

Chapter Twelve

BECOMING A TEACHER EDUCATOR

[T]eaching is a life-long learning process . . . one doesn't eventually become a teacher [educator]; but instead moves in understanding teaching/learning through active involvement in the process. (Guilfoyle, 1995, p. 18)

INTRODUCTION

In self-study, it is important that the knowledge developed through the study of one's practice, informs practice. In so doing, the learning from self-study impacts at a personal level, as a starting point for influencing one's own practice and the practice of others (Loughran, 2004). Self-study can therefore be conceptualised as an ongoing spiral of research informing practice, informing research. In this final section of the book, I outline the ways in which my work as a teacher educator has been, and continues to be, shaped by the knowledge developed (and continuing to develop) through my ongoing self-study. I illustrate the nature of my learning about practice and how this has impacted my understanding of the complexities associated with becoming a teacher educator.

LEARNING FROM TEACHING ABOUT TEACHING

When I began this research project I anticipated that the process of studying my practice as I engaged in it would position me well to generate, and then implement, new insights and understandings of teaching and learning about teaching with prospective teachers in Biology methods classes. My immediate needs were concerned with learning how I could better teach about teaching Biology so that the prospective teachers in my classes could be better teachers of Biology. However, a continuing difficulty that I faced as I began to investigate my practice was that the kinds of insights and understandings that I sought did not become immediately apparent in the manner I had expected. In fact, the deeper I began to probe into the teaching/learning relationship, the more complex and problematic were the issues that I encountered. As a practitioner/researcher I regularly faced situations in my daily practice that I could not understand or solve at the time and that, as a consequence, led me to feel frustrated and 'stuck'.

Other educators researching their practice have felt this, too. For example, Northfield (Loughran & Northfield, 1996) described the frustration associated with his efforts to better understand and improve his classroom teaching, as he practiced it: “. . . my frustration during the year was in trying to analyse the day to day teaching experiences in a way that might lead to consistent improvement in classroom interactions . . . feeling like I should have been able to better understand and use my experience” (p. 135). As a consequence of his study, Northfield came to recognize that the way in which his knowledge was developed and drawn upon as a teacher, was different from other forms of knowledge about teaching (for example, ‘T’heories about teaching). So too, in this self-study research, I have come to see that the knowledge of teaching about teaching that I sought, and the nature of the knowledge that I have developed, including the ways in which this knowledge has emerged, has grown and changed throughout the research process.

The manner in which I conceive of my learning over the time of this self-study can be organized according to four areas:

1. Reflecting on the process of engaging in this research
2. Understanding the nature of self-study
3. Knowledge of practice developed through this research
4. ‘Tensions’ as a conceptual frame for doing and understanding research.

Reflecting on the Process of Engaging in this Research

One of my initial goals in framing this study was to consider the alignment between my actions and intentions and to uncover ways in which various types of assumptions I held, played out in my pedagogy. As a beginning point for the process of “assumption hunting” (Brookfield, 1995) I posed a series of questions about my pedagogy that I wished to address through this self-study. These questions emerged through my analysis of experience as a learner and as a teacher. At the time of writing them, I conceptualised the questions around the broad frame offered by self-study: “How do I improve my practice? How do I live my values more fully in my practice? How do I help my pupils to improve the quality of their learning?” (Whitehead, 1993, p. 113).

The act of writing about and researching my practice using this broad frame began to stimulate a process of change in my understanding of practice and consequently, my approach to research. For instance, noticing aspects of my practice as problematic, rather than ‘simply’ as a series of problems meant that I was then able to probe those problematic situations more fully in order to learn about how they impacted the teaching/learning relationship. However, it was not until I was well into the formal research process that I began to conceptualise practice as managing a set of competing tensions.

As I engaged in the process of analyzing my practice as tensions, I came to better understand my knowledge of each tension and therefore better able to articulate it. Some tensions are less well elaborated in their representations of the knowledge of practice that I developed compared with others, which also represents how I became more confident in my understanding of the process of analysis and more familiar with

themes and patterns that were emerging through this newly conceptualized frame. Hence, this self-study is itself evidence of how I took myself to new levels of understanding about, and articulation of, my practice.

In order to illustrate for the reader part of this process of my knowledge development, I return to the questions I posed at the outset of this study (see Chapter 1) to consider how each has been addressed and reconceptualised through this self-study, ‘reading’ them through the newly developed frame of ‘tensions’. For example, one of the questions I posed initially, was: *How can I create a methods course that acknowledges prospective teachers’ histories as learners and is responsive to their needs, yet at the same time challenges their views and gives them the confidence and reason to try alternative approaches to teaching senior Biology (particularly when I have never experienced such a methods course myself)?* This question can now be understood as exploring issues of acknowledging prospective teachers’ needs and concerns and challenging them to grow; that is framed in the tension of ‘telling and growth’. It may also be read through the tension of ‘safety and challenge’, between a constructive learning experience and an uncomfortable learning experience. Of course, when I first articulated these questions about my practice, I was unaware of the tensions embedded within them. They were ‘simply’ aspects of my pedagogy that I wanted to learn more about. However, in revisiting these questions now, I can identify the various tensions encapsulated within them, and in addressing my questions about my practice I recognize that they are a part of larger concerns that I face in teaching about teaching.

Using the tensions as a frame for understanding my questions helps me to be more purposeful and focused in the way I address them. For instance, in answering the question about how I might create a methods course that both acknowledges and challenges the experiences of prospective Biology teachers, I can now say that the teacher educator’s attitude matters (working compassionately with students as individuals to support and encourage them – and recognizing this as practice not just rhetoric), so too does selecting experiences for prospective teachers that challenge their thinking and offers them opportunities to try out new practices, as well as monitoring the effects of the learning by talking about these experiences (over time) in focused and purposeful ways, including difficulties faced by both the teacher educator and the prospective teachers.

For the teacher educator these aspects come together as modeling a ‘way of being’ as a teacher. Further to this, what I previously conceived of as a need to give prospective teachers, that is, the ‘tips and tricks’ of Biology teaching, I now see as a point of growth to viewing the teacher educator role as one of creating opportunities for prospective teachers to direct their own learning and development so that it is personally meaningful and effective in facilitating their students’ Biology learning. This relates to the tension of ‘telling and growth’.

Table 12.1 has been constructed to offer an over view of the questions that I posed about my practice, together with the tensions I can now ‘read’ within them. It also includes a brief explanation of how I have addressed each question within my practice in order to offer a brief glimpse of ‘what was’ at the outset of this study as well as ‘what is’ at its completion.

Table 12.1. Reframing Questions about Practice through Tensions

My Original Question about Practice	Tension that 'Recognises' this Question and Brief Explanation of the Tension	Implications for Practice
<p><i>Qu: What explicit and implicit messages about learners and learning do I convey to others through the manner in which I conduct Biology methods classes?</i></p> <p><i>Are these messages consistent with those that I wish to develop in my students?</i></p>	<p>Action & intent: Exploring discrepancies between goals that teacher educators set out to achieve through their work and ways in which these goals can be inadvertently undermined by the way they work.</p>	<p>Being aware of this tension helps me to operate more mindfully within it.</p> <p>I have learnt that not all students interpret my actions in the same way. I have learnt to be less defensive and accept that not all students will accept or find helpful my approach. I now regularly gather feedback from students about their experiences of learning in my classes.</p>
<p><i>Qu: Which groups of students do I interact with most often or most successfully?</i></p> <p><i>Which groups of students do I marginalise because I do not understand where they are coming from?</i></p>	<p>Safety & challenge: Engaging students in forms of pedagogy that challenge and confront.</p> <p>Telling & growth: Between acknowledging student teachers' needs and concerns and challenging them to grow beyond these immediate concerns</p>	<p>I have identified that those students most similar to me are those whom I tend to interact with more successfully. I recognise that previously I have tried to impose my views on students rather than genuinely seeking their perspectives. By increasing wait time, delaying judgment, and listening to my students I can support and challenge more effectively.</p>
<p><i>Qu: How much does it matter to me that students like me?</i></p> <p><i>What assumptions do I now make about how prospective teachers approach their learning in my classes?</i></p>	<p>Safety & challenge: Dealing with encounters that may challenge our relationships with others.</p> <p>Planning & being responsive: Having an agenda based on assumptions about learning and being responsive to needs of individuals and particular situations as they occur.</p>	<p>My increased self-awareness means that I do not deny these feelings but become aware of how they impact my interaction with students and consciously learn to shift focus from me to the students.</p>

Qu: How can I create a methods course that acknowledges prospective teachers' histories as learners and is responsive to their needs, yet at the same time challenges their views and gives them the confidence and reason to try alternative approaches to teaching senior Biology (particularly when I have never experienced such a methods course myself)?

Qu: How can I support and encourage students to risk using approaches that would not be considered the 'traditional science' that they experienced and enjoyed?

Why would they want to?

Qu: How can I sensitively monitor the feelings of the prospective teachers that I work with so that they might be encouraged to participate in experiences that may seem uncomfortable? How can I help prospective teachers recognise that the feelings of the learners that they work with in Biology classrooms will

Telling & growth: Balancing learners' needs and concerns and challenging them to grow beyond their immediate preoccupations.

As part of their work students examine and re-examine their learning past. As part of this process I support them as they learn to articulate their needs, and offer supported experiences that still take them out of comfort zone.

Safety & challenge: Recognising differences between a constructive learning experience and an experience that causes students to disengage due to personal discomfort.

Being open about taking risks in my own practice and making learning the focus not my feelings of vulnerability. This means recognising then 'letting go' of the emotions associated with the experience in order to help others' learning.

Confidence & uncertainty: Making explicit my uncertainties in ways that help student teachers see into my pedagogy, yet maintains their confidence in me and their ability to make progress.

Safety & challenge: there is a difference between experiences that may be 'safe' and acceptable to me and feelings of safety acceptable to student teachers; this is different for different individuals.

Importance of cultivating attitudes that accept that risk taking is an important and worthwhile aspect of learning about teaching.

Confidence & uncertainty: by making explicit the complexities and messiness of teaching and at the same time helping

By encouraging prospective teachers to put themselves 'in the shoes of others' and imagine their responses to different

(Continued)

Table 12.1 (Continued)

My Original Question about Practice	Tension that ‘Recognises’ this Question and Brief Explanation of the Tension	Implications for Practice
<i>influence their participation and what can be learnt?</i>	student teachers feel confident to recognize that these complexities are an important and manageable aspect of teaching.	situations in order to create new understandings of practice.
<i>Qu: How can I help prospective teachers learn to trust that they can learn from each other and that my knowledge and experience may not work for them in their practice? And, how can I continue to see my practice through others’ eyes so that I might remain sensitive to others’ needs and concerns?</i>	Confidence & uncertainty: Balancing student teacher needs to see me as a leader and helping them develop confidence in themselves and each other.	Through giving prospective teachers a chance to try new approaches and ideas, and helping them to see why and how a particular approach might be used, within a supportive learning environment. Continue researching my practice, seek to find ways to more deeply explore the others’ experiences of my teaching.
<i>Qu: If I have rejected an information transfer model of learning as unrepresentative of reality, how do I deal with prospective teachers who think about learning in the way that I did? How do I know what models of learning the prospective teachers in my class hold, and what are the effects of their views of learning on the way they interpret my teaching?</i>	Telling & growth: between acknowledging that prospective teachers bring particular views about teaching and learning and creating opportunities to reframe these views in the light of ongoing experiences. Acknowledging & building on experience: between being mindful of prospective teachers’ prior experiences and ideas, but not reinforcing these by the approach taken.	Work actively towards developing a stronger sense of empathy with needs of others. Develop new ways, further refine existing of learning more about those I work with, and their motivations. More strongly developed sense of the meaning of ‘wait time’. Trusting in the value of the approach that I take and as part of this, remembering that learning happens over time, so also trusting that this process will occur.

Greater modeling in my practice of my thinking about practice and encouraging prospective teachers to begin to do this for themselves.

Qu: How do I account for those prospective teachers who find my approach to learning personally threatening, since it involves exposing and challenging their “untested thinking” in a public forum?

Safety & challenge: between creating opportunities for learning that engage and invite new approaches to practice and preventing student teachers from learning because the challenge is too great.

Confidence & uncertainty: between helping prospective teachers to try out new ideas and learning to critique these ideas without feeling defensive.

Qu: Although I am philosophically aligned to a particular way of thinking about learning, are my teaching actions consistent with this?

Action & intent: between working towards an ‘ideal’ and being mindful of the approach taken to achieve this ‘ideal’

Continue to investigate my practice.

There will be no certain answer to this but instead, it will always be a ‘moving towards’ in the process of becoming a teacher educator.

Understanding the Nature of Self-Study

Self-study is a form of practitioner research whereby the context for the research is practice itself. It is also a powerful tool for uncovering important facets of the knowledge of practice (Loughran, 2005). The experience of conducting this research as a longitudinal self-study has further enhanced my understanding of the features of self-study as an approach to researching practice, and has led me to new insights about the nature of self-study as a way of understanding the work of the teacher educator through bringing together teaching about teaching *as practice* and teaching about teaching *as research*. A discussion of each of these aspects now follows.

Better understanding the features of self-study

- *Self-study as ‘responsive’ research*: Self-study is a form of research that is responsive to the demands of the practice context. This means that teaching and research become intertwined as new experiences and insights derived from the teaching context lead to shifts in the research focus and in turn, give rise to other insights, possibilities and actions so that over time practice and research focus are constantly changing in response to the changing context (Loughran, 1999). In this research, the questions that initially framed my self-study led me to recognize new aspects of practice. I would assert that this is where a self-study methodology is different to more traditional research approaches and where doing self-study is important to understanding the genuine power of self-study. The insights available from the research process can impact learning about teaching and research rather than simply producing knowledge outcomes of an epistemic nature. This links to the next point as the shifting focus of the research lens means that:
- *Learning can be slow to emerge through self-study*: The construction of knowledge about practice through self-study is often experienced as a continuous and evolutionary process (Kremer-Hayen & Zuzovsky, 1995). Throughout the process of acquiring and examining experiences of teaching about teaching, I was developing new levels of understanding about my practice and learning to articulate my knowledge in new ways. As part of this process I needed time to understand my practice, to recognize the need for change, and then choose (or not) to alter my behavior. Uncovering differences between my actions in practice and my intentions for practice has been a slow and complex process because my habits of practice are so deeply ingrained.

Self-study researchers recognize that deeply held (paradigmatic) assumptions are hard to uncover, resistant to examination and require considerable (disconfirming) evidence to overturn (Brookfield, 1995). My experience of change as “evolutionary rather than revolutionary” (Fullan, 1991) reminds me that prospective teachers also need time and suitable opportunities to begin to be aware of, and act upon, their own needs for change.

Numerous small shifts took place (and continue to take place) within my practice because the teacher (educator) has a responsive role. Many of these changes are already reported in the previous section of this book in the ways in which I thought about and approached the teaching and learning about teaching in Biology methods classes. Other changes either went unnoticed by me (because of the tacit nature of some aspects of practice), or were unable to be articulated, because although I was aware of a change in my practice, at that time I was not yet able to name it. The particular contextual demands of individual Biology methods classes influenced the extent and type of change that took place in my practice. The cumulative effect of these various changes led to my conceptualisation of practice as managing a series of tensions.

- *Self-study is self-focused but not self-centered:* As self-study researchers acknowledge, there is an inherent ambiguity in the label self-study. One's self is (at least initially) the focus of the study, but while self is the focus, the focus on self can also be limiting if one cannot see that the reason for studying self is to develop one's perceptions of how self is experienced by others (Bullough & Pinnegar, 2004). Because the researcher is located at the centre, albeit with a purpose of modeling practice in such a way that beliefs and actions are made more congruent, then a danger emerges that the researcher becomes the focus of the research as new understandings of self are revealed; understandings that can be confronting, surprising and induce vulnerability.

As I engaged in the research process, I found it seductive to become caught up in my self as the purpose and focus. The longitudinal and personal nature of this study meant that at times, the focus on me, and my feelings, compared with those of the Biology method students, was inevitable. Sometimes however, I became trapped in the feelings of vulnerability and guilt that a sustained examination of one's teaching practice can quickly induce. As noted by Bullough and Pinnegar (2004) this can raise problems for the teacher educator as a person (I needed self-affirmation to continue) and as a self-study researcher (for me, in deciding what to make public from this research). As a consequence of dealing with these problems, I became more aware of the importance of knowing about the ways in which self-study influences one's self, for instance by monitoring where the focus of the study lay at any particular time (i.e., whose feelings are at 'centre-stage' and why?). This helped me to maintain a sense of purpose and, when necessary, to refocus my efforts in order to enhance my teacher educator practice so that there might be similar outcomes in relation to my students' learning about teaching.

- *Self-study is demanding work:* Maintaining a sustained focus on one's work through the ongoing analysis of practice is a difficult task. At times, in conducting this research, I wanted to escape from the intensity of the process to give myself a rest. However, I learnt that taking 'time out' does not mean periodically abandoning self-study, (as one might decide to stop and do some other form of research for a while). Instead, it means being kind to oneself through the process of researching practice – for example, using approaches to teaching that one

enjoys, knows are usually fruitful and that students enjoy, and not subjecting every movement and thought to detailed critique.

While my understanding of the features of self-study became more elaborated throughout the period of this research, an insight into self-study that emerged through the research and that is new for me, relates to the way in which the work of teacher educators can be reconceptualised through self-study.

Self-study as a means of better understanding the work of the teacher educator

Traditional notions of teacher educators' work separate the worlds of teaching and of research. Similarly, traditional notions of research separate the researcher from the researched. Depending on one's perspective, teaching is what teacher educators do when they are not doing research (or some other Faculty related activity), or what teacher educators should focus on and do 'best' because of their important role in facilitating the learning of others. Self-study brings together the acts of teaching about teaching, and research about teaching, within the particular context of the individual teacher educator via activity that directs the development of both practice and research. Better understanding the knowledge of practice is integral to the development of the work of each individual teacher educator, and for teacher educators as a collective. The development of this research project has led to my understanding of self-study as uniquely positioned to support such a process of personal and public knowledge development.

Knowledge of Practice Developed through this Research

The following assertions encapsulate the knowledge of practice that I have developed through this self-study of my practice. They are:

- *Framing and reframing is now central to my decision-making* as a teacher educator. Taken-for-granted views of teaching and learning act as frames for interpreting practice (Schön, 1983). "Reframing" (Schön, 1983) involves recognizing alternative perspectives and approaches in learning situations. The experience of developing my understanding of practice as tensions was a very useful experience of reframing, helping me make sense of my practice in new ways and, in the process, leading me to a deeper understanding of my teaching and learning about teaching. Reframing is important to the process of self-study as reframing acts as a mediating factor in decision-making, influencing responses and actions. Viewing practice now through the new frame of tensions enables me to maintain a sense of purpose while teaching and, at the same time, offers an advance organizer for thinking about, and communicating, practice to a wider audience (Mitchell, 1999). Reframing also led me to new understandings of what it means to be a teacher educator, for example, in coming to recognize the shift from

seeing my role as offering a supply of good ideas about Biology teaching to seeing learning about teaching as being problematic. Being able to see how these different aspects impact on learning about teaching is linked to the next point, as:

- *Making a distinction between technical aspects of practice and understanding of practice* is now helpful to the integrated development of my learning about teaching, as opposed to maintaining a view of these aspects as dichotomies. I now see that technical aspects of teaching, such as different teaching approaches and activities, function as tools for supporting the development of prospective teachers' understandings about teaching and their confidence in feeling better prepared as teachers, rather than viewing them as ends in themselves. The teacher educator's role lies in constructing experiences that lead to reflection on the use of these tools and the contexts in which they are, and might be, used so that prospective teachers may be better able to do this for themselves in their future teaching.
- *Responding to and balancing prospective teachers' needs and concerns* is important in informing my knowledge of what will help them progress as learners of teaching. This is closely linked to the previous point in so far as the teacher educator adopts a responsive role, recognizes differences between short term and long term needs of prospective teachers and identifies these needs, not as a dichotomy, (either I address short term, or long term) but instead, embracing both simultaneously. One of the important aspects of my learning from this self-study is recognizing that binaries can co-exist; the challenge for me lies in learning to work towards balancing the elements associated with each.
- *Trusting prospective teachers to learn about teaching for themselves is essential.* This means believing in the capacity and motivation of students to take responsibility for making their own meaning and progress in learning about teaching, acknowledging that this occurs for individuals in different ways and, that it is a process facilitated by teacher educator encouragement and support. I learnt that the more I acted in a supporting role (compared with a controlling and/or critical role) the more active students became in their own learning. This is not to imply that the teacher educator does nothing other than provide friendly encouragement, rather it means guiding students' learning while at the same time being respectful of each learner's right to direct his or her own self-development.
- *Learning about my 'self' through developing my self-understanding and self-awareness* is prerequisite to helping others see themselves in ways that enable them to help themselves (just as I have learnt to do). Exploring my biography as a teacher and learner as a prelude to this study enabled me to identify myself as a "received knower". As a consequence, I developed more clarity about my difficulties in with dealing with the uncertainties of dilemmas and began to listen to, and trust, my own voice. Identifying the tensions helped me understand myself as a teacher educator struggling with dilemmas. Hence, reframing my pedagogy as a series of tensions to be managed is evidence of having moved beyond a "received knower" approach and towards deeper levels of self-understanding. Through this self-study, I have also come to recognize some of the ways in which my self-growth has been stifled by previous concrete and dualistic ways of

thinking and acting; that does not mean the situation is changed forever, but more so, that I more readily recognize how I am functioning within a given situation and have more control and confidence in how I respond.

Feelings of anxiety, lack of confidence and perceiving situations as “either–or” binaries are also experienced by prospective teachers as they prepare to face new and challenging situations. Through learning about these feelings for myself I have become more sensitive to the ways in which such feelings manifest and stifle growth in prospective teachers. Although I strived to do so previously, I have learnt that there is an important difference between being (and appearing) vulnerable to one’s own emotions and finding ways of disclosing one’s emotional state so as to facilitate learning for one’s self and others. Growth in self-understanding has led to growth in my confidence as a teacher educator and in my relationships with my prospective teachers.

- *There are recognisable shifts in “becoming a teacher educator”.* Accepting the title of teacher educator does not bring with it knowledge of how to act in the role. A transition in one’s understanding occurs when the teacher educator is prepared to view practice as problematic and to look beyond the transmission of ‘good ideas about teaching’. Recognising the inadequacy of the “telling, showing, and guided practice approach” (Myers, 2002) leads to a changed view of learning about teaching about teaching which then impacts practice and begins the process of the development of new knowledge both for oneself and one’s students. For me, evidence that this shift was occurring was recognizable in aspects such as knowing more about prospective Biology teachers’ needs and concerns and the ways in which I responded to them, becoming more sensitive to how and when to challenge these new teachers’ beliefs about teaching and learning and, how I could help individual students grow in ways that might be self-actualising for themselves and their students. Taking changed thinking into practice and drawing on new sensitivities about teaching and learning about teaching marks a further shift in teacher educator development. Viewed in this way the notion of ‘becoming’ a teacher educator is experienced as a continuing process. The work of the teacher educator is in the development and refinement of his/her phronesis and in making the knowledge developed as phronesis explicit and available to others (i.e., self, students, colleagues, research community) in ways that are useful and useable for that group.
- *Collaboration* (in lots of ways) leads to being challenged about taken-for-granted assumptions and helps build knowledge of practice. Through the shared experiences of Biology methods classes (with prospective teachers and a colleague) I was able to gain a range of perspectives on our experiences and develop greater meaning from these experiences because they were shared. Acknowledging the alternative perceptions of different participants then forced me to confront some of my assumptions about practice, leading me to reframe my thinking about my practice. Collaboration also supports the personal demands associated with self-study research since a shared experience can be made much more personally manageable than when that experience is borne alone.

In describing these changes to my practice I can see that the new understandings of my pedagogy that now influence my current practice can be classified as attitudinal changes and structural changes. Attitudinal changes include the ways that I think and feel about my practice and structural changes refer to the ways in which I reorganised the Biology methods program so as to better accommodate my transformed ideas. These responses incorporate concrete shifts in practice as well as conceptual shifts in understanding and hence illustrate the development of my knowledge as *phronesis* (through perceptual knowledge such as attitudinal change), and as *episteme* (as I articulated new knowledge of practice and applied it to the reorganization of the curriculum).

‘Tensions’ as a Conceptual Frame for Doing and Understanding Research

For me, the notion of ‘tensions’ serves as a frame for conceptualizing the problematic nature of practice, which then helps to formalise the experience of being a teacher educator, and in the process provides a language for articulating knowledge of teaching about teaching.

Development of tensions through the research

One of my initial goals in framing this study was to consider the alignment between my actions and my intentions and to uncover the ways in which various types of assumption (e.g., deeply held, surface) played out in my pedagogy. Consequently, in the data collection phase I was ‘assumption hunting’. The notion of tensions grew out of my working through the literature, thinking about the struggles of other teacher educators in their work, concurrently with my own data collection, and thinking about the struggles associated with my teaching about teaching. As this self-study progressed, ‘assumption hunting’ became subsumed into one of tensions – that of action and intent. This meant that, at least initially, I was most aware of the tension of action and intent within my practice because it was directly connected to the impetus for the study.

Although at the time I did not conceptualise these ideas as tensions, I was preoccupied with the notions of safety and challenge, and of confidence and uncertainty due to such factors as feeling sensitive about conducting a study of my practice (the sense of personal vulnerability is high), the way in which the Biology methods students were interpreting and responding to my chosen pedagogical approach (it was challenging for many of them which caused them to feel threatened and insecure), and my developing ideas about how I ‘should’ teach in order to support students’ meaningful learning about Biology teaching.

As the study progressed these ideas began to take shape as tensions. Reflecting on the research process now, I can see the ways in which each of the tensions came into focus at different times and for different reasons. The extent to which any particular

tension was evident was dependent on the mix of contextual factors (my feelings, feelings of different students, time of the year, etc.) operating at any given time.

Also, because there are different 'levels' of complexity within each tension, various aspects of different tensions became more apparent to me at some times compared with others. For instance, in some situations my preoccupation with 'surviving' meant that for some time, my understanding of the tension between *safety and challenge* only really existed at a superficial level. It was not until later, after careful analysis of the different sources of data from my practice about this tension (e.g., finding differences between my conceptions of safety and what my students considered as 'safe'), that the deeper, more subtle dimensions of this tension became evident.

As this research progressed, and the tensions emerged as a reasonable frame for understanding pedagogy, I became more aware of instances of a particular tension in my teaching. I began to recognise and name them in my practice. Even so, I recognise that it is not possible to be aware of all of the tensions operating at any one time. In my current practice I find that the six tensions serve as a means of understanding practice, retrospectively. I am not yet able to conceptualise practice as tensions, as I teach. This means that currently, the tensions serve as a way of thinking about practice, afterwards. However, I am moving towards using what I know about the tensions as an 'advance organiser' for practice as I anticipate situations based on my previous experiences.

Through the process of reframing my work as a teacher educator managing tensions, I am also better able to recognise some limitations to the ways in which I previously conceptualised my pedagogy (as personal deficiencies, as romantic professional ideals) and the possibilities for new learning and growth inherent in conceiving practice as managing tensions. The effect of this is that my inclination to reconsider my practice is not only renewed, but given a richer lens through which to look, with new opportunities and inevitably, new difficulties. I experience a sense of personal strength in having a frame for understanding and researching practice that is more robust, more organised and more purposefully directed at teaching and learning about teaching.

The notion of 'tensions' and the set of tensions I have identified offers insight into the work of teacher educators as they seek to facilitate the development of prospective teachers. The tensions then serve both as a frame for studying practice and as a language for describing practice and, in so doing, may be considered a way forward in developing a pedagogy of teacher education that can be shared amongst the community of teacher educators.

Conceptualising tensions and using them as a sign-post for learning to understand and articulate approaches to teaching and learning about teaching might help others see how tensions impact practice and bring into focus approaches to teaching about teaching that might make more tangible the relationship between episteme and phronesis.

The development of knowledge of practice is important for teacher educators in order to improve the quality of teaching about teaching (and their students' teaching). The tensions themselves are not necessary *per se*, but offer a useful way of

conceptualising and communicating practice. A series of tensions is not rich or comprehensive enough to provide guidance in all situations – nor would it be expected to. In this case, tensions offer a way of ‘reframing’ traditional notions of knowledge development in teacher education and so create new and different possibilities for understanding and improving practice. What is helpful (necessary) about the set of tensions is that it captures and holds onto, “ambivalence and contradiction, rather than reducing or resolving it” (Stronach et al., 2002, p. 121).

The research described in this book, as a comprehensive example of self-study, offers a window through which to understand the process of becoming as a teacher educator. This concluding section has attempted to situate that process in the real world of my teaching about teaching and prospective Biology teachers’ learning about teaching. In so doing, I hope that my learning through this self-study has been made clear in such a way as that it might also be meaningful and applicable in the work of others; and that is crucial to enhancing the work of teaching and learning about teaching.