their experiences in order to make sense of their worlds (Spradley, 1979). Experience is not discrete but "multifaceted, multilayered, inextricably connected with other experiences" (Boud, Cohen & Walker, 1993, p.7). Often this interconnectedness is "transparent and therefore imperceptible" (Bateson, 1979, p.14). While fractures and irregularities provide a starting point for exploring this apparently seamless web of interconnected experience, we need to move beyond these to the connections themselves (Bateson, 1979). Focusing on meaning, therefore, involves emphasising the whole, and connections within that whole, rather than fragments and the frequency with which they occur (Janesick, 1994).

**RISKS AND CHALLENGES**

The above beliefs necessitate moving beyond the conceptual and methodological boundaries characterising much of the research into reflection to date. Transcending conventional perspectives and traditional boundaries might bring new insights, but also entails risks. As foreshadowed in Chapter Three, for example, available methodological tools may prove inadequate to investigate potential insights revealed through an exploration of reflection from different perspectives. Unless risks are taken, however, understanding will not be enhanced - which could explain why Western understanding of reflection seems to have advanced little in recent years (Korthagen, 1993). In the present study, these risks were viewed as challenges, the most significant of which are outlined below.

**Challenge 1: Locating A Research Paradigm**

The primary challenge confronting this study involved finding ways to ensure consistency between its underpinning ontological, epistemological, and methodological beliefs and the methodological decisions taken. Usually, this is done by locating one’s study within a recognised research paradigm. Essentially, a paradigm is a set of basic beliefs about the nature of knowledge, reality, and means of gaining knowledge about that reality (Denzin & Lincoln, 1994). These beliefs are a matter of faith and their ultimate truthfulness cannot be established (Denzin & Lincoln, 1994). With varying degrees of freedom, the paradigm determines the design of the research project and, as such, provides considerable structure and guidance (Denzin & Lincoln, 1994).
Because this study is based on an ontological belief in universal interrelatedness and an epistemological belief in participatory consciousness, it falls outside the four commonly recognised research paradigms of positivism, postpositivism, constructivism and critical theory (Guba & Lincoln, 1994). Its closest links are to the constructivist paradigm, which assumes that meaning is constructed by individuals, and that multiple meanings are possible (Guba & Lincoln, 1994). Typically, constructivists assert that because meaning is created, reality is also "constructed by the mind, not simply perceived by it" (Tarnas, 1991, p.396). Hence, they recognise multiple realities as well as multiple meanings, arguing that the world does not exist independently of interpretation (Guba & Lincoln, 1989; Lincoln & Guba, 1985). Belief in universal interconnectedness, on the other hand, implies a belief that there is a reality, albeit ever changing, which exists independently of interpretation. This belief appears to preclude the present study from fitting neatly into the research paradigms recognised by Guba & Lincoln.

Nevertheless, the ontological and epistemological beliefs underlying this study are consistent with a shift in perspectives reported by many writers (e.g., Kesson, 1996; Ross, 1993; Skolimowski, 1992; Spretnack, 1991; Tarnas, 1991; Rothberg, 1990; Zohar, 1990; Pelletier, 1985). They argue that these changing perspectives arise from disenchantment with the dualism and rationalism commonly associated with traditional Western thought, and from the sense of spiritual disconnection and dislocation often associated with postmodernism. In times of such crises, people search for new paradigms (Kuhn, 1962). A new paradigm is likely to emerge and be recognised as valid when it "resonates with the current state of the evolving collective psyche" (Tarnas, 1991, p.438). The above writers argue that the current shift in ontological and epistemological perspectives heralds the emergence of a new holistic paradigm which emphasises the universal interconnectedness, interdependency and dynamism of all phenomenon (Kesson, 1996). They assert that because these connections are unable to be grasped reductively, this emerging paradigm represents the antithesis of reductive and dualistic thought.

Challenge 2: Overcoming A Methodological Lag

Typically, there is a lag between the emergence of a new paradigm and the emergence of methodologies for that paradigm (Forman, 1990; Allport, 1981).
This seems especially the case with the emergent holistic paradigm because of the value it places on understanding beyond language (Schwandt, 1994). Attempting to undertake research from within this paradigm has been likened to the quandary of "a musician who faintly hears a melody deep within the mind, but not clearly enough to play it through" (Berry, 1988, p.47). While calls are beginning to be made for the amplification of this melody (e.g., Heshusius, 1994), as yet there have been few suggestions about how it might be played.

**Challenge 3: Recognising Opportunities For Interaction Between Paradigms**

Freedom from the epistemological, ontological and methodological commitments of widely recognised paradigms presents inherent challenges but also provides many opportunities to recognise and make new connections. While established paradigms guide researchers in their attempts to "impose ... order on the world" (Denzin, 1994, p.502), they inevitably shape the nature of that order. As such, paradigms make research possible but can limit the nature of that research, especially if they evolve into rigid parameters for inquiry. Rigidity heightens the risk that limitations of a particular paradigm will be interpreted as absolute limits to inquiry, instead of recognised as limits of that paradigm (Pelletier, 1985), as has seemingly been the case with much Western research into reflection.

Recognising the constraints of established paradigms is one matter; envisaging methodologies capable of overcoming these constraints is another. Conceivably, there might be some scope for paradigms to "inform and interact with each other" (Denzin & Lincoln, 1994, p.560) as long as consistency between ontological and epistemological beliefs and decisions is maintained. This proposition provides a starting point for exploring methodological implications of the emerging holistic paradigm for the present study.

**Challenge 4: Identifying Connections Between The Holistic And Constructivist Paradigms**

The constructivist and holistic paradigms share a similar methodological belief in the primacy of meaning. To what extent, therefore, can the former inform the latter, given ontological and epistemological differences? To find connections, one must move beyond the commonly perpetuated assumption
(e.g., by Guba & Lincoln, 1994) that constructivism is a monolithic perspective (Phillips, 1995).

Writers such as Schwandt (1994) argue that while knowledge is constructed, a world independent of human interpretation also exists, but because of human limitations, including the reliance on language to express meaning, it might not be possible to know this other world. Similarly, Rothberg (1990) claims that surface (constructed) structures coexist with deep (universal) structures. Likewise, Katz (1978) refers to interaction between the constructed and universal, emphasising that participatory consciousness experiences, like all other experiences, are shaped by the individual's linguistic, social and cultural background. These perspectives suggest that despite ontological and epistemological differences, the constructivist and the emerging holistic paradigms are not necessarily incompatible. Consequently, methods appropriate for research undertaken from a constructivist perspective might also be appropriate for research undertaken from a holistic perspective.

**Challenge 5: Compensating For The Inadequacy Of Language**

Constructivist methods rely primarily on language (Punch, 1994) because, in Western traditions, language is the main means by which meaning is constructed and shared. Although access to meaning is through language (Altheide & Johnson, 1994), language is a problematic medium for investigating meaning for several reasons. First, meaning varies with linguistic, social and cultural contexts (Altheide & Johnson, 1994). Moreover, as meaning is relatively fixed, it lacks the fluidity of experience and understanding, and hence is unable to express much of what is experienced or understood. Thus, much meaning remains tacit, inarticulated and inaccessible (Ely, 1991; Polanyi, 1967). As well, language may distort meaning for, to be communicated, it must be encoded into predetermined symbols and interpreted. Because meaning must be twice translated, inferences may differ from intended meaning (Spradley, 1979).

The culturally bound nature of language is a further limitation (Doeringer, 1994). Language provides a schemata for interpreting the world (Perry, 1988) but, in doing so, highlights what it values and renders "mute and invisible" what it does not (Du Bois, 1983, p.108). In this sense, it "constrains as much as it enables" (Fielding, 1996, p.413). Given that Western languages tend to
focus on categories, logic, quantification and control (Doeringer, 1994; Skolimowski, 1992) and are arguably less attuned to interconnections, insight, fusion, balance and harmony (Chung-Ying Cheng, 1991), they appear not particularly well suited to exploring the holistic paradigm. As language provides a "semantic lens" (Fielding, 1996, p.413) which largely determines the nature of thought (Boud et al., 1993; Du Bois, 1983), Western researchers might be relatively poorly equipped for research within the holistic paradigm.

The complexity of these challenges suggests they might not be resolved, especially within the context of this thesis. They cannot be ignored, however, for they arise directly from the ontological, epistemological and methodological beliefs underpinning the thesis.

PART 2: METHODOLOGICAL DECISIONS

The following discussion outlines the methodological decisions concerning the current study which were made in response to these challenges. It focuses on decisions concerning the recruitment of participants and the selection of strategies for gathering, analysing and presenting the data. It also discusses ethical considerations and proposes criteria for evaluating the study.

RECRUITMENT OF PARTICIPANTS

In March 1993, at the end of their third week at University, I outlined the study to the 200 first year student teachers enrolled in the internal study mode of the first Guided Practice unit. I explained that the study would focus on aspects of their professional development, particularly their reflection, and would continue for the three years during which the participants were enrolled in Guided Practice. They would meet with me twice each semester, for approximately an hour, and keep a reflective journal. They would also allow me to visit them in their practicum placements. Student teachers were invited to complete an expression of interest profile which provided more detailed information about the study to potential participants (see Appendix 4).

From those who responded, I intended to select twelve participants. My aim was not to create a representative sample but to highlight the diversity of student teachers enrolled in the program. Thus, for several reasons, twelve
seemed an appropriate number of participants. First, it would enable diversity in terms of age, socio-cultural backgrounds, academic and employment background, prior experience with children, political orientation and general life experiences. Potentially, this diversity would yield a broad range of perspectives and illuminate connections and patterns (Morse, 1994, Patton, 1990). Second, it would provide a rich array of data but enable the amount of data collected to remain manageable within the constraints of my personal and professional commitments. Third, it would allow for a small number of student teachers to withdraw from the study without affecting its viability.

Disappointingly, however, only four student teachers expressed interest initially in joining the study. Feedback from the cohort as a whole suggested that the journal writing requirement was a major deterrent. When this requirement was abandoned, three more student teachers volunteered. The seven intending participants were asked to nominate interested friends. All five nominees invited to join the study accepted, bringing the number of participants to 12, as originally intended.

Unfortunately, the withdrawal rate from the first year of the common preservice program proved unexpectedly high, as did the failure rate for student teachers remaining in the program. Of the original 12 participants, three withdrew from the program during the first year, and three failed to meet the prerequisites for enrolment in Guided Practice in the second semester of 1993. This trend continued until mid way through 1994 when only two of the original 12 participants were still enrolled in the program and continuing with Guided Practice in an uninterrupted sequence. Five had withdrawn from the program, while five were progressing through the Guided Practice units at a slower than expected rate due to illness or failure. As participants withdrew from the study, either permanently or temporarily, other student teachers were invited to join. Invitations were extended on the basis of ability to add diversity to the group of participants. All invitations were accepted, but two participants later chose not to continue in the study for undisclosed reasons. The last participants to join the study did so in July 1994. Those participants temporarily ineligible to continue their enrolment in Guided Practice rejoined the study as they passed the prerequisite units and resumed their enrolment in Guided Practice. Appendix 5 provides further details of the full participation pattern.
As shown in Appendix 5 and summarised in Table 1, a total of 18 student teachers participated in the study for at least 2 semesters. Where possible, similar data were gathered regardless of the time the participants were involved in the study. As such, data gathering became correspondingly more intensive for student teachers who joined the study after their first semester in the program, or who rejoined after being temporarily excluded from the Guided Practice sequence.

### TABLE 1: SUMMARY OF PARTICIPATION

<table>
<thead>
<tr>
<th>Period of Participation (Semesters) *</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
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<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>1 **</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong>*</td>
</tr>
</tbody>
</table>

* excludes the five student teachers who participated for less than two semesters  
** 1 participant failed and later repeated a Guided Practice unit.

### OVERVIEW OF PARTICIPANTS

Approximately half of the 18 student teachers involved in the study for a minimum of two semesters were school leavers from Anglo-Australian backgrounds. This proportion reflected the approximate composition of the student body as a whole. As Table 2 shows, though, overall the participants were reasonably diverse in terms of age on entry to the program, education and employment history, cultural background and prior experience with children.
<table>
<thead>
<tr>
<th>Name</th>
<th>Age on Entry to Program</th>
<th>Education / Employment History</th>
<th>Cultural Background</th>
<th>Prior * Experience with Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colin</td>
<td>23</td>
<td>Incomplete university studies in Law &amp; Secondary Teacher Ed.</td>
<td>Anglo-Australian</td>
<td>Practicums in Secondary Teacher Ed. program</td>
</tr>
<tr>
<td>Erica</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo-Australian</td>
<td>Swimming instructor</td>
</tr>
<tr>
<td>Felicity</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Genni</td>
<td>22</td>
<td>TAFE Diploma in Accounting</td>
<td>Phillipino-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Gerry</td>
<td>33</td>
<td>Incomplete University studies in Pharmacy; Personnel &amp; Administration</td>
<td>Eastern European-Australian</td>
<td>Voluntary work in an alternative school</td>
</tr>
<tr>
<td>Heather</td>
<td>19</td>
<td>First year University studies in Science</td>
<td>Anglo-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Jessica</td>
<td>19</td>
<td>International exchange student between school and University</td>
<td>Anglo-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Josephine</td>
<td>18</td>
<td>School leaver</td>
<td>Greek-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Kasey</td>
<td>19</td>
<td>First year University studies in Science</td>
<td>Anglo-Australian</td>
<td>Voluntary work in a preschool</td>
</tr>
<tr>
<td>Kathleen</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Kel</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo-Australian</td>
<td>Minimal</td>
</tr>
</tbody>
</table>

* other than family experiences
TABLE 2: OVERVIEW OF PARTICIPANTS (CON’T)

<table>
<thead>
<tr>
<th>Name</th>
<th>Age on Entry to Program</th>
<th>Education / Employment History</th>
<th>Cultural Background</th>
<th>Prior Experience with Children *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kristy</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo / Greek-Australian</td>
<td>High school work experience in a preschool</td>
</tr>
<tr>
<td>Marcelle</td>
<td>20</td>
<td>School leaver</td>
<td>Indigenous Australian</td>
<td>Voluntary work in a preschool</td>
</tr>
<tr>
<td>Marina</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Nina</td>
<td>23</td>
<td>BA (philosophy / psychology)</td>
<td>Italo-Australian</td>
<td>Voluntary work in long day care centre</td>
</tr>
<tr>
<td>Pamela</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo-Australian</td>
<td>Minimal</td>
</tr>
<tr>
<td>Pia</td>
<td>19</td>
<td>First year University studies in Early Childhood elsewhere</td>
<td>Italo-Australian</td>
<td>Babysitting</td>
</tr>
<tr>
<td>Sarah</td>
<td>18</td>
<td>School leaver</td>
<td>Anglo-Australian</td>
<td>Sunday school teaching; music teaching; babysitting; High school work experience in a preschool</td>
</tr>
</tbody>
</table>

* other than family experiences

DATA COLLECTION STRATEGIES

Data collection strategies were selected for their potential to highlight the holistic nature of the student teachers' constructions, connections and understandings as they sought to make sense of becoming a teacher. This emphasis on student teachers' perceptions of teaching and of their development as teachers was consistent with the developmentalist tradition of teacher education (Zeichner, 1993) underpinning the program. Conceivably, this focus could be criticised as not conducive to critical reflection (see Chapter One), yet the data collection process itself was sufficiently flexible to allow student teachers to concentrate on issues of interest and concern to them. Hence, critical reflection was not precluded.
Six data collection strategies were used in the study: 1:1 interviews, visual representations, practicum visits, reflective writing, small group discussions and relaxation and visualisation sessions. Apart from visual representations and visualisation and relaxation sessions, these strategies are commonly associated with the constructivist paradigm (Guba & Lincoln, 1994; Punch, 1994). Nevertheless, they are consistent with the ontological, epistemological and methodological assumptions underlying this study which were discussed earlier in this chapter. Visual representations and visualisation and relaxation sessions, on the other hand, represented attempts to explore strategies particularly relevant to holistic understanding and the holistic paradigm. An explanation of each of the six strategies, and a rationale for its use, follows.

1:1 Interviews
For several reasons, indepth, loosely structured 1:1 interviews modelled on a "conversation between two trusting parties" (Bogdan & Biklin, 1992, p.47) constituted the primary source of data. Because they were indepth, they allowed time for the student teachers to explore and make explicit their thoughts, feelings, beliefs and perspectives, and to identify connections between these. In effect, they provided the opportunity for the student teachers to find their voice (Hogan & Flather, 1993). Because they were loosely structured, they enabled the student teachers to concentrate on issues significant to them, and to respond in terms of their own frames of reference (Bogdan & Biklin, 1992). Because they were modelled on a conversational style, they seemed to elicit confidence and trust (LeCompte & Preissle, 1993). This enabled ongoing exploration of the personal context of each participant, providing insight into their experiences and perceptions and the opportunity to revisit issues and earlier responses.

Interviews ranged in duration from approximately 30 to 75 minutes and tended to increase in duration the longer the participants were involved in the study. The interviews were usually conducted in my office because of the lack of suitable alternative meeting places available on campus. The relative privacy and peacefulness of this environment seemed to outweigh any discomfort arising for participants from meeting in a venue which had the potential to reinforce the unequal power relationship between participants and researcher emphasised by McWilliam (1993a). This impression was
evident from the tendency, particularly as the study progressed, for the
participants to drop by for informal chats between scheduled sessions.

Although guiding questions provided a focus for these interviews (Appendix
6), there was ample opportunity to explore issues raised by the student
teachers. Interviews were audio-taped, thus avoiding the intrusive presence
of a video camera, while overcoming the limitations of note taking (Bogdan &
Biklin, 1992). Transcripts were returned to participants for verification with an
invitation to participants to suggest changes which might represent more
accurately their intended meaning. The few changes requested were made
but, being of a procedural nature, had no impact on the meaning conveyed.

Visual Representations
In an attempt to counterbalance the inevitable emphasis on language, at the
beginning of each 1:1 interview conducted on the University campus,
participants were invited to represent visually their responses to the guiding
question for that interview. It was anticipated that this might illuminate for
participants the connections they were making on a more intuitive, less verbal
level and assist them to make explicit images underpinning their
interpretation of the process of becoming a teacher.

The choice of representation was left to the participant. Drawings were
mentioned as one possibility, however, for they can "offer a different kind of
glimpse into human sensemaking than written or spoken texts" (Weber &
Mitchell, 1996, p.304). In particular, "they can express that which is not easily
put into words: the ineffable, the elusive, the not-yet-thought-through, the
subconscious" (Weber & Mitchell, p.304). Moreover, as Weber & Mitchell
point out, "much of what we have seen or known, thought or imagined,
remembered or repressed, slips unbidden into our drawings, revealing
unexplored ambiguities, contradictions and connections" (p.304).

Mind maps, essentially "a visual non-linear representation of ideas and their
relationships" (Oldfather et al., 1994, p. 16), were mentioned as another
possibility because of their potential to encourage and portray dynamic,
openended and holistic connections (Oldfather et al., 1994). Apart from an
explanation of the purpose of mind maps and the opportunity to look at some
examples, no particular training in their use was provided. This might explain
why fewer than half the participants chose to use them at any stage during
the project. As student teachers who preferred to express their ideas in written form were encouraged to do so, in the remainder of this chapter the generic term *representation* is used in preference to *visual representation*.

**Practicum Visits**

Practicum provides first hand experience of the multiple demands and dilemmas of teaching (Cole & Knowles, 1993; Britzman, 1991; Armaline and Hoover, 1989; Calderhead, 1988). In part because of the "reality shock" (Cole & Knowles, 1993), the inherent inequalities in power (Dobbins, 1995), and the stress of establishing oneself in a new environment (Edwards, 1993), practicum is frequently an emotionally intense experience. As indicated by the number of studies reviewed in Chapter Two which include data collected during practicum, it is also widely assumed to be a context in which reflection, including reflection-in-action (Schon, 1983; 1987) is likely to occur.

To better understand the nature of the student teachers' experiences of practicum and their potential tendency to reflect on these experiences, participants were visited during the final three of their five practicums. Visits were limited to these practicums because of time and resource constraints. Because student teachers were required to take more responsibility for teaching during these practicums than earlier ones, it seemed possible that some student teachers might be more likely to engage in reflection during these later practicums.

Adopting procedures outlined by Bogdan & Biklin (1992), I made field notes containing details about the context and the participants' actions and interactions, as well as my responses during these observation periods (see Appendix 7). An indepth 1:1 interview of approximately one hour followed. Student teachers were encouraged to share their perceptions of their teaching during the period for which they were observed and to discuss issues of interest and concern to them which had arisen during the practicum. To enable the student teachers to speak freely, interviews were conducted either within a secluded area within the practicum setting, such as an empty classroom or unused section of the playground or, if no sufficiently private space was available, in a local park or coffee shop. Interviews were audiotaped and transcribed and transcripts returned to participants for verification prior to the next scheduled 1:1 interview.
Reflective Writing
While interview data is widely recognised as useful in providing evidence of reflection (see Chapter Two), data gathered from written sources, such as reflective journals and description of critical incidents (Tripp, 1994), have the potential to contribute different perspectives from data gathered through conversational interviews (Bogdan & Biklin, 1992). In much of the literature about reflection (e.g., Loughran, 1996; Pultorak, 1996; Hoover, 1994), journals are regarded as a valuable source of data, although some writers (e.g., Francis, 1995; Hatton & Smith, 1995) warn of possible problems associated with their use. As previously explained, the original intention that student teachers maintain a journal specifically for the purposes of the current project and unrelated to program requirements proved an unacceptable imposition to all but one student teacher. Instead, the other participants agreed to allow me access to their reflective writing undertaken as part of practicum requirements.

During each practicum, student teachers maintained a professional folder consisting of six sections, each having a particular focus for recording. In one section, for example, student teachers were required to document their teaching plans, while in another they recorded their observations about individual children. In another of the six sections, student teachers were expected to write reflectively about their practicum experiences and their perceptions of their professional development. Guidelines, available for students who wished to follow them, were not prescriptive (see Appendix 8 for an example). The folder as a whole was assessed as either satisfactory or unsatisfactory, but the component sections, including the reflective writing, were not assessed. Consequently, most participants reported being able to write reasonably freely, without undue concern for assessment processes. This was important for, as Hatton & Smith (1995) caution, reflective writing undertaken for assessment purposes might not represent student teachers’ actual perspectives.

Small Group Discussions
The usefulness of focus group interviews in exploring issues of interest and concern (Mok & Krause, 1994; Morgan, 1993) and the effectiveness of “critical friends” in fostering reflection (Golby & Appleby, 1995; Hatton & Smith, 1995; Baird, 1991) suggested that small group discussions could contribute valuable data about student teachers’ reflection. Consequently,
group discussions were planned with the intention of focusing on scenarios which contained some element of dilemma. Such scenarios are said to provide an opportunity to "use analytical and critical thinking skills ... common sense and collective wisdom to identify and analyse problems and to evaluate possible solutions" (Silverman, Welty & Lyon, 1992, p.xix). Equally, it could be argued that they provide opportunity for alternative modes of making meaning. They might also be expected to encourage student teachers to draw on critical incidents (Kelchtermans & Vandenbergh, 1994; Tripp, 1994) arising from their own experiences, thus providing ample opportunity for reflection. Scenarios were selected on the basis of student teachers' developmental concerns (Katz, 1972). A sample scenario is included in Appendix 9.

The discussions (of approximately 30-60 minutes in duration) were limited to four participants at a time to minimise possible difficulties associated with audio-taping and transcribing. For similar reasons as the 1:1 interviews, they were held in my office. The composition of each discussion group varied and was determined mainly by individual student teachers' timetable commitments and other constraints, rather than by previously established friendships. Hence, in some small groups, participants knew each other, but in others they did not. Although the latter discussions were not between critical friends, as described by Hatton & Smith (1995), there seemed no reluctance by participants to contribute to the discussion, nor any discernible difference in the incidence of reflection. In other words, the extent to which the student teachers had previously established relationships did not appear to unduly influence the reflection generated through small group discussion.

Because of variations in individual's class timetables, their work and family commitments, the time pressures which all student teachers seemed to experience, and the tendency for some participants to sometimes miss interview appointments, the discussions proved increasingly difficult to arrange. It was not uncommon, for example, for all but one of the student teachers scheduled to participate in a discussion to be unable, at the last minute, to keep their appointment. Moreover, a number of participants expressed a preference for individual interviews because of the opportunity to explore personally relevant issues in more depth. Given the logistical difficulties in arranging small group discussions and my wish to respect participants' needs and preferences, it became clear that they could not be
relied upon as a major source of data. Thus, small group discussions were discontinued in mid 1994, the second year of data collection.

**Relaxation And Visualisation Sessions**

Similar difficulties were experienced in arranging relaxation and visualisation sessions. The purpose of these sessions was to provide opportunities for contemplation and the cultivation of mindfulness (Tremmel, 1993). It was anticipated that student teachers might experience similar benefits to their reflective capacities to those reported by Miller (1994) and described in Chapter Two - namely a heightened sense of awareness, self understanding, clarity, interconnectedness and peacefulness, as well as a broader perspective.

Logistical difficulties and constraints of the type described above precluded relaxation and visualisation sessions from being offered throughout the duration of the study. In Semester 1, 1995, though, it was possible to offer a series of weekly lunch time sessions. Of one hour duration, these sessions were intended to continue for five consecutive weeks. Unfortunately, however, my sudden and lengthy hospitalisation led to the cancellation of the final session.

To accommodate the timetable variations and other commitments which had made small group discussions so difficult to arrange, relaxation and visualisation sessions were conducted during three lunch times for each of the four weeks in which they were held. Apart from one student teacher who preferred not to attend, participants made a commitment to attend weekly. Although some participants expressed interest in attending more frequently, and were welcome to do so, as it happened, none were able to devote more than one lunchtime each week to these sessions. Indeed, other commitments and constraints prevented two student teachers from attending on any of the days in which sessions were offered. Of the 15 student teachers enrolled in the program in Semester 1, 1995, 11 participated in the sessions as indicated in Appendix 5.

The sessions were held in a carpeted tutorial room. A colleague with extensive professional experience in relaxation and visualisation methods, who was well known to the participants, conducted these sessions with me. Student teachers involved in another project (Sumsion & Thomas, 1995) also
attended, bringing the average attendance at each session to six. As with the small group discussions, not all participants knew each other previously but again, from impressions of willingness to contribute and the incidence of reflection, this did not appear to influence their responses to the sessions.

Each session incorporated guided relaxation and visualisation based on progressive muscle relaxation and visual imagery techniques (Margolis, 1990), representation as described above, and group discussion of the experience of relaxation. Again, guiding questions provided a focus for the group discussions (see Appendix 10) although student teachers had opportunities to raise issues of interest and concern. As soon as possible following each session, 1:1 interviews were conducted with participants about their experience of the session to enable them to discuss issues which they might have felt uncomfortable sharing in a group situation or which they wanted to explore in more depth. Group discussions and 1:1 interviews were transcribed and transcripts returned to participants for verification.

The above mix of data collection strategies was consistent with the purpose of the study and its underpinning beliefs. In addition, this mix assisted in overcoming the limitations associated with an over-reliance on any one strategy and, as discussed in more detail later in this chapter, contributed to the rigour of the study.

**DATA COLLECTION SCHEDULE**

As noted previously, the study was timed to coincide with the introduction of the new Bachelor of Teaching / Bachelor of Education (early childhood) program in 1993, following a pilot study undertaken in 1992 and reported elsewhere (Sumsion, 1995). Thus, participants were drawn from the first cohort to complete the Guided Practice sequence of units.

Data collection was planned for the period March 1993 to December 1995 as participants moved through the Guided Practice sequence. As previously mentioned, however, seven participants had to delay their enrolment in the next unit in the Guided Practice at some stage. This meant that they took at least four, rather than the minimum three, years to complete the Guided Practice sequence. Consequently, the data collection for these student teachers was extended until December 1996.
Although there were some variations according to the structure of the particular Guided Practice unit in which the participants were enrolled, in general data were collected each semester via:

(i) a 1:1 interview based on some form of representation to a guiding question;
(ii) reflective writing recorded in practicum folder; and either
(iii) a small group discussion;

or

(iv) a practicum visit.

Contact was maintained with participants during the semesters in which they were not enrolled in Guided Practice through either a 1:1 interview, small group discussion, or the relaxation and visualisation sessions conducted in Semester 1, 1995.

**DATA MANAGEMENT**

Data collected from each participant were filed chronologically under that student teacher's name. Excluding audio-tapes, two complete sets of data were maintained. For security reasons, one set was kept in a locked filing cabinet in my office on campus, and the other at home.

All interviews and small group discussions were transcribed, but not always verbatim. Extraneous conversation, conversational place markers and procedural points, for example, were not transcribed. Especially lengthy descriptions of highly specific circumstances and events of only tangential relevance were not transcribed in full. Totally verbatim transcription was not possible given the number of interviews and small group discussions conducted (a total of 172) and time and resource constraints. Nor was it necessary for, in keeping with the holistic perspective of the study, interpretation focused on broad chunks of situated meaning, rather than the fine detail involved in linguistic analysis, (Wolcott, 1994). Indeed, it could be argued that verbatim transcriptions might contribute to a false sense certainty and premature closure by encouraging the unwarranted perception that the act of transcription renders the data unproblematic. In my experience, the use of partially verbatim transcripts provided a valuable, ongoing reminder that the fluidity of meaning is such that it "always exceeds and transgresses our attempts to categorize" (Schurich, 1995, p.249).
The location of the data on the corresponding audio tape was indicated on each transcript using the audio tape counter number. Where both sides of the tape were used during an interview, data from the reverse side of the tape were indicated by the prefix B. On the rare occasions that a second tape was used, this was indicated by referring to sides C and D. Data from an interview with Sarah on November 10, 1993 found on the reverse side of the first tape at counter number 95, for example, were identified as Sarah (10/11/93, B95).

**INTERPRETATION OF DATA**

In this study, *interpretation* was adopted in preference to *analysis* as the generic term to describe the process by which meaning was obtained from the data. This decision was made for several reasons. First, it can be argued that the former term is more likely to imply insights arising from the constructions and connections made by the researcher whereas the latter can imply the discovery of information in the data (Brodkey, 1987). Second, interpretation has been described as "unbounded ... inductive ... holistic, generative" (Wolcott, 1994, p.23); analysis as "controlled, structured, formal, bounded ... systematic, logico-deductive ... reductionist" (Wolcott, 1994, p.23). Interpretation can be characterised as centrifugal in nature, reaching out to what is beyond the possibility of understanding, while analysis is more centripetal, focusing on what can be understood with reasonable certainty (Wolcott, 1994). Moreover, interpretation is more likely to acknowledge the intuitive hunches accompanying the revelatory type of meaning referred to previously (Denzin, 1994; May, 1994). While interpretation and analysis are complementary modes of generating meaning (Wolcott, 1994), it could be claimed that, in general, interpretation is more appropriate to the emergent holistic paradigm. As this study relied more on interpretation than analysis, the former was adopted as the generic term, although, as the following discussion shows, the latter also played a role.

Many of the challenges identified in Part 1 of this chapter influenced decisions concerning interpretation of the data. To review, methodological lag meant that strategies used within the holistic paradigm must be informed by strategies from other paradigms, but without compromising the fundamental beliefs underpinning the holistic paradigm. Although the holistic paradigm recognises that much meaning is tacit, the process of interpretation must somehow find a way to articulate tacit understanding of the data, and to chart the movement from unspoken to voiced understanding (Ely, 1991).
Attempting to move beyond current "boundaries of interpretation" (Denzin & Lincoln, 1994, p.ix) does not negate the responsibility to explain the process of interpretation (Constas, 1992), even though the limitations of language preclude a complete explanation of the interpretive process (Scheurich, 1996). Language cannot describe the intuitive and imaginative leaps, for example, which often accompany interpretation (Fine & Deegan, 1996). Consequently, the following account is only partial. It focuses on five key concurrent, continuous, and interactive processes underpinning the interpretation of the data.

**Drawing Upon The Literature**
Some writers (e.g., Strauss & Corbin, 1990; Lincoln & Guba, 1985) caution against drawing on the research literature to suggest possible directions for interpretation, warning that this can narrow one's focus and predetermine one's findings. In my experience, however, the eclectic nature of the literature reviewed in Chapter Three, in particular, provided interesting possibilities (Morse, 1994), multiple perspectives and sensitising concepts (Keltchermans & Vandenbergh, 1994) which enriched the process of interpretation. I documented my responses to the literature, including possible connections to the data through reflective memos (Bogdan & Biklin, 1992) - see Appendix 11 for an example - and reviewed these frequently. Free writing techniques advocated by Elbow (1986; 1994) assisted me to make emerging understandings explicit.

**Immersing Myself In The Data**
To immerse myself in the data, I listened and relistened to tapes, revisited representations and read and reread transcripts and written reflections. After reading and reading transcripts and reflective writing, I transferred photocopies of this data to cards using a process similar to that advocated by Wolcott (1994) and Delamont (1992). This required preliminary interpretation of the data which involved focusing on identifying chunks of meaning, using the paragraphing in the participants' writing and interview transcripts as a guide.

Most paragraphs contained one key idea and, in such cases, each paragraph was simply transferred to a card. Where several ideas were embedded in the one paragraph in such a way that they could not be isolated without losing the meaning of the paragraph, I made multiple copies of the paragraph and
pasted these on to separate cards (see Appendix 12). This enabled the
context in which ideas were expressed and their relationship to other ideas in
the paragraph to be retained. In this manner, all data, other than that
involving purely procedural points or social conventions, were transferred
systematically to cards. Because the cards could be easily manipulated, all
textual data could be explored from different perspectives by shuffling and
reshuffling cards into different formations and combinations. As such, the
cards greatly assisted in playful exploration of the data as recommended by

Exploring Different Formations And Combinations
My underlying belief in dynamic interconnections required that I retain as
much fluidity and flexibility in the interpretation process as feasible. This
precluded the use of computer assisted analysis for despite considerable
advances in design, software programs lack the fluidity, subtlety and intuitive
capability of the human mind (Richards & Richards, 1994; Wolcott, 1994;
Agar, 1991; Seidel, 1991). Their inbuilt structure can lead to rigidity and a
tendency to "coerce a project along a particular direction" (Richards &
Richards, p. 460). Moreover, as Richards & Richards also point out, the
routines they require can inhibit insight, thus limiting their usefulness in the
exploration of explanatory links and emergent ideas. In addition, it could be
argued that their predetermined, linear nature inhibits understanding of
dynamic interrelatedness, thus further contributing to their unsuitability to the
present study.

Nevertheless, the grounded theory procedures of constant comparison
(Strauss & Corbin, 1990; 1994) commonly underpinning software programs
(Tesch, 1990) had some relevance. This is because they use, in part,
inductive approaches which are advocated "where the terrain is unfamiliar
and/or excessively complex ... and the intent is exploratory and descriptive"
(Huberman & Miles, 1994, p.431), as was the case with the current study. Yet
although grounded theory procedures can uncover regularities (Huberman &
Miles, 1994), they assume that there are regularities to be uncovered.
Moreover, they assume that this can be done by reducing and fragmenting
data, albeit as a precursor to later synthesis. As well, illuminating fragments
(apparently independent entities with supposedly rigid boundaries) can
overshadow connections (Schwandt, 1994). Even when grounded theory
procedures recognise connections, they assume them to be fixed (Schuurich,
1995). They tend to overlook the possibility that boundaries might be fluid rather than rigid, and that connections, regularities and patterns might be dynamic, like a "a dance of interacting parts" (Bateson, 1979, p.13) featuring movement, rhythm and repetition.

In the current study, these limitations were counterbalanced by initially adopting the metaphor of data as clouds for, as Janesick (1994) and Oldfather & West (1994) point out, metaphors can partially illuminate the tacit processes of interpretation. Clouds, by nature indeterminate and indefinite, are also geometrically irregular and their movement unpredictable. They vary in density and shape, and have vague boundaries and unexpected gaps. Furthermore, "a cloud may have a clear shape on the background of the sky or of other clouds, and yet, in a clear sense, it may not begin at all at any very definite line, or begin or end at all" (Scharfstein, 1988, p.92). This metaphor was a useful reminder of the need to safeguard against inflexible classification strategies. In my experience, viewing the various arrangements of the cards containing data as changing cloud formations discouraged premature closure of the interpretive process.

I arranged the cards many times from many different perspectives during the four year period in which data were collected. Some arrangements involved all cards pertaining to each of the participants; others focused on participants who demonstrated particular similarities or differences in their attitudes or approach to reflection. Some arrangements were cross sectional; others longitudinal. Some began with the purpose of exploring a idea encountered during my reading of the literature; others had no initial focus. Each arrangement remained spread over the floor of my study for several days. This provided further opportunity for kineesthetic involvement with the data. Sitting and walking amongst the cards, and stretching to see and reposition them, contributed considerably to my familiarity with the data, as had transcribing audio tapes and cutting and pasting the data on to cards.

When arranging the cards, I used a combination of analytical and contemplative processes. Using analytical techniques, I compared and contrasted the data to form categories and clusters. Through contemplation, I attempted to transcend the distance between myself and the data and to develop the "deeper level of kinship between the knower and the known" of participatory consciousness (Heshusius, 1994, p.16). Using progressive
relaxation techniques (Margolis, 1990), I sought to "temporarily let go of all preoccupation ... and move into a state of compete attention" (Heshusius, 1994, p.17) which would enable me "to hear what the material has to say" (Keller, cited by Heshusius, 1994, p.17). I anticipated that analytical and contemplative techniques would play a complementary role in illuminating the data.

**Displaying And Documenting The Data**

As suggested by Miles & Huberman (1994) and Bogdan & Biklin (1992), I documented and displayed the key points and issues emerging from each arrangement of the data. Following their recommendations, I experimented with a variety of formats, including reflective memos, mind maps and diagrams, to highlight the patterns, connections, commonalities, possibilities, rhythms, paradoxes and tensions emerging from the data (see Appendix 13 for examples). When time permitted, these ideas were developed into manuscripts which have since been accepted for publication in refereed journals (Sumison, 1996; 1997; in press).

**Identifying Themes**

Drawing upon the literature, immersing myself in the data, exploring different formations and combinations using analytical and contemplative processes and documenting and displaying possible interpretations eventually enabled me to recognise recurring messages (Eisner, 1991) or themes in the data. Themes were an highly appropriate medium for interpretation because of their focus on connections. As Hogan, Clandinin, Davies & Kennard (1993) explain, themes connect past, present and future experience and in doing so highlight continuities and fractures in experiences. Like a melody, themes are fluid, not rigidly bound. For this reason, like the basic chords which guide jazz musicians, they facilitate improvisation by creating "a pathway for making explicit the tacit understandings that enable us to make our way as researchers without fully orchestrated scores" (Oldfather & West, 1994, p. 22). In my experience, they provided a medium through which my initially tacit understanding of the data resonated with increasing strength and clarity. They also illuminated previously unrecognised connections between the various arrangements of the data.

Of the many themes which emerged from the data, four resonated especially strongly: the importance of a commitment to both teaching and reflection; the
impact of epistemological perspective on the participants' search for meaning; and the influential role played by the environment. For each participant, I then arranged the cards according to these themes. Cards which appeared unrelated to these themes were set to one side; those that appeared to contradict any of the themes were tagged for further discussion and clarification with participants. The small number of cards in each of these categories, together with the fact that the themes were a culmination of three to four years of immersion in the data, suggested that a relatively stable system of meaning had emerged (Reinharz, 1983) and that new understandings were unlikely to emerge within the time frame for the completion of the study.

Using these strongly resonating themes as a basis, I then developed a profile of each participant which I shared with the 15 participants who were contactable at the end of 1996 when the profiles were written. I requested feedback about the accuracy of my representation of their responses to their experiences as student teachers and my interpretation about their reflection and about their development as teachers. The feedback received from the 13 participants who responded confirmed that the profiles were authentic representations of their experiences and reflection during their enrolment in Guided Practice.

To sum up, interpretation took place concurrently with data collection and was based on indepth familiarity and holistic (analytical, intuitive, and kineasthetic) understanding of the data. It was not procedure-driven, and, ultimately, the limitations of language preclude a full account of all the processes involved. The participants' responses, however, suggest that the interpretations were trustworthy (Guba & Lincoln, 1985). These profiles, which are presented in the following three chapters, constitute a crystallisation of meaning at a particular point in time for the purpose of communication, however, rather than fixed and immutable truths.

**REPRESENTATION OF FINDINGS**
The profiles were developed in narrative form because stories have a powerful communicative and interpretative potential (Goodfellow, 1995; Carter, 1993; Thomas, 1993). Indeed, they constitute an essential form of human experience and understanding (Polkinghome, 1995; Connelly & Clandinin, 1990; Bruner, 1986). Typically, we impose a narrative structure to
organise our images and experiences. Likewise, we "hear and understand in narratives" (Gudmundsdottir, 1996, p.291). Powerful stories can resonate with the experiences of others to contribute some degree of shared meaning (Gudmundsdottir, 1996), even though because of the multiplicity of readers' constructions, they resist "singular interpretations" (Carter, 1993, p.6). Narrative resonance can also contribute to shaping the formlessness of tacit understanding into a recognisable and communicable form (Gudmundsdottir, 1996) by temporarily "capturing the complexity ... and interconnectedness of the phenomenon with which we deal" (Carter, p.6).

The profiles presented in the following three chapters establish a context for understanding the participants' reflection. They provide a rich description of the complex and holistic process of becoming a teacher (Beattie, 1995b). They also highlight the interface between the personal and the professional (Thomas, 1993, Ash, 1992) and "the tensions that run beneath the surface" of ... professional and personal life" (Beattie, 1995a, p.2). In addition, they illuminate the threads that link past, present and future (Beattie, 1995a), especially important in a longitudinal study.

The participants' profiles are organised in clusters according to the extent to which their reflection appeared to change during their enrolment in Guided Practice. Although it could be argued that this organisation can result in the imposition of somewhat arbitrary boundaries on what is essentially a continuum of change, it nevertheless allows an accumulation of parallel, overlapping and complementary profiles (Fairbanks, 1996). The patterns inherent in these profiles suggest that reflection develops in the presence of certain conditions rather than as a result of serendipity. One of the purposes of these profiles is to generate conceptual understanding of the conditions required for reflection. As such, they are located within the paradigmatic rather than narrative analysis genre of narrative inquiry (Polkinghorne, 1995). In the former, narratives are interpreted and analysed to develop conceptual categories; in the latter, the narrative itself encapsulates the interpretation and analysis of the data (Goodfellow, 1995; Polkinghorne, 1995).

**ETHICAL CONSIDERATIONS**

The study adhered to the requirements of the University of Sydney's Human Ethics committee, including informed consent, confidentiality, and the right to withdraw from the study at any time without prejudice. Consequently, in
accordance with these requirements, pseudonyms were used in the participants' profiles to preserve anonymity. Despite these precautions, several ethical issues and dilemmas surfaced during the study, some of which are discussed below.

**Countering Imbalances Of Power**
As noted previously, given inequalities in position, influence and professional expertise, teacher educators indisputably enjoy more power than student teachers (McWilliam, 1993a; Thomas, 1993). I attempted to minimise this power differential by negotiating my teaching responsibilities so that at no stage of the project was I required to assess any of the participants. Apart from one 300 level (third year) elective unit in which two participants chose to enrol, I ensured that none of the participants was assigned to any of my tutorial groups. In addition, I arranged study leave for the semester in which, in my role as practicum coordinator, I was likely to be most visible to participants. Thus, I was able to minimise contact with students in my normal teaching, administrative and practicum advising roles.

Such steps were vital, yet for a teacher educator undertaking a longitudinal study with student teachers, the power imbalance may not be so great as is typically imagined. Indeed, it could be argued that the participants have the ultimate power because, by withdrawing from the project, they can jeopardise its viability. For me, this reversal of power became apparent in the angst created when student teachers missed interview appointments without explanation. Did they simply forget? Should they be contacted and another meeting time arranged? Should I offer to make reminder phone calls the day before our arranged meetings? Alternatively, did missed appointments signify a withdrawal, a subtle signal that the student teachers no longer wished to be involved in the study? Was to assume and act on the former, an act of optimism or an abuse of power?

Two participants (both of Asian background) continued to miss appointments, without ever explicitly indicating that they had chosen to withdraw from the project. Many participants, however, began to initiate their own appointments (and several student teachers not involved in the project asked to join). All claimed they felt free to speak their minds. As the study progressed, interviews increased in duration, presumably as trust developed and probably also because the student teachers, having acquired more practical
experience and theoretical insights, had more to say. From my perspective, at
least, trust appeared to alleviate many of the potential problems associated
with an imbalance of power.

**Negotiating A "Fair Trade"**

As mentioned previously, juggling family responsibilities, study requirements
and the part-time work required to survive financially occupied a large part of
student teacher's lives. Given the competing demands on student teachers'
time and the subsequent high levels of stress experienced by many, could I
reasonably ask student teachers to set aside the time required to participate
in my research? Would there be "a fair trade"? (Goodson & Fliesser, 1995)
for their involvement? Seemingly, yes, for all student teachers expressed
their appreciation of the opportunities provided by the study to talk through
their experiences, triumphs, concerns, problems and hopes. Sarah, for
example, commented:

> I wonder whether I would have got as much out of Uni. if I hadn't been
> involved in this project. If everybody could be involved in a project like
> this, it would be amazing. Imagine the growth if everyone could have
> someone to help them work through the issues. It's really helped me to
> get to know myself as a teacher and to know what's important to me and
> to learn to trust myself. (15/11/95,B145)

Nina's comment was also typical:

> Although the interview sessions have sometimes come when I've been
> feeling stressed or under a lot of pressure from assignments, and although
> sometimes I've felt as if I've been forced to assist you with your research,
> it's all been very worthwhile, and I'm very glad that I've done it. (5/12/95,58)

For some participants, the trade was more pragmatic. When requested by
some participants, I assisted them to prepare appeals against failure and
exclusion, despite my concerns about their suitability as teachers.

**Acknowledging Conflicting Interests**

Although I had intentionally sought diversity when selecting participants for
the study I had not anticipated the wide variation in the participants' interest
in, commitment to, and aptitude for teaching. This variation became
especially evident during practicum visits. In a number of cases, had I been
visiting these student teachers in my usual role of practicum adviser and
coordinator, I would have identified these student teachers as "at risk" of
failing. In not identifying those participants, I was aware of neglecting my
responsibility to ensure that the program produced only high quality
graduates. I was also conscious of potentially disadvantaging the children
and families with whom these participants would eventually work. Yet to breach the trust of participants was unthinkable.

Avoiding Harm To Participants
Although aware that research can involve unforeseen risks, I found my obligation to avoid harm to the participants (Australian Association for Research in Education Code Of Ethics, 1994) more difficult to uphold than I had imagined. During the data collection phase of the project, for example, an unexpected risk requiring police intervention emerged to a participant’s well being. Both the student teacher and myself received a series of threatening anonymous letters, purporting to be written by each other, to each other. The style and content of the letters strongly suggested that they were written by a participant in the project. After intervention, the letters stopped without the anonymous letter writer being identified. While these letters seriously impacted on the emotional well being of the student teacher who received them, what of the emotional well being of the letter writer? Did involvement in the research project contribute in some way to this unacceptable behaviour?

Crises Of Representation
Less dramatic, but also concerning, were the risks to participants’ self esteem of interpretations of the data that might be conceived as less than positive. I had been careful to heed Gambell’s (1995) warning of the common tendency to idealise participants, especially those with whom one has worked over a considerable period of time. He argues that the bonding which takes place between researcher and participants creates a distorted lens through which the researcher interprets the data, leading to an unduly favourable portrayal of the participant. While his caution had some relevance when developing the profiles presented in Chapter Seven, ironically, I found the opposite concern more confronting.

While I liked and respected all the participants as individuals, as indicated above, in some cases I had reservations about their suitability as potential teachers of young children. I found it difficult to decide whether I should attempt to disguise these reservations or discuss them openly with the participants concerned. As I shared preliminary interpretations of the data with participants I became increasingly aware of the sensitivity and tact required to prevent damage to their frequently fragile self concepts as
developing teachers. These concerns intensified as I prepared the draft profiles to share with participants.

Torn between my concern for their well being and my commitment to an authentic representation of the data, I decided to soften the language in the drafts I showed to some student teachers. To prevent participants recognising references to other student teachers, I also removed comparisons from all draft profiles shared with participants. It was not possible to tell "the whole story" (Gudmundsdottir, 1996, p.203) and some of the profiles, especially those presented in the following chapter are not particularly positive versions. Furthermore, like all narratives, they reflect the biases of the narrator (Carter, 1993). I was determined, however, not to compromise authenticity for narrative coherence (Carter, 1993) and present the following profiles as trustworthy accounts of my perception of the participants' attempts to make sense of becoming a teacher.

**RIGOUR**

A holistic approach to data collection and interpretation does not obviate the need for rigour in the research process (Denzin & Lincoln, 1994). There has been considerable debate about what constitutes rigour (see, for example, Heap, 1995; Janesick, 1994; Richardson, 1994; Wolcott, 1994, 1992; LeCompte & Preissle, 1993; Pitman & Maxwell, 1992; Ely, 1991; Eisner & Peshkin, 1990; Patton, 1990; Lincoln & Guba, 1985) for perceptions vary according to ontological, epistemological and methodological beliefs (Scheurich, 1996). This debate, however, appears to make no reference to the emergent holistic paradigm.

Positivist criteria of validity, reliability and objectivity were clearly antithetical to the epistemological and ontological beliefs underpinning the study. In demanding generalisability to other settings, they fail to acknowledge that the reader with knowledge of other settings is likely to be better equipped than the researcher with knowledge of one setting to make this judgement (Lincoln & Guba, 1985). In expecting the study to be replicable in other settings, they overlook the often idiosyncratic and unique nature of human experience (LeCompte & Preissle, 1993). In assuming that another researcher should come up with identical findings when interpreting the same data they ignore the multiplicity of perspectives and interpretations that researchers bring to the process of interpretation, precluding any "permanent telling of a story ...
There are always only different versions" (Denzin, 1994, p.506). In stipulating that findings be free from bias, they erroneously presume that the researcher can maintain detached from the data (Heshusius, 1994; Ely, 1991).

Debate within the postpositivist, constructivist and critical paradigms, on the other hand, suggested that the following criteria would be appropriate for evaluating the study.

**Explicitness**
Explicitness requires that all aspects of the study be explained as far as fully possible (Alvermann, O'Brien & Dillon, 1996). Where the limitations of language preclude explicit explanation, this should be acknowledged. Explanations should be sufficient to allow readers to determine the relevance of the findings to other settings (Lincoln & Guba, 1985) and to determine the competence with which the study was undertaken (Eisenhart & Howe, 1992).

**Coherence**
Coherence implies connectedness. Consequently, the study should demonstrate links to previous studies through awareness of, and ability to challenge, prior understandings. It should also contribute to ongoing dialogue by suggesting directions for future studies (Eisenhart & Howe, 1992; Marshall, 1990). Moreover, the research design should fit the aim and purpose of the study (Eisenhart & Howe, 1992; Eisner, 1991) and decisions should be consistent the ontological and epistemological beliefs underpinning the study (Pitman & Maxwell, 1992). The language used should also reflect these beliefs (Reinharz, 1983).

**Comprehensiveness**
Comprehensiveness encompasses adequacy and diversity. The former requires prolonged and persistent data collection. It also implies that interpretation should continue until no new insights emerge (Lincoln & Guba, 1985). The latter necessitates a variety of strategies for data collection and interpretation because of the limitations of any one approach (Huberman & Miles, 1994). Diversity also demands a variety of theoretical and interdisciplinary input (Janesick, 1994; Morse, 1994; Eisenhart & Howe, 1992) as this contributes to a multiplicity of perspectives and to deeper, more complex and more holistic understanding (Richardson, 1994).
Reflexivity
Despite the infinite possibilities of the interpretive process and the inevitability that the interpretation presented is but one version, at one point in time (Reinharz, 1983), I clearly had a responsibility to avoid seeing in the data only what I wanted to see. This responsibility required an awareness of the impact of beliefs, values, experiences and expectations on my perspectives (Bogdan & Biklin, 1992); a willingness to acknowledge rather than gloss over ambiguities (Eisner, 1991) and explore further data which did not fit my expectations (Fontana & Frey, 1994; Lincoln & Guba, 1985); a commitment to seeking feedback on interpretations from participants (Lincoln & Guba, 1985); and sensitivity to my relationship with the participants and to the possible effects of this relationship (Ely, 1991).

Authenticity and Trustworthiness
Authenticity refers to the adequacy and credibility of the representations of the experiences and understandings of the participants (Lincoln & Guba, 1985). Determining authenticity requires thick description "in which the voices, feelings, ideas and meanings" (Denzin, 1989, p.83) of the participants are heard. Trustworthiness, the ultimate criteria for authenticity, is "satisfied when source respondents agree to honour the reconstructions" of the researcher (Lincoln & Guba, 1985, p.329).

Relevance
Finally, the study should be reported in a form which is "readable and usable" Reinharz (1983, p.183). Findings should have the potential to inform and improve practice (Eisenhart & Howe, 1992) although the extent to which they will be generalisable to other contexts can only be determined by those who seek to apply the findings elsewhere (Lincoln & Guba, 1985).

While I submit that this study meets these criteria, ultimately the reader must judge for him / herself.

CONCLUDING COMMENTS
This chapter has explained the epistemological, ontological and methodological beliefs underpinning the study, the constraints and challenges arising from these beliefs and the decisions made in response to them. In particular, it has explored the implications of attempting to undertake research from within an emerging holistic paradigm, for which, as yet, there
are few guidelines. Given this methodological vacuum, the study drew heavily on strategies for data collection and interpretation typically associated with the constructivist paradigm, which is the most closely linked to the emergent paradigm. As indicated previously, the data collection and interpretation strategies outlined in this chapter culminated in the development of profile of each student teachers' reflection during their enrolment in Guided Practice. These profiles are presented in the following three chapters.