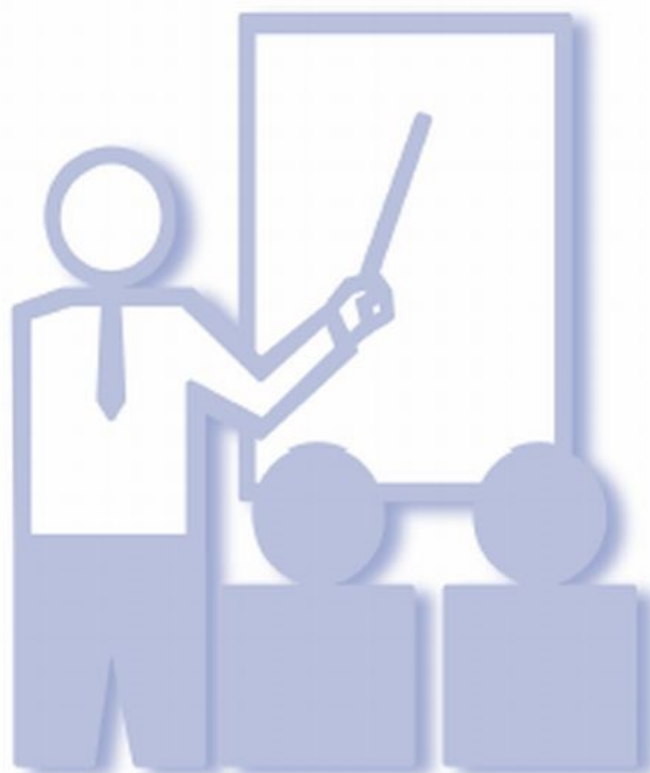# Teacher Learning and Development

The Mirror Maze

Edited by

Peter Aubusson and Sandy Schuck

Springer

TEACHER LEARNING AND DEVELOPMENT

Self Study of Teaching and Teacher Education Practices

Volume 3.

TEACHER LEARNING AND DEVELOPMENT

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Series Editor's Foreword

This series in teacher education, *Self-study of Teacher Education Practices (S-STEP)*, is designed to capture and portray a range of approaches to self-study of teaching and teacher education practices. In so doing, it is anticipated that the work of teachers and teacher educators might come to be better understood and valued as the complexity of the work of teaching and teaching about teaching is articulated and described for others.

The series was initiated in order to complement the *International Handbook of Self-study of Teaching and Teacher Education Practices* (Loughran et al., 2004) so that the diversity in approaches to self-study could be highlighted for all those involved in the teaching and researching of professional practice.

Pinnegar (1998) described self-study as a methodology for studying the settings in which professional practice takes place and, as such, suggested that self-study should lead to improvements in teaching and teacher education by uncovering and articulating insights in the processes of teaching and learning. In this way, a clear intention of self-study is that it might ultimately enhance students' learning and teacher and teacher educators' understanding of practice.

LaBoskey (2004) outlined four major characteristics of self-study that she considered crucial in maintaining the "checks and balances" needed when researching the "self". She drew attention to the need for evidence of "reframed thinking and transformed practice of the researcher"; "interactivity at one or more points in the research process"; the use of "multiple, primarily qualitative methods, some that are commonly used in general educational research, and some that are innovative"; and, the formalization of such work that makes it "available to our professional community for deliberation, further testing and judgment" (pp. 859–860).

In this third volume of the series, Pinnegar and LaBoskey's ideas are played out in a variety of ways through the works of the authors that have been brought together by the editors. Aubusson and Schuck, the editors, conceptualized this book in such a way as to capture and portray genuine engagement in the work of teacher education in the hope that it might not only demonstrate the trials and tribulations associated with pursuing deeper understandings of teaching and learning about teaching but also engender new ways of reshaping teacher education and professional development.

By structuring the book the way they have, Aubusson and Schuck have created additional ways for understanding and viewing the work of self-study.

In bringing particular authors' studies together thematically they have created different lenses for looking into the complex world of teacher education. However, more than this, their decision to close each section with a "critique and review" chapter builds on all of the aspects of LaBoskey's (2004) expectations for self-study.

These "critique and review" chapters are not designed to determine whose work is right or wrong, which is best, or conducted most expertly; rather they are an attempt to raise questions and probe further the authors' work in ways that are not so easy in the linear approach to text that is usually portrayed through a book.

Because the editors are concerned to push the boundaries of teacher learning and development, and because they see personal experience and reflection as central to such possibilities, they have purposefully organized the manner in which contributing to this book has been a learning experience for all involved.

Implicit in the way they have approached this goal has been the need for authors to reflect on their studies, to construct their chapters in ways that demonstrate learning and the development of knowledge, and to do so by coming to better understand the "self" at the centre of their work. Therefore, overall, what they have achieved is a book that offers a variety of "ways in" self-study for an audience comprising those not so familiar with such ways as well as those more experienced and expert in the field. Their book is thus an engaging, thought-provoking invitation to consider not only the work described in these pages but also the approaches to teaching and/or teacher education practices in which the reader is involved.

As Aubusson and Schuck make clear in Chapter 1, an important aspect of all of the accounts that comprise this book is the value of each as "powerful research tools that communicate ideas". I have certainly found this work to do that for me; I trust it does so for you too.

<div style="text-align: right">John Loughran</div>

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List of Contributors

Peter Aubusson (editor) is Associate Professor in Teacher Education at the University of Technology Sydney, Australia, where he belongs to the Teacher Learning and Development Research Group (TLD). He was a science schoolteacher for over 10 years during which time he researched his own practice. His current research interests include analogical thinking, teacher professional learning, and working with teachers to try "new" strategies and approaches. His research interest in teacher learning and development began in the early 1990s and his studies include investigating teaching/learning analogies and their influence on practice, early career teachers and career change into teaching, the design of teacher education, and studies of his own teaching practice.

Laurie Brady is Professor of Education in the Faculty of Education at the University of Technology, Sydney, Australia. He began his career as a schoolteacher, and has over 30 years of teaching experience at the tertiary level that has involved teaching in the professional studies strands of primary and secondary teacher education programmes. He has been involved in promoting school–university partnerships, and his research interests include curriculum development, assessment, professional learning, and teaching practice. He is the current director of the Teacher Learning and Development Research Group (TLD), and his major books include *Curriculum Development* (five editions), *Curriculum Construction* (two editions), *Celebrating Student Achievement: Assessment and Reporting* (two editions), *Engagement: Inclusive Classroom Management*, and *Collaborative Learning in Action*.

Gwyn Brickell is a lecturer in the Faculty of Education at the University of Wollongong, New South Wales, Australia, with a teaching focus on Information and Communication Technologies and Science Education. His professional interests are in the instructional design, implementation, and evaluation of digital technologies for educational purposes. His doctoral studies focused on the effectiveness of problem-solving strategies of learners in technology-supported learning environments. As a member of the Research Centre for Interactive Learning Environments (RILE) at the University of Wollongong, his research interests focus on the application of ICTs in teaching and learning. Gwyn has a background of 22 years' teaching in secondary schools (in NSW, Canada, and the USA) in the curriculum areas of Science

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Peter de Vries, formerly of the University of Technology, Sydney, is a senior lecturer in the Faculty of Education at Monash University, Australia. His teaching lies in primary and early childhood arts education, with a particular focus on music education. His research interests are in early childhood music development and teaching (both in the home and in more formal contexts such as schools), arts education integration, and alternative ways of representing educational research data, such as poetry, the short story, and the novel. De Vries is also a published poet and novelist.

Robyn Gregson lectures in Secondary Science, Primary Science and Technology, Literacy, and Rural Studies in the School of Education at the University of Western Sydney, Australia. She has worked with educational systems and teachers for 16 years in the pursuit of improving science education through the appropriate and creative use of pedagogies that engage students and encourage enthusiasm for the study of science and technology. Her doctorate investigated students' views of science and how literacy skills affected their attitude to, and their success in, science. Current areas of research interest include assessment practices, the engagement of boys with schools and learning, rural education, models of teacher training, and pedagogies that focus on best practice as well as students with specials needs.

Janette Griffin began her career as a secondary science teacher before joining the Australian Museum as an education officer and later the CSIRO Sydney Science Education Centre. She has taught children from kindergarten to grade 12. Currently a senior lecturer at the University of Technology, Sydney, in Science and Technology Education, she is involved in both the primary and secondary teacher education courses, and has designed a number

of new subjects. Janette's research area is learning in informal settings, and her Ph.D. thesis is titled "*School-Museum Integrated Learning Experiences in Science: A Learning Journey*". Her current research investigates the nature of, and ideal conditions for, learning in a wide range of formal and informal settings for adults and children, as well as perceptions of learning, and how learning can be recognized and "measured" in informal settings. She is a member of the Teacher Learning and Development Research Group (TLD).

Susan Groundwater-Smith is the Director of the Centre for Practitioner Research at the University of Sydney and Adjunct Professor of Education at the University of Technology, Sydney, and Liverpool Hope University. Her principal interest is in facilitated practitioner research whereby those in the field engage in inquiry into facets of their work with the support and assistance of academic researchers. She also has a commitment to student voice in such research where school students are enabled to be active agents in the research processes. Along with Professor Ken Zeichner she is an international editor of the *Education Action Research Journal* where such work is published and promoted.

Garry Hoban is a senior lecturer in the Faculty of Education at the University of Wollongong, New South Wales, Australia. His research interests include self-study for teacher educators and professional learning for teachers supported by information and communication technologies. He is the author of *Teacher Learning for Educational Change: A Systems Thinking Approach* (Open University Press) and the editor of the first publication in this book series, *The Missing Links in Teacher Education Design: Developing a Multi-linked Conceptual Framework*.

Vicki Kubler LaBoskey is Professor of Education at Mills College, Oakland, California, where she co-directs the Teachers for Tomorrow's Schools Credential Program. She is President of the California Council on Teacher Education and Past Chair of the American Education Research Association's Special Interest Group, Self-study of Teacher Education Practices. She has numerous publications on the topics of reflective teaching, narrative knowing and practice, and self-study, including the book *Teaching as Principled Practice* with her Mills' colleagues, published by Sage in 2005, and was one of four editors of the *International Handbook of Self-Study of Teaching and Teacher Education Practices* published by Kluwer Press in 2004. LaBoskey is actively involved in many groups and projects intent on supporting both pre-service and in-service teachers in the transformation of their practice and their institutions according to the goals of equity and social justice.

John Loughran is the Foundation Chair of Curriculum and Professional Practice and Associate Dean in the Faculty of Education at Monash University. His research interests include science teacher education, teacher-researcher, and reflective practice. He was President of the Self-study of Teacher Education Practices SIG of AERA and is co-editor of the *International Handbook of Teaching and Teacher Education Practices* (Kluwer). John co-edits the journal, *Studying Teacher Education* with Tom Russell (Queen's University, Kingston, Canada), and his latest book is *Developing a Pedagogy of Teacher Education* (Routledge). John chairs the Professional Learning Research team at Monash.

Kimberley Pressick-Kilborn is currently a lecturer in the Faculty of Education at the University of Technology, Sydney, with her teaching focused on the professional experience subjects in the primary education programme. In this role, she assists teacher education students in developing dynamic, research-based classroom practices that focus on children's learning. Kimberley's research interests include sociocultural theories of motivation and learning, classroom-based research and learning in contexts beyond schools. Her doctoral research is investigating the development of primary students' interest within a classroom learning community. Kimberley is a member of the Teacher Learning and Development Research Group (TLD).

Tom Russell is a professor in the Faculty of Education at Queen's University, Kingston, Canada, where he has been teaching since 1977. Most of his teaching is with pre-service teachers in secondary science and in the school practicum. His research focuses on factors influencing how people learn to teach and how teachers improve their teaching during their careers. He is a co-editor of the following books: *International Handbook of Self-study of Teaching and Teacher Education Practices* (2004), *Improving Teacher Education Practices through Self-study* (1997), *Finding a Voice While Learning to Teach* (1997), *Teachers Who Teach Teachers: Reflections on Teacher Education* (1997), and *Teachers and Teaching: From Classroom to Reflection* (1992). He is also co-editor of *Studying Teacher Education*, a Routledge journal that commenced publication in 2005.

Sandy Schuck (editor) is Associate Professor in the Faculty of Education at the University of Technology, Sydney, where she is a founding member of the Teacher Learning and Development Research Group (TLD). She was a mathematics teacher in secondary schools before becoming a university lecturer. She coordinates the mathematics education subjects in the primary education programme at UTS and is also the honours course coordinator. She also supervises a number of doctoral students. Her research interests are in three main areas: affective aspects of mathematics education, pedagogy and teacher

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Leonie Seaton is a doctoral student at the University of Technology, Sydney. The focus of her research is her practice as a consultant to experienced teachers, working with the New South Wales Department of Education and Training Gender Equity Unit. She is currently Deputy Principal of Balgowlah Heights Public School, Sydney, where one of her responsibilities is teacher professional learning. Leonie continues to explore her role in supporting the learning needs of the teachers with whom she works, both within her school setting and in her role on the Sydney North Region Leadership Committee.

Jennifer Stephenson had a background of classroom teaching of students with high support needs, part-time lecturing, and special education leadership positions in special schools before moving to a full-time academic position in 1999. After 4 years as Senior Lecturer in Special Education at the University of Technology, Sydney, she is now Senior Lecturer in Special Education at the Macquarie University Special Education Centre. She has a particular interest in the education of students with severe disabilities, good practice in special education, the use of controversial practices, and the education of students with behaviour problems. She has lectured in, and/or coordinated, the mandatory special education unit at three universities and shared the experience with other full- and part-time academics.

Deborah J. Trumbull is the director of the Cornell teacher education programme. She teaches the first pedagogical course taken by students preparing to teach mathematics, science, and agriculture science, and has worked to help them understand their own prior assumptions about teaching, learning, and schooling. Her research projects have led her to change her teaching over the years. She has done extensive research on the students in the programme and their progress, and has also examined her own teaching through self-study. Her other research focus examines the use of student inquiry in classrooms, and teachers' abilities to support student inquiry.

Leigh Weiss is currently teaching a primary class at an independent school for girls in Sydney, Australia. She has also taught in remote rural areas as well as abroad. Leigh is completing her Master's in Education, with a major in educational psychology. She is interested in the research surrounding the education of gifted students and is passionate about employing strategies used to optimize learning in a classroom setting.

Researching and Learning from our Practices

Peter Aubusson and Sandy Schuck

AN INVITATION

As we offer this book to you we are conscious of two half-remembered conflicting sayings, which we paraphrase: on the one hand, the wise person learns from the experience or mistakes of others; on the other hand, knowledge is not meaningful until your own experience has given it meaning. It is an opportunity to learn from the mistakes and successes of others, as well as to engage deeply in researching your own experience. In short, this book invites you to a "vicarious learning" experience (Rosenthal & Zimmerman, 1978). In offering this invitation we acknowledge the work of the "Castle Conferences" of the Teacher Education Self-Study Group, a group of researchers passionate about researching and enhancing teacher education practices.

The significance of individual practice in work and professional change has become widely accepted since Schön's (1983) elaboration of the implications of the "reflective practitioner". More recently, participatory enquiry, particularly for its emancipatory potential in the interests of social justice, inclusion, and equity, has given added impetus to teachers' study of themselves and their practices (Zeichner & Noffke, 2001). Consequently, teachers have long been exhorted to reflect on practice and engage in practitioner research to change themselves and what they do (Hatton & Smith, 1995; Valli, 1992; Zeichner, 2003). The motivation for teacher educators to engage in similar activity has also gained momentum with many investigating their own actions and personal theories as they make themselves the study of their own research – a field of endeavour well documented in Loughran et al. (2004). Through self-study, as teacher educators, we use the authority of experience, systematically to scrutinize our work as we reconstruct our educational theory and practice (Russell, 1995). In *Teacher Learning and Development: The Mirror Maze*, the knowledge thus generated is rendered accessible to assist others to avoid the pitfalls of colleagues, to build on collective experience, and to empower others to investigate themselves as practitioners in teacher education.

There is now a considerable body of literature that provides a compelling basis to interpret and explore current trends in teacher education by reflecting on what we do and how we do it. Here, this is achieved by teacher educators analysing their own experiences to improve and interpret teacher education,

the conceptual frameworks that underpin their work, and the practices in which they engage. The knowledge has potential to reshape teacher education and teacher professional development. This book brings together compelling ideas and new developments from scholars to provide theoretical and practical knowledge to inform progress in teacher education. This is achieved through a series of related chapters reporting reflective research on action in teacher education. Throughout the book, contributors not only highlight successful teacher education experience but also foreshadow exciting developments for further research. Accordingly, the book is likely to appeal to a wide audience of educators – including education academics, teachers, student teachers, and researchers.

WHAT'S IN A NAME?

> "Wot's in a name?" she sez . . .
> "A rose," she sez, "be any other name
> Would smell the same." . . .
> Names never count. . . . But ar, I like "Doreen!"
> (*The Songs of the Sentimental Bloke*, Dennis, 1916, p. 39)

The Mirror Maze

"Don't mix your metaphors!" was the agonized scream of our English teachers. Yet we have done just this with our title. You are wondering: "Do they mean a hall of mirrors or a maze?" Fortunately others have cautioned us about the dangers of relying on a single metaphor as a tool for thinking about, and representing, complex educational matters, such as learning (Sfard, 1998). Furthermore, if Hamlet could "*Take up arms against a sea* of troubles" and Einstein could take a *ride* on a *beam* of light, we can have a "mirror maze", mixing the metaphors of a hall of mirrors and a maze, because it captures the essence of this book.

This book is about people attempting to improve teaching, often their own. Reflection is critical in teaching. The subtitle, mirror maze, began as a working title with no intention that it should remain. Yet we found that it subtly conveyed to chapter authors a sense of what this opus was about. Each of the authors is a teacher: either a schoolteacher or a university teacher. All recognized the importance of researching their own work and the role of reflection in it. That we should choose "mirror" as a metaphor should come as no surprise. Reflection is essential to the practice and thinking of every author or teacher, as no teacher can be unreflective (Zeichner, 1996). It is central to participatory inquiry (Reason, 1994) and self-study (Loughran &

Russell, 2002), which characterizes much of the work in this book. Combining the hall of mirrors with the maze is intended to make explicit our sense of where we are and how we experience research on practice.

We chose no ordinary single looking glass but a hall of mirrors because it has attributes that inform the way we see and come to see ourselves as teacher-researchers. We can take this metaphor in two different directions: in the first, the reflections are distortions of "reality"; in the second, they access different perspectives of "reality". Our reflections on and in practice allow us to learn about ourselves and our work. But they are distorted by the interaction between perceptions and interpretation of us by us – just as the physical image of ourselves is distorted by imperfect, contoured mirrors in the hall. In the second interpretation, our reflections on and in practice allow us to see ourselves from different angles and perspectives, allowing rich insights into who we are and how we work – just as the multiple images in the hall of mirrors give us access to views we rarely have. Both interpretations can be enlightening but confusing.

Sometimes we feel as if we are lost and unsure of the path to take. It is tempting to construct a metaphor around Hansel and Gretel with us laying a path of breadcrumbs, one article or paper tossed out after the other reminding us of the trail we take without any knowledge of where we are going or how to find our way home. But we are not like Hansel and Gretel. Like the child in a maze we know where we want to go. There is a goal at the end – better teaching and learning. Yet we struggle and strive to get there – approaching so close only to find a single hedge separates us from an end. We retrace our steps and renew the journey. We know a great deal about what our goal, good teaching and learning, looks like. We also know that the details of what it means to be a better teacher are not fixed. They change as we ourselves grow and shift – we are and are not who we were. The features of good teaching and learning change, as circumstances change, opportunities shift, and new curricula problems arise. Yet the broad goal of being better teachers remains. Unlike the hedged maze of the garden, our goal moves, as do the hedges. The path is unclear and obstacles lie on the way. In the maze, people are tempted to give up and retrace their steps – some do. Others continue to test each opening and try new tactics – sometimes moving forward and other times backwards.

This book tells the story of schoolteachers and university teachers who are enthusiastic about their practice and the role they play in that practice, but are yet to reach the end of the maze. In their journeys through the mirror maze, each step is informed by multiple reflections. Each chapter is paradoxically characterized by certainty and uncertainty: self-assurance in that the authors believe they can improve education and that a process of

reflecting on, and researching, their own practice can inform this; and self-doubt because each faces problems that cannot be readily resolved. Many of the chapters report or build on self-studies; others are better categorized as reflective accounts. They come together because they contribute to knowledge about teacher learning and development and see the relationship between self and practice as critical to this.

Teacher Learning and Development

The main title of this book is intended to convey the broad field of intellectual endeavour and field of practice to which we are contributing. It seems notable to us that we first titled the book "Teacher Education: The Mirror Maze", expecting in the future to retain the main heading and change the subheading. Why then did we change from teacher education to teacher learning and development? From the outset we interpreted teacher education broadly to include formal pre- and in-service teacher education, the work of teacher-researcher, doctoral study, and collaborations of university with school. Yet it seems that this interpretation is not a common one, as teacher education more often has connotations of formal pre-service courses and training. Teacher learning and development is also a title that is not without problems but it seems to encourage the broader interpretation we intended as well as placing an emphasis on progressive change through learning. In every chapter, people outline their experience, what they learn, and how they learnt. For all, it is a story of individual and collective development. Each author describes progress through personal learning and the study of one's self in the teaching context. Similarly, there is collective learning among us, the authors and readers, as we share ideas and subject them to scrutiny; testing them against our own experiences and understanding in the field.

We note that our interpretation of teacher development and learning is not universal. Many distinguish development and learning differently. For example, teacher development is often associated with courses and in-service programmes with an emphasis on things provided for, or done to, teachers (see, e.g., Gusky, 2000), whereas teacher learning is often associated with things teachers do for themselves, with an emphasis on reflection and networking (see, e.g., Sykes, 1999). To separate learning and development in this way denies the essential relationship between us and experience, between humans and our environment, between self and reality. In broad terms, the problem we face in the study of teaching is the same as that in any study of nature – it is a human endeavour in which we ourselves experience our environment.

> The problem[s] we confront . . . are located in the apparent contradictions between subjectivity and objectivity. Between self and other, between individual and culture and between necessity and possibility. For some these remain irreconcilable contradictions, others view them as complementary facets of the human experience.
>
> (Witherell, 1991, p. 86)

We do not argue that the teacher educator authors of this book have solved this philosophical conundrum, which is inherent in any interpretation, exploration, or explanation of our world, but we are wrestling with it.

Self and Other in Our Research

While personal experience and reflection on that experience is a feature of all authors' chapters and analyses, the extent to which they explore, investigate, and reveal themselves varies. Some choose to emphasize their analysis and discussion of practice (e.g., Brady reflects on many years of experience in building school–university partnership, acknowledging the role of self through the reflection on experience); others emphasize self and who they are and use selected experiences to understand self and its growth (e.g., Seaton & Schuck's chapter where Seaton moves from dependent teacher-researcher to independent teacher-researcher). We see in all chapters a rejection of a separation of objectivity and subjectivity, of self from other. There is a determination to understand ourselves, and the relationship between self and our learning/teaching environments, which is best elaborated not just by acknowledging that a human and humanity are central to experience but also by studying our experience, the roles we play in experience, and making the experience and knowledge generated by our interpretation of it accessible to others.

> [Self-study in teacher education] is not simply the study of self, but the study of self-in-relation-to-others that both recognises and seeks to get beyond the binary oppositions such as teacher educators/teachers; self-study/practitioner research; teacher education/education; theory/practice and university/schools. . . . [It] involves moving beyond recognition of my own complicity in the Othering of teachers in our discourses about teaching, teacher education, and research to a consideration of avenues for change.
>
> (Kuzmic, 2002, p. 233)

Thus there is an essential relationship between self and other.

To understand where this book is located it is useful to consider the dichotomy between experientialist and conventional assumptions described by Schubert (1991, p. 223) based on historical analyses by Zissis (1987) (see Table 1).

We prefer to see these as alternative emphases rather than a dichotomy; nevertheless, this book has an experientialist emphasis on all dimensions that flows logically from the first: that good teaching and learning are not

Table 1. A comparison of conventional and experientialist assumptions.

Experientialist	Conventional
Search for good life	Pre-specified parameters of the good life
Person as creator	Person as receiver
Knowing as multidimentional	Knowing as rational-technical
Knowledge as intersubjective	Knowledge as objective
Education as intrinsic	Education as extrinsic
Democracy as participatory	Democracy as representative

prescribed a priori but to be sought ad hoc and in situ, and hence demand participatory research in which the self is explicit. We are not arguing that knowledge of teacher learning and development can only come in this way, but that our cultural knowledge would be impoverished without knowledge produced in this way.

Writing the Book – The Process

> Yeh live, yeh love, yeh learn . . .
> . . . an' the bloke "oo tries
> to grab the shinin" stars frum out the skies,
> Goes crook on life an' calls the world a cheat,
> An' tramples on the dasies at "is feet.
> (*The Sentimental Bloke*, Dennis, 1916, pp. 112–113)

As you walk the mirror maze you bump into others looking at their myriad reflections and finding their way through the barriers. They seek advice from you. You tell them you took that path but it was a dead end. You may look at each other's reflections – seeing things in them that you may or may not also see in yourself. This book plays much the same part as these conversations and vicarious experiences. If you are reading this book, it is probably because you have an interest in teacher learning and development and how to make it better. You are in the mirror maze just as all the authors are. We embarked upon a process in the construction of this book that set out to facilitate these conversations.

Many authors belong to the Teacher Learning and Development Research Group (TLD) at the University of Technology, Sydney. They belong to the group because they are university teachers and researchers who study teacher learning and development – including their own. Each was invited to participate in a seminar series with the intention that the papers would form the core chapters of this book. Each was asked either to focus on a particular salient study of teaching or to reflect on their varied experiences over a

number of years. We suggested an emphasis in the writing on self-study and teacher education. For the purposes of this book both were interpreted broadly.

Many authors presented working papers in a seminar series. They shared their ideas through stories about their work, reflections on their practice, and they invited others to respond. This experience was emancipatory for many as for some it was the first time that their research had placed an emphasis on themselves, their experiences, and their practice; for others it was an opportunity to make public an extended period of self-study. For all it was an experience at some stage of telling and listening, both of which are important aspects of research but also ways of showing regard for one another (Noddings & Witherell, 1991). Nearly all the authors commented at various stages, as Groundwater-Smith does in her chapter, that she was "not entirely comfortable with revealing so much of myself". Yet we recognized the intrinsic value to others of revealing the interplay between self and action. In the seminars each of us in the audience discussed ideas with, and provided advice to, the authors. Each chapter is a result of this local research community's collaboration. Drafts of chapters were given to us, the editors. Often we felt less like editors seeking to clarify meaning but more like colleagues embedded in the research process asking colleagues questions such as what if? so what? what role is your view of your self playing here? There were many changes: sometimes wholesale shifts in the nature of chapters, sometimes shifts in emphasis. The process was both frustrating and rewarding, lurching back and forth between insightful and irritating. We were at times like a stone in a shoe that had to be removed before the journey could continue; at other times we provided a map with alternative routes and destinations.

The Structure of the Book

The book is organized into the following three themes:

(1) Learning with Others: Sharing the Journey
(2) Dilemmas and Challenges: Finding the Way Through
(3) Processes of Self-Study of Teacher Education Practice: Ways of Seeing Ourselves

The themes are not, nor are they intended to be, mutually exclusive. For example, in all chapters the challenges faced are identified and to varying extents discussed. In no case is it implied that the process used to see ourselves and what we do is not central to the evidence and arguments presented. Rather the themes identify points of emphasis. Each section ends

with a "discussant chapter" where an expert in the field of self-study teacher education has been invited to comment on the chapters, to draw out key ideas and to provoke conversation with the reader (see chapters by Russell, Loughran, and LaBoskey). Interpretations of key ideas emerging from each chapter are explored in each discussant chapter. Here we limit ourselves to the briefest tease of each theme and chapter in the hope that we can tempt you to enjoy the smorgasbord to come.

In Part I, Sharing the Journey, various types of teacher learning and development associations are portrayed. In all cases, it is evident that the quintessential nature of all these lies in a human rather than an organizational relationship, a relationship that evolves as the partnership and individual grow – often in unpredictable ways. Brady reflects on years of attempts to construct genuine partnerships between school and university. Pressick Kilborn *et al.*, analyse their relationship and learning in a collaboration among teacher educator, researcher, teacher-researcher, and teacher in which their roles shift and become blurred over the years. Analogical interpretations are used as Seaton and Schuck explore perceptions of their relationship as graduate student and supervisor, with Seaton viewing herself as novice teacher-researcher and Schuck as expert researcher. Trumbull takes us on a learning experience as she researches her teaching practice. The shared journey she describes is one in which she reveals much of herself as she shares her reflections on her teaching with her students to help them to become more reflective practitioners. Then, Russell works with the ideas in this part leading to a challenge: "there is no reason to think that educational improvement . . . can occur without significant partnerships and sharing of our educational journeys".

In Part II, Dilemmas and Challenges: Finding a Way Through, the complexities of teacher education are discussed. Who we are (including our beliefs, values, notions of what is important and how things should be done) renders teacher education challenging because teacher education is, for all the authors, an interaction between us and others. These interactions involve clashes and conflict among ideas, if not people. These challenges raise dilemmas – choices about "what to be true to" and what to change in our teaching. In all cases the challenges to, and dilemmas in, these teacher educators' thinking came from listening to others. What they heard meant that to drive improvement they had to look afresh at themselves and their own teaching practices. Aubusson analyses his public reflections on practice, using analogies. He illustrates the advantages, inherent dangers, and difficulties (both for him and his students) in sharing with them aspects of his teacher thinking. Stephenson describes how a special educator's values and sense of what counts as evidence in her research base repeatedly clashes with the

values and research base of "constructivist" colleagues and beliefs of students influenced by them. Buchanan examines how his evaluations of the impact of his teaching challenge his view of himself as a teacher and his perceptions of success. His "student informants" led him to think more deeply about his teaching than he had "ever imagined", bringing difficulties to the fore which invited him to respond and move forward. Griffin's chapter differs from the others in that she explains how a single statement, "You don't learn in there you play", pressed her to think about what she means by learning and its implications for her in teacher education. This prompted her to investigate children's views of learning. In working towards a deeper understanding of what it means to learn, she was challenged to determine how to match her teaching with how people learn. Loughran discusses these chapters highlighting the way in which a focus on concerns can lead to improvement in "teaching and learning about teaching". He argues that the general challenge for teacher educators is to collaboratively confront the problematic nature of our work if we are to find useful future directions.

In Part III, Processes of Self-study, just a few of the rich methods available to self-study are on show. The emphasis in this part is not on the findings of the research per se but their methodology. Groundwater-Smith examines how her life-world consisting of her professional and personal world, is "historically constructed". She uses an interview device from a radio show to stimulate a self-examination of her "second record" and implicitly suggest that we try the same. At the same time she "raises critical issues regarding the ways in which practitioner inquiry interacts with professional identity for all who participate". Aubusson and Gregson discuss the use of a mixed method derived from three seemingly complementary methodologies. The chapter serves as a warning about viewing methodologies as method by explaining how, for them, simply using action research as a method of self-study in a teacher-researcher doctoral thesis generated difficulties. Schuck argues the merits of different types of evidence. She shows how traditional modes of evaluating university teaching are not just misleading but can also be destructive in their potential influence. The contrast with a self-study serves as a reminder that self-study can produce rich insights to improve teaching and learning. De Vries invites us into his autobiography and through his commentary on the story provides a detailed argument for, and revelation of, the process. While outlining the rigour needed in autobiographical research, his key argument is that the value of autobiography lies in its capacity to move us (author and others) to action as we empathize with the circumstances (the good and bad) and the characters (their highs and lows). Hoban and Bricknell's chapter differs from others in this part as it reports a method that allowed teacher education students to

reflect productively. Specifically, the chapter shows how evolving diagrams of metaphors during practice teaching experience can encourage deep reflection about the dynamic nature of classroom environments. We see this improvement of student teacher reflection as providing a pre-curriculum (after Bruner, 1960) for self-study. In the final chapter of this part, LaBoskey elegantly critiques each of the chapters in Part III. Here she is provocative, pressing each researcher to make bold assertions from their work. She plays the role of discussant calling the readers to respond in kind, subjecting their own self-study process to similar scrutiny.

Significantly, each discussant saw things differently from chapter authors and book editors and highlighted original themes. We hope that this process is mirrored by our larger readership, as you respond to each chapter and see layers and implications different from those we saw; different from the discussants' visions; and significant to you as you continue an imagined dialogue.

Storytelling

The chapters in this book tell stories. It is tempting to seek broad generalized propositions from these stories. Indeed we have been encouraged to make bold assertions in self-study. While we agree, we have held back from asking authors to do so in this work because it aims to serve a different purpose. Cronbach, renowned for his statistical expertise and the use of quantitative research, reflected long ago that the general is to be found in the particular and that more research needs to explicate the individual experience (Cronbach, 1957). He noted that much research (in psychology) has been concerned with the typical and argued for the study of "existing variation between individuals, social groups and species" (p. 671) "as (they are) important effects of biological and social cause" (p. 674). Hence, "a sizeable segment of behavioural science remains practically untouched" and "this untouched segment contains the questions we really want to put to Nature" (Cronbach, 1957, p. 683). Here we have taken Cronbach's advice, asking authors to divulge their individual, albeit often collaborative, experiences. We hold that the individual/self and variation in experiences of individuals/self are important and that sharing these experiences rich in variation and peculiar events is important work in educational research (e.g., Russell, 2002; Zeichner, 1999).

In this book, some chapters are written as a story (e.g., de Vries' autobiographical account); others are stories but their rendition takes a form more akin to a traditional paper (e.g., Trumbull outlines her experience and learning from revealing her teacher reflections to her students). The style varies

and as editors we have encouraged an eclectic view of what a story looks like. We hold that all the chapters are stories from professional lives and we make no apology for this book telling stories and not a story and for some chapters attending more to the story than the articulation of methodology. For some the method and the experiences of it are the story (e.g., Aubusson and Gregson). In all, the stories serve as "powerful research tools" and communicate ideas:

> [S]tories are powerful research tools. They provide us with a picture of real people in real situations, struggling with real problems. They banish the indifference often generated by samples, treatments, and faceless subjects. They invite us to speculate on what might be changed and with what effect. And of course, they remind us of our persistent fallibility. Most important they remind us to remember that we are in the business of teaching, learning and researching to improve the human condition. Telling – and listening – to stories can be a powerful sign of regard – of caring – for one another.
>
> (Nodding & Witherell, 1991, p. 280).

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Part I

Learning with Others: Sharing the Journey

Chapter 1

Two Steps Forward, One Step Back: School–University Partnerships

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INTRODUCTION

In the last decade in Australia, as in the USA and UK, there has been an increasing emphasis on schools and education faculties of universities collaborating in both the education of prospective teachers and the ongoing professional development of practising teachers. Here I argue that such partnerships can enhance the learning of teacher educators by increasing the relevance of their teaching and research, with the potential to bridge the gap between the respective cultures of schools and universities (Sachs, 1997).

From the perspective of teachers, collaboration with universities offers opportunities to keep abreast of innovation through professional development. The well-established emphasis on schools as learning communities makes the creation of both partnerships and other learning networks propitious. Lieberman (2000, p. 226), endorsing the value of networks, argues that "by providing avenues for members to deal with real problems, to work collaboratively and to communicate more effectively with a diverse population, networks are uniquely suited to the development of learning communities". The more formal partnerships like those reported in this chapter may also meet and potentially emulate these benefits.

From the perspective of academics, programmes in teacher education have been criticized for being too theoretical, and therefore not achieving the appropriate integration between theory and practice. Smedley (2001) accounted for the theory – practice divide by suggesting that academics draw their practice from research, the literature, interaction with colleagues, and their classroom experience in schools and universities, whereas teachers draw their practice from school classroom interactions, student development, teaching resources, and school procedures. Whether or not Smedley's (2001) factors provide an accurate summation of this perennial dichotomy, the creation of partnerships

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presents the opportunity of bridging this divide and replacing it with genuine collaboration between schools and universities.

This chapter briefly relates the history and context of school – university partnerships in Australia, and reports my involvement in developing and sustaining one partnership between the Faculty of Education at the University of Technology, Sydney, and a local primary school.

CONTEXT

Various forms of educational restructuring and legislation have facilitated the growth of partnerships in the UK and USA. It is the lack of equivalent structural change in Australia that has largely made partnerships ad hoc and reliant upon the goodwill of participants. In the UK, for instance, the Education Reform Bill of 1987 restructured teacher education and fostered partnerships between schools and universities in pre and in-service teacher education. Not only have schools been given more autonomy in site-based management but they have also been given a greater responsibility in developing teacher education programmes, and the power to contract universities to help implement their own programmes. Prospective teachers therefore spend a significant proportion of their time in schools.

In the USA, Professional Development Schools (PDS) also reflect a more formal and articulated relationship between schools and universities than in Australia. A group of such schools is typically affiliated with a particular university (the California University model), and a management team of academics and teachers collaboratively develops programmes that involve daily professional development on site, a resident university supervisor at each school, the training of cooperating teachers, and university courses taught by both academics and teachers (see Sandholtz & Finan, 1998).

The bulk of professional development literature is testament to the growth and monitoring of such partnerships. It focuses on three main areas:

  (i) The impact of partnerships on participants: principals (Foster et al., 2000); teachers (Gonzales & Lambert, 2001; Lecos et al., 2000; Walling & Lewis, 2000); prospective teachers (Burley et al., 2001); school students (Sandholtz & Dadlez, 2000); and academics (Tom, 1999);

 (ii) The dynamics of collaboration and partnership development (El-Amin et al., 1999; Himel et al., 2000; Schack, 1999; Teitel, 1998; Walker, 1999); and

(iii) The evaluation of partnerships in terms of student learning and their impact on schools (Knight et al., 2000; Teitel, 2001).

There have been similar practices in Australia since the early 1990s in relation to the governance of schools, particularly those involving increased school autonomy for school management, professional development, and staff appointments. While the same concerns of relevance and the integration of theory and practice in teacher education programmes are commonly expressed, there has not been the same degree of government prescription, and schools and universities essentially operate as separate entities. There is, however, a strong interest in developing partnerships.

PRACTICE

The most nationally recognized and lasting expression of partnership initiatives in Australia has been the Innovative Links Project, which was funded by the Australian Commonwealth Department of Employment, Education and Training (DEET) from 1994 to 1996 to support the National Professional Development Program (NPDP). While the Innovative Links Project was a partnership between schools and universities, other stakeholders included teacher unions and the National Schools Network.

The project involved a consortium of 14 Australian universities (including University of Technology, Sydney – UTS) collaborating with over 100 schools across all states. Structured around the concept of Roundtables, teachers worked on school-owned and school-initiated research with the assistance of an "academic associate" from the host university. Schools participated voluntarily, though they were bound by project guidelines. Each Roundtable was guided by a steering committee comprising up to three academic associates, two staff, and a principal from the schools involved, as well as members of the Education Department, teachers' union, and National Schools Network.

Writing of the traditional research role that academics have practised in schools, Grundy (2001, p. 205) warns that "it is vital to recognize that there are historical relationships, particularly in relation to research, which have bred professional suspicion of academic researchers". Such research by academics has sometimes implicitly condemned teachers for mediocre, overly technical or superficial work. The project was therefore an attempt to change this perception through facilitative action research, and it demonstrated that teachers were capable of quality research that did lead to meaningful change and enhanced teacher professionalism (Sachs, 1997; Yeatman, 1996).

The work of the Innovative Links Project has been extended in collaborative initiatives between the University of South Australia and neighbouring schools (Johnson et al., 1999; Peters, 2002). Peters' (2002) evaluation of the project in six schools revealed problems associated with differences between the two cultures. For instance, academics were committed to collaborative

and shared decision-making, but schools wanted the academics to be experts; academics desired rigorous action research, but schools wanted immediate solutions; and some academics had limited knowledge either of the process of action research or of the substantive area the school wished to investigate.

Further initiatives in South Australia included the Middle Years of Schooling Authentic Assessment Project, for which substantial funding enabled academics to work collaboratively on project administration and materials development, and the School-based Research and Reform Project funded by the Department of Education, Training and Employment (DETE). In this project, academics facilitated Roundtable meetings of participants to provide them "with opportunities for sharing, critical reflection and professional development" (Peters, 2002, p. 239).

The emphasis on collaborative action research is one expression of school – university partnerships. There has always been a loose de facto relationship in Australia in which schools assist universities by providing opportunities for prospective teachers to engage in practice teaching. In recent years schools have increasingly broadened partnership boundaries to include prospective teachers in school teaching experiences outside the traditional practicum periods. For instance, the partnership reported by Sealey et al. (1997) is typical of a more inclusive vision: to benefit prospective teachers in developing the curriculum in a school context; to benefit academics in understanding current school developments; and to benefit teachers in understanding teacher education programmes. To achieve this vision, self-selected teams of three to four final-year teacher education students worked in local primary schools to complete a school-based curriculum project. Participating schools nominated a curriculum development project relevant to their needs and were given information about the preferences and expertise of the students so that appropriate placements could be ensured. The programme involved campus-based lectures and school-based workshops in which prospective teachers met with experienced teachers.

Sealey et al. (1997, p. 88) identify the benefits of developing a shared vision for the learning of prospective teachers in two different locations, but they conclude that partnerships

> are not always comfortable arrangements, and fears, suspicions and uncertainties about role may be present as students, teachers and university teachers are required to work in sometimes new and different ways. Partnerships are more likely to be successful when they are seen as complex arrangements which develop over time, and for which collaborative approaches are tried, evaluated and adjusted.

Many education faculties of universities now have, or have previously flirted with, school – university partnerships. Merritt and Campbell (1999) report

on the partnership between the University of Sydney and Kurri Kurri High School; Woodward and Sinclair-Gaffey (1995) describe the ongoing partnerships at the University of Western Sydney (Macarthur) including in-school experiences, teachers as tutors, teachers as students, and joint research projects. Discussion of partnership initiatives in various forums has included the secondment of teachers to universities as either clinical staff or part-time lecturers; the appointment of researchers-in-residence in schools; shared professional development; and joint advisory boards. Most partnership initiatives may have the blessing of the state departments of education, but they are invariably unfunded, and not part of the culture of either schooling or teacher education.

The Ramsey (2000) review has arguably given further impetus to partnership initiatives in its recommendations relating to the role of the Institute of Teachers. Partnership between schools and universities is denoted in the role of the Institute in fostering collaboration in the development of "criteria, processes, and procedures" for the accreditation of those schools providing professional experience for prospective teachers, and the definition of respective roles in the induction of teachers. Apart from these more formal or "institutionalized" recommendations, the review is not explicit as to how schools and universities should collaborate.

DEVELOPING A PARTNERSHIP

The idea for a school – university partnership at UTS grew from my discussions with the principal of a Sydney upper north shore primary school that had supported the university for decades by providing practicum placements for prospective teachers. The discussions, conducted in November 1999 (with the purpose of beginning the partnership in 2000), focused on ways in which both partners could support each other, particularly for the enhanced learning of school students and prospective teachers. The school is of medium size and is socio-economically diverse: 18 regular classes comprising 515 students speaking 52 languages. Single houses, unit dwelling, and community housing support a range of ethnic communities in the area.

After several discussions between the principal and myself, it was decided to convene a meeting with interested teachers and academics. There were few preconceptions apart from the belief that the partnership should serve the needs of four groups of people: prospective teachers, school students, schoolteachers, and academics. As a way forward, I presented the following process elements to the meeting that was attended by virtually all the school's teachers and by six academics:

- develop a vision by clearly articulating what we want to achieve;
- select a range of strategies to ensure that there is scope for all interested participants to be involved;
- make the process official (as formalizing the process in writing is symbolically significant);
- develop an administrative structure;
- ascertain ways of acknowledging participant contribution;
- ensure the commitment of leadership at the highest level.

These elements, the product of both surveying the partnership literature and my own experiences with change initiatives, were adopted by the meeting. Two other meetings ensued, the latter of which included representatives from the teachers' union, National Schools Network, Department of Education, and parent groups.

Discussion between the partners yielded ten general strategies that were derived amicably. Even at this early stage, the different orientations of the two partners were apparent: that of the school was to improve outcomes for school students; that of the academics was to improve the quality of teacher education programmes. The balance achieved was accepted unanimously:

  (i) writing joint research grants;
  (ii) conducting joint action research;
 (iii) academics teaching teacher education students on the school site;
 (iv) teachers teaching teacher education students on the school site;
  (v) teachers teaching teacher education students on the university campus;
 (vi) team-teaching with combinations of teachers, academics, and prospective teachers;
 (vii) sharing planning, teaching, and evaluation of teacher education subjects;
(viii) sharing planning, teaching, and evaluation of school teaching and learning;
 (ix) sharing of partner expertise: seminars, workshops, demonstrations; and
  (x) teacher mentoring of prospective teachers: an extended practicum model.

Having observed the first two guideline process elements of articulating and honing a vision and deciding upon general strategies, the partnership was officially recognized in a document (the third process element), which included a set of collaboratively developed principles. These principles outlined the need for democracy and empowerment of the participants; the consideration of the distinctive interests of the partners; trust, communication, and understanding; shared responsibility and planning; mutual benefits for both partners; teacher research that focuses on school settings; and the need to address problems associated with recognition and rewards for participants.

While there was no direct funding for the project, a number of the academics had earned money from professional development initiatives involving schools, and the faculty agreed to make the $14,000 thus accrued available. It was anticipated that most would be spent on releasing teachers for partnership initiatives.

This developmental phase was characterized by feelings of excitement in the belief that a worthwhile change that could potentially restructure teacher education programmes was being implemented; inevitably there were also feelings of apprehension at the magnitude of the task ahead, anticipating the possibility of not being equal to that task.

SUSTAINING A PARTNERSHIP

System

The partnership was sustained at both the system and school levels, though it was not until April 2001 that real system recognition was forthcoming. One of the initially prescribed process elements was to ensure leadership at the highest level. As this was guaranteed within the school and university, it was decided to enlist the support of the Director General of Education and Training (New South Wales) in establishing a consultative group. The principal and myself had jointly presented a paper on the first year of our partnership experience at the Australian Association for Research in Education conference in December 2000. This paper, together with our request and other reports of our activities, prompted the Director General to establish a consultative group to "coordinate and further the various cooperative ventures which currently exist". The group was to comprise the Director of the Training and Development Directorate, the Director of Curriculum Support, a District Superintendent, and a representative of the Manager of the Priority Schools Program. Other members, not prescribed by the Director General, included the principal of the partnership school and four academics. I was to chair the committee.

The consultative group met four times a year until the end of 2002, when it was virtually restructured out of existence. Its duration coincided with a period of substantial restructuring in the New South Wales (NSW) Department of Education and Training. Three different people occupied the role of Director of Training and Development, each with a different understanding of, and commitment to, the group; both represented Directorates were eventually combined to form another Directorate; and the District Superintendent was promoted. With each change, the group was reconstituted, but a number of the newer members, including the principal of the partnership school, changed

their employment. At that stage, it was decided to abandon the group, at least in its then emaciated form.

The group did have some significant achievements, notably in developing a relationship with one school district by which final-year teacher education students could be placed in that district's schools for practicum, and be supported in those schools with a view to their subsequent appointment within that district. While I had hoped that specific concerns with our partnership school might be addressed, the group was understandably more concerned with broader partnership initiatives.

School

With a zeal that often typifies a new change, a variety of strategies were quickly implemented in the partnership school from the beginning of 2000. They included teaching prospective teachers on site with school staff, action research, and community-based professional development. The following is a selected listing of activities that capture the flavour of partnership:

- Prospective teachers in their first year were taught parts of one subject on the school site with assistance from practising teachers.
- One academic and prospective teachers evaluated the fitness of all grade 3–6 students, provided professional development on how to improve that fitness, and subsequently conducted post tests.
- Three academics assisted schoolteachers in an action research project in the area of critical literacy.
- One academic coordinated the weekly visits of prospective teachers to the school to work as mentors with those school students deemed to need assistance in the number strand of mathematics.
- Two teachers taught semester-length subjects to prospective teachers at the university.
- One academic and her drama class performed a play at the school, and conducted a theatre workshop.
- One academic collaborated with three teachers and six targeted school students in providing a short intensive programme of corrective strategies to address mathematics anxiety.
- One academic arranged a half-day visit by Thai students who visited the university.
- One academic conducted research on portfolios and disseminated the findings in a community-based professional development forum.
- One academic and prospective teachers team-taught music to school students.

The process element of establishing an administrative structure was quickly resolved in the agreement that proposed partnership activities initiated by a teacher be conveyed to the principal, and those proposed by academics be presented to me. The principal and myself would maintain frequent contact and coordinate the initiatives. The arrangement was fluid in that teachers and academics were encouraged to meet each other to generate initiatives. Determining what might be implemented was to be more of a concern for the school, as a staff of 18 regular teachers could only cope with so much additional responsibility.

Dimensions

A number of dimensions were found to be important for the operation of the partnership:

Credibility

In her evaluation of the Innovative Links Project, Grundy et al. (2001) refer to credibility more as it relates to the participants' feelings about their own credibility than to credibility evaluated by another. In the reported partnership, teachers perceived both their credibility as practitioners and their academic credibility in having something to offer as important. At the initial meetings, some teachers expressed a reluctance to teach prospective teachers, even in a team role. Such a reluctance, maintained by one teacher throughout the partnership, justified the development of a variety of activities in which participants could be involved.

Grundy et al. (2001, p. 214) claim that academics, while believing that they have credibility in terms of expert knowledge, were eager to discard their image as gurus and to "develop their credibility through having some expertise to offer on the basis of their own responsiveness". The same was true of the reported partnership, and the success of academics in arguing that they and the teachers had equally valuable and complementary expertise was frequently affirmed by the teachers.

Communication

The project of Sealey et al. (1997) at Deakin University underlined the importance of regular communication between school and university, because much communication between teachers and academics was found to be problematic. Sealey et al. (1997) acknowledge the difficulty of achieving interpersonal skills and claim that, as many partnership activities

involve operating in teams, training in planning, communication, and even conflict resolution would not be remiss. The lack of communication problems in the reported partnership might be attributed to the small-scale nature and relatively short duration of most activities. The principal and myself maintained regular contact and were candid about our reactions to initiatives. Within the context of enthusiasm and satisfaction, there was one occasion when the principal felt the need to report her dissatisfaction with the contribution of an academic, and this situation could well be explained by inadequately conveyed expectations both from school and university.

Trust

The need for trust between partners has been identified by Grundy et al. (2001), Smedley (2001), and Gore (1995). It was particularly important in the partnership, perhaps more so from the teachers, as the academics were frequent visitors to the school, rather than the reverse. The academics were more likely to invade the working space of the teachers, whose working roles were arguably more structured. Trust was therefore important to ensure that boundaries of established expectations were not crossed and that teachers were not asked to do more than they had expected. To sustain trust through communication and rapport, there were frequent meetings, and the academics and teachers met socially on a number of occasions.

Democracy

To some extent, democracy between partners is ensured in voluntary partnerships, as each partner is free to withdraw or reconfigure the partnership if he or she feels that the decision-making is one-sided. Apart from full discussions of each proposed partnership activity, based on the understanding that both partners had an equal voice, the principal and I were careful to ensure that all the participants were involved in decision-making. Again this was particularly important for the teachers, as some proposed activities had implications for the work of all teachers in the school, whereas many of the proposals from academics rarely involved a large number of their university colleagues. In acknowledging the need to break down the image of the academic as guru, Goodlad (1994) believed that partnerships should also acknowledge hierarchical relationships when expertise is at a premium. While there was a predominant recognition of the complementary nature of the roles of teachers and academics, there was also an acknowledgement by teachers of the principal's status in the school and of the wisdom that

position conferred. My own role as coordinator was perceived by academics as important in "seeing the bigger picture" but not as conferring the expertise essential for particular projects.

Interests and Features

The school – university partnership literature is abundant with references to the different cultures of the partners, and their potential clash (Peters, 2002; Smedley, 2001). A major purpose of the frequent meetings of participants, and of the dialogue between the principal and myself, was to identify and maintain an understanding of the different interests of academics and teachers. Activities were of differential value to participants. For example, school-based professional development had most benefit for teachers; team-teaching prospective teachers at the school site had most value for academics; and the mentoring of school students by prospective teachers had comparable advantages for both. While professional self-interest was always a consideration in discussing proposals, much was done on the basis of goodwill, and if one activity seemed to provide more demonstrable benefits for one partner, the other articulated the need to redress the balance.

CONSTRAINTS

There were five main constraints operating on the partnership. The first related to the reality of different cultures or organizations, even more so than their discrepant natures. Partnerships require a redefinition of the working roles of teachers and academics; yet there have been no significant structural changes to effect such partnerships. As teachers and academics in Australia have not been required to start anew with the growth of partnerships, any changes to their working roles have been accommodated or even added to their existing work. Yet partnerships require teachers and academics to shift from their relatively separatist roles.

The cultures are not only separate but also different. While universities have different status positions, they do not operate as hierarchically as schools, where decisions about school programmes are made by the executive teachers. Grundy et al.'s (2001) evaluation of the Innovative Links Project revealed that principals or other executive staff assumed the responsibility for determining the school's project. The same hierarchy of decision-making was apparent in the reported partnership.

Reference is frequently made to the critical or reflective orientation of academics and the practical or action orientation of teachers (the so-called theory – practice dichotomy). The strong emphasis on the complementary

roles of teachers and academics in the reported partnership vitiates this difference as a partnership concern.

Second, the absence of significant structural change has meant that teachers and academics work on partnership activities in addition to their normal workload. Partnership work is not formally recognized in universities as research or teaching, and it generally has no status in workload allocations. Nor is it recognized as a standard part of teachers' work. On a few occasions the principal had to reject or defer proposals because her staff could not cope with further work. On another occasion I baulked at undertaking a worthwhile partnership activity. As coordinator of a core subject in the practicum strand of the teacher education programme, which focuses on group work and curriculum differentiation and is therefore ideally suited to team-teaching with teachers on the school site, the challenge of coordinating visits and shared teaching of four or five groups was considered too great in the light of other workload commitments. Similarly, numerous academics expressed great interest in the partnership and openly acknowledged its value; yet they indicated that they were unable to commit time to its operation, particularly given the demands of research and publication.

Third, partnership activities involve "interruption". Grundy et al. (2001) used the metaphor of interruptions to describe a challenge to the established order, claiming that the major interruption involved "taken-for-granted relationships". The frequent visits of prospective teachers present administrative problems for teachers in arranging opportunities to practise, supervise, and adapt teaching programmes. Team-teaching and action research may require additional preparation. The number of teachers available for partnership activities in a school of only 18 regular teachers was sometimes further reduced when senior and therefore more experienced teachers were heavily involved in administrative duties. "Interruption" was also a problem for academics in having to adapt their campus teaching or reschedule their research.

Fourth, arguably the greatest constraint on partnerships is time. Given the lack of structural change and support, partnerships depend on the extra time given by teachers and academics. Both are quick to acknowledge their responsibilities to their respective students. Work in Australian schools has increased markedly with new accountabilities involving planning and assessing by outcomes and a variety of system policies and perspectives to be included in the curriculum. Similarly, work demands have increased in universities, particularly in the need to enhance research profiles. Apart from the ongoing work required in partnerships, a considerable amount of time is needed to establish them.

Fifth, leadership may operate as both a facilitator and a constraint. Much of the partnership success can be attributed to the vision of the principal.

When that principal changed employment after 1 year of the partnership, she was replaced in an acting capacity by her deputy. The acting principal was also a strong leader who was committed to partnership, but she was offered the post of principal in another school at the end of the second year. The significant change in the executive of the school and some retirements among staff were parallelled by even greater changes in the consultative committee that had been appointed by the Director General to support partnerships. While the university leadership of the partnership remained stable in this period, these changes did have a destabilizing effect on the partnership.

REFLECTIONS

The nature of the partnership has changed in the last 2 years. It would be unfair to claim that the partnership does not exist, because partnership activities are still conducted in the school. These activities are now sporadic rather than part of a coherent plan discussed each school term, and they involve academics approaching the principal in the same way that they might for initiatives in other schools. A little team-teaching and mentoring of school students by prospective teachers do occur, and the school remains committed to comprehensive practicum involvement.

The third principal is interested in partnerships but he inherited them from the school's prior commitment and thus lacks the zeal of the previous two principals. The executive of the school has changed and there have been several new staff appointments. While the academic staff involved in the partnership since its inception have remained the same, the increasing pressure of work commitments, particularly those associated with the need to develop the faculty's research profile, and the changing school composition, have made it difficult to "maintain the rage".

On the nature of partnership, Teitel (1998) wrote an article entitled "Separations, divorces and open marriages in professional development school partnerships". The title comprising the metaphors of divorce, separation, and open marriage denotes what follows: a detailing of partnerships that disintegrate and sometimes reconfigure to include new partners. Perhaps the partnership is now one of open marriage, or even of partners living apart.

Considering the partnership in retrospect invokes a variety of feelings. First, there is a sense of achievement. There is little doubt that there were benefits for the four groups of participants. The teachers benefited in working with academics. Two of them taught semester-length subjects at the university, some worked in action research initiatives with academics, and others experienced professional development in partnership initiatives. The school students benefited indirectly from this greater teacher expertise, and more directly from some

team-teaching activities conducted by academics and prospective teachers. The academics learnt about the culture of schools and reflected upon the ways in which schools could be a more dynamic part of teacher education programmes. The prospective teachers were possibly the biggest winners. They experienced conventional teaching practice, the benefits of team-teaching (both as students and teachers), and the mentoring of individual school students.

While the work of the partnership was acknowledged by the Director General and did receive press coverage, there were few apparent changes in the nature of work at the school and university. Partnership involvement remained voluntary and extra-curricular, though both campuses evidenced a significant increase in awareness of the potential of partnership activities. Teacher educators engaged in dialogue about improving programme offerings through partnership-based subjects, and schoolteachers discussed the ways in which their university colleagues might assist in school programmes.

Second, there is a sense of disappointment that the partnership did not continue in its initial vibrant form. That disappointment is sometimes associated with a feeling that, as academic coordinator, I could have done more, both in my own direct involvement in activities for my own classes of students and in my leadership. The lack of structural support has been a theme of this chapter; given the constraints under which the partnership operated, there was always the pervasive feeling that we were merely tinkering. Our very involvement in the partnership generated ideas as to what could be possible given appropriate resources. However, the constraints were present from the beginning, and they *were* openly acknowledged by the partners. In this sense, I sometimes have an uneasy feeling that to blame these constraints for the change in the nature of the partnership is a "cop-out".

The partnership was a learning experience, and my involvement generated further learning through research conducted on partnerships. To ascertain the support of schools for school – university partnerships, I surveyed all 1800 state primary school principals in NSW (see Brady, 2000) on 25 possible partnership activities including supervision and mentoring, teaching, research, professional development, shared planning, and school support and enrichment. Principals were required to rate the 25 items on a 5-point Likert scale, "given an ideal resourcing base". The principals were selected as respondents rather than teachers for several reasons: the principal's power in implementing policy; the greater knowledge principals have about partnerships; and the influence of the principal as transformational leader in changing the culture of the school. The two salient findings that were revealed are:

- a uniformly very strong support for school – university activities; and
- a sequence of most to least support for school enrichment and support, professional development, shared teaching, and research (the other two

categories were difficult to rank as they comprised a range of means). Support/enrichment refers to activities like prospective teachers assisting at sports carnivals and performing drama concerts.

The unsolicited responses from principals were gratifying given our commitment to the partnership, and indicated statewide responsiveness. The following was typical of the unsolicited responses:

> I believe that the sooner teachers become involved in, committed to, and aware of, the total school/teaching environment, the better. Teachers seem best placed to support the in-school training of their colleagues. The more collegiality, shared responsibility, and practical support teachers, lecturers, schools, and universities can provide, the better.

Apart from generating my own research on partnerships more generally, the experience provided me with valuable professional development. It gave me a fuller understanding of the operation of schools, particularly as an examination of the school's management plan and teaching/learning plan was considered crucial by the principal in justifying the selection of partnership strategies. It promoted a more realistic understanding of teachers' work and the accountabilities involved in that work. Quite apart from a deeper understanding of the school culture, there were specific skills and knowledge that involvement in particular strategies afforded, for example, a fuller understanding of critical literacy, school portfolios and assessment in general, and of the teaching of physical fitness and music.

The partnership also informed my knowledge of teacher education. It changed my practice as a university teacher by increasing my determination to achieve a more consummate relationship between theory and practice, and by broadening my vision as to how schools can more effectively work with universities as partners in the enterprise of teacher education. I acknowledge, however, the danger that, as the heyday of the partnership becomes more distant, there is a tendency to retreat to more traditional and familiar practices. To some extent, a return to the known culture is inevitable.

CONCLUSION

Robust school – university partnerships can enhance the learning of prospective teachers, teachers, school students and academics. While lacking the structural support afforded professional development schools in the USA, there are valuable expressions of partnership practice in Australia. The *Innovative Links Project* and its more recent expressions have demonstrated that teachers are capable of initiating and conducting school-based action research. The reported partnership demonstrated that partnerships can be an excellent resource in both teaching and team-teaching prospective teachers.

A variety of partnership initiatives like those reported in Brady (2000), including research, teaching, community-based professional development, mentoring, and school support, are promoting awareness of the scope of partnership initiatives.

Sustained partnerships have the potential to bridge the theory-practice divide. As the partners and stakeholders work together in a variety of teaching, research and professional development activities, they share their skills in a synergetic relationship in which theory is demonstrated in practice, and practice is refined and enriched by theory. The ongoing critical dialogue and collaboration among the partnership partners facilitates the integration of theory and practice. This is arguably best illustrated in the education of prospective teachers when campus-based theory and discussion of possible practice is progressively demonstrated in actual school practice.

There are, however, a number of constraints on the effective implementation of school-university partnerships. The greatest of these is the all-subsuming need for structural provision to support collaboration. In the Australian context this typically includes administrative support and release from normal workload, finance for additional resources, and time to plan and implement. Partnerships currently rely on donated time and the goodwill of teachers and academics, and may disintegrate when working roles are redefined or leadership changes. Principals, at least in NSW, are strongly supportive of partnerships. Many academics and teachers have a vision of how they might operate, but they continue to be constrained by the separateness of schools and universities and by the demands of their current work.

The following recommendations are modest in scope, and are based upon the belief that change should be gradual. They are also modest in that they are realistic and achievable for education systems that are serious about improving the quality of future teachers:

- Designate "professional development schools" adjacent to each university. These schools should be located in the same school district to facilitate the sharing of resources, expertise, and infrastructure, and staff should be specially appointed on the basis of interest and expertise.
- Reduce the teaching loads of teachers in the professional development schools to facilitate their involvement in partnership initiatives.
- Allocate reduced teaching loads to selected staff in the education faculties of universities to engage in partnership activities.
- Appoint university teachers as researchers-in-residence for the partnership schools in each district. Each researcher-in-residence could reside in two or three schools each week.

- Make two or three joint appointments to teach both in a professional development school and the professional studies strand in the teacher education programme of the university.
- Form steering committees located in the education faculties in the universities comprising teachers, lecturers, the District Superintendent, and other relevant department personnel. The function of the committee should be to generate and regulate partnership procedures and practices.
- Appoint group facilitators, change agents, and those with expertise in working with partnerships and looser affiliations (networks) as consultants to work with school and university staff.
- Research the development of the above with a view to generating models of best practice, and making further recommendations.

Teitel's (1998) relationship metaphor does capture part of the reality of school – university partnerships: relationships may cease to exist; one partner may seek a more congenial partner; or the nature of the partnership may simply change. Yet there is every reason to believe that some partnerships, given the necessary support, may sustain their initial excitement and continue to thrive.

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Chapter 2

Exploring Unanticipated Pathways: Teachers and Researchers Learning about Their Practices Through Classroom-based Research

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INTRODUCTION

We are co-authors of this chapter as a result of being stimulated and inspired in our own professional learning through involvement in one another's research projects and classrooms over the last 10 years. This chapter reports the research experiences of the authors and Kay, a classroom teacher. Janette, a university-based teacher educator, first conducted her research in Kay's and then Kimberley's primary (elementary) classrooms. Kimberley's involvement in that research project was a contributing factor in her becoming a university lecturer in teacher education and developing her own research programme. Leigh is a primary classroom teacher who has been involved in a research project conducted by Kimberley. Leigh's involvement in that project was a contributing factor in her commencing postgraduate study in education and informing her ongoing classroom teaching practices with research-based initiatives. Writing this chapter provides us with an opportunity for further inquiry into the nature of our incidental learning arising from our shared research experiences.

When we engage as participants in educational research projects, either as teachers or researchers (or both), unintended but revealing pathways may be travelled. In this chapter, we consider the issue of how engagement and involvement in research can enhance the professional learning of both classroom teachers and teacher educators. In our cases, we did not set out with teacher professional learning, or our own learning as educators, as explicit aims. This issue of who learns in the process of conducting research, and the nature and content of that learning, is the focus of this chapter. We explore the ways in which researchers working in a classroom teacher's presence, with the teacher involved to varying extents, contribute to professional learning and sustained changes in our teaching practices. We first consider three different research projects, describing the context and the roles of the researcher and

teacher in each. Review of data and reflection generated two themes. The first theme relates to how the research process facilitated our learning as educators, as we developed relationships that led to sustained change in our practices. The second theme focuses on what we learnt about our professional selves in our different, but blurred, roles in the research projects. We conclude by considering what we have learnt about fostering genuine, ongoing research relationships between school-based practitioners and university-based researchers and the potential value in revisiting a project after we have been changed by participation in that project.

BACKGROUND: THREE RESEARCH CONTEXTS

In all three research contexts, the project was a part of the researcher's doctoral research, rather than collaborative school – university partnerships (Humphreys et al., 1996; McLaughlin & Black-Hawkins, 2004) in which there is a great deal of negotiation regarding the focus of the research in its planning phase. In each case, the researcher approached the teachers to be involved in a pre-planned and pre-approved research project and invited them to participate. The focus of each project was already established; however, there was scope for responsiveness to emerging issues within each project.

The research in which the first two contexts are based involved investigation into a "School Museum Learning Framework" (later refined into a programme called School Museum Integrated Learning Experiences in Science (SMILES) (see Griffin, 1998). This framework was designed to enhance student learning from excursions. It encompasses learning activities in the classroom to prepare the students for their excursion, appropriate activities during the excursion, and then reflection and application of the excursion learning into the classroom-based topic. The emphasis is on the teacher facilitating an environment in which the students select their own specific aspects of the class topic to investigate while on the excursion, and gather their information however they wish, giving them a clear purpose for, choice in, and ownership of, their learning.

The third research context involved investigation of the development of students' interest in learning science and technology as a classroom community of learners (Pressick-Kilborn & Walker, 2002). The purpose of the classroom-based, qualitative research was to inform a theoretical understanding of interest from a sociocultural perspective (Walker et al., 2004). As such, the research more widely contributes to an increasing focus on sociocultural theories of motivation and learning, which emphasize individual and community development through dynamic transactions among participants in various social and physical contexts.

Research Context 1: Janette as Researcher and Visiting Teacher in Kay's Classroom

In research context 1, the framework was trialled with Janette as visiting teacher in a grade 5/6 class in Sydney (The Researcher's Trial). Janette taught the students two mornings a week for about a term, during which the class went on a trip to the Australian Museum. The classroom teacher was present the whole time, and did some other teaching related to the unit while Janette was not there. This teacher and school shall be kept anonymous and respectively referred to as Kay and Beachside Public School. Data were gathered through videos, a diary kept by Janette, and interviews with Kay and students.

Research Context 2: Janette as Researcher and Kimberley as Teacher

In research context 2, the framework was trialled by seven teachers from four Sydney schools. The teachers were given a 1-day workshop as Professional Development (PD) on the use of the framework. The teachers then ran the programme themselves (The Teachers' Trials). Janette's role was to run the PD day, visit each school before their museum visit, accompany the class on their visit, and then visit the school again after the excursion. The discussion in this chapter is based on the relations between one of these teachers and Janette. The teacher is the first author of this chapter, Kimberley, and the school shall be referred to as Lawnview Girls School. Data were gathered through observations, diaries kept by Kimberley and Janette, and interviews with Kimberley and students.

Research Context 3: Kimberley as Researcher and Leigh as Teacher

Over 9 months, Kimberley spent time in Leigh's grade 5 classroom observing, co-planning, and team-teaching weekly science and technology lessons with Leigh to support the development of a classroom learning community (Brown, 1997). Kimberley was a participant in the classroom and on excursions, recording observations of activities and conversations with Leigh in a researcher journal, video- and audio-taping classroom interaction, interviewing students, and gathering teacher and student reflections. The independent Sydney girls' school in which the study was conducted shall be referred to as Heathville College.

A Common Learning Paradigm and Teaching Approach

A teaching approach, often called the Learners' Questions Approach (Biddulph & Osborne, 1984), was central to all research contexts. This

approach is built on the following sequence: (i) revealing prior knowledge; (ii) provision of a stimulus for raising curiosity or challenging existing ideas; (iii) learner-centred investigation of personal questions or ideas accompanied by conversations with the teacher and peers to facilitate development of new understandings; and (iv) evaluation or reflection on the changed views. It was selected because it is derived from the paradigm that we considered to be most helpful in understanding the ways in which science is learnt – a social constructivist understanding of the learning process developed by researchers such as Osborne and Freyberg (1985) and Driver et al. (1994).

The first and second contexts for this chapter investigated the applicability of this approach to school-museum learning situations. Through Griffin's (1998) research, these ideas were incorporated into a pedagogical approach for learning in informal settings. The study described in the third context also used a Learners' Questions Approach, but this time mainly in the classroom. The aspects that were emphasized included the generation of whole class and individual questions to guide practical and research investigations, which provided the focus of the classroom-based learning community. While this learning paradigm formed ostensibly only the context for each of the studies, it emerged also as a driving force in all of our learning: students', teachers', and researchers'.

"Revisiting" our projects engaged us in rereading data, sorting it into themes, and collectively and individually reflecting on the research process and experience. In the remainder of this chapter, we have written in first person when reflecting on our experiences, to enable our respective voices to be heard. The subheadings indicate which author is engaging the reader in discussion of the two key themes, which are considered in turn. Firstly, we focus on how the process of engaging in research facilitated our learning from one another to negotiate goals and sustain change in our practices. Secondly, we consider our learning about our "professional selves" through our engagement in the research contexts.

ENGAGING IN RESEARCH: LEARNING FROM ONE ANOTHER

In each of our research contexts, the guiding research questions were focused on the children's learning. During the projects, however, and in our subsequent reflections, we have become increasingly aware of our own learning through our engagement in this research. The conversations that we have had in the writing of this chapter also have encouraged us to revisit our participation in the research and to reflect on the ways in which the changes to our practices as educators have been sustained.

Researchers Learning from Teachers Through Working Together:
Janette's Experience

In the first and second research contexts, I worked with a number of class-room teachers. In reflection on my learning as an educator in a research role in these contexts, I report here on the time spent with Kay and Kimberley, and the students in their classes.

Research Context 1: Working with Kay

When I entered Kay's class for the Researcher's Trial, I felt very uncertain about myself. Despite 17 years of teaching students from kindergarten to tertiary level in a range of contexts such as museums, I had never before taught a grade 5/6 class in their own school setting. I was aware that Kay was a very experienced and well-regarded teacher. However, I was very confident in the content that we were to be exploring, and very familiar with the museum that we would be visiting on our excursion. Kay, on the other hand, did not feel at all confident in the science content, so was very happy to treat me as the "expert".

I was using the Learners' Questions Approach previously described. I had read a great deal about this, taught it to my teacher education students, and as far as possible used it as the vehicle for my tertiary teaching. I had not, however, used it before with a "genuine" school class. I was very uncertain about my ability to engage the students and encourage them to do their own learning. Kay's interest in the Approach (although she had not used it herself) and her trust in me as a "university expert" were both encouraging and frightening.

At the beginning of the programme Kay took little role in the teaching – effectively she sat in the class amongst the pupils. In this early stage, it was somewhat unclear whether she thought that the approach I was taking was suitable. At the same time, I often deferred to her and discussed with her what learning activities she felt would be most appropriate.

> I left them to do their questions with Kay, as well as the completion of their food webs. So I have left more for Kay to do this week.
>
> (Janette's researcher journal, August 29)

Then, during the following lesson, I observed:

> The class had pasted up their food webs, and quite a bit had been done in the classroom itself as well – the books were all displayed along the front, a big "animals" label was pinned on the back board, and a big food web on the pin board at the front.

> They (or at least the teacher) told me about frustration in not being able to answer some of their questions. I should have talked to her about not letting this worry them, but to keep these until we go to the Museum. I talked to the class about this.
>
> (Janette's researcher journal, August 30)

Later, when Kay became enthusiastic about the approach that I was using, I noted:

> Kay was very excited today. She said several times what a great lesson it was – "Now I know what you're doing, and I can see how it's all fitting together". She was really quite impressed, and apparently told [another teacher] during recess all about it!! A good day from the kids' learning point of view, the teacher's recognition of what is happening, and my subsequent satisfaction!
>
> (Janette's researcher journal, September 10)

I was becoming more confident with the class, and soon started to be a little annoyed with Kay's interventions:

> Kay is very keen that they learn to use "report" writing as in the English syllabus. . . . I am not altogether happy with this part – I think it is being misinterpreted to mean detailed scientific classification.
>
> I also discovered today that she had put up a couple of my [textbook-based] food web overheads on the board and they had copied these into their books – but they didn't have in their books their own one [created from animals and plants found in the playground]! This is a bit of a shame I think.
>
> (Janette's researcher journal, September 12)

After visiting the museum, Kay was very positive about the visit, showing recognition of the value of the approach. In answer to my question about how this excursion was different from her prior experiences, she commented:

> The preparation, and meeting the children's needs, answering the children's own questions I think – the model that you used of getting them excited about animals, I mean change in attitude causes change in behaviour, and it was an attitudinal thing that went on through the class that changed their behaviour and their outlooks and perspectives and feelings about the animals. They really wanted to go and they really wanted to find out the answers to various questions and they really wanted to look at the animals and it was the preparation that went on prior to the visit, and the structuring of the day I think too.
>
> (Notes from conversation recorded in Janette's researcher journal, September 22)

I also realized that I was becoming "selfish" and needed to recognize that this was Kay's class, not mine!

> I have decided it is time for me to start backing away a little and let Kay complete the teaching of the unit. I feel that as a professional development exercise this would also be a good way to leave the whole project with her feeling that she has some ownership of the teaching approach.
>
> (Janette's researcher journal, October 14)

I have not included in this account the views of the students, as this chapter is about the relationship between teachers and researchers. However, the students' enthusiasm about the learning and the approach inherently had a great influence on the experiences of both Kay and myself. It was the students who drove the programme to run about twice as long as we had planned, and their great insight into their own learning had positively impacted on my research results, as well as Kay's views of the teaching approach.

Learning about respect was the most important aspect of this experience: respect for the students, for the teacher, and for myself. While the learning approach was paramount in the success of the unit, the unit was driven from the directions of all 28 participants – students, teacher, and researcher. I learnt a great deal about teaching and about learning through the process of this study, particularly in relation to giving space and ownership to the learners and about the appropriateness and interconnectedness of different teaching approaches. On my part, I learnt to recognize my strengths and weaknesses as a teacher, and as a researcher, and how to work with these, which I further discuss later in this chapter.

Research Context 2: Working with Kimberley

On first meeting Kimberley, I was impressed by her enthusiasm and competence, despite being at that time in her first year of teaching. I learnt a great deal about both teaching and researching by working with Kimberley. As a participant in my research she was a diligent and very thoughtful diary keeper. After her first lesson with the students she concluded her reflections with:

> I think that teaching in this facilitative way, capitalising on natural curiosity, stimulating thinking and promoting inquiry, is suited to both Science and Technology and HSIE [Human Society and Its Environment]. It felt great.
> (Kimberley's diary entry, October 17)

The major learning for me, with regard to my research, occurred during the actual museum visit – and much of this was learnt through Kimberley's thoughtful reflections. Unlike most of the other teachers involved with the trials, she reflected on the whole process and noted issues that needed to be addressed. For example:

> Observing the accompanying parent, she often did not let the students voice their interests, then direct them to an appropriate exhibit, but led the students to the exhibits she found personally of interest. Parents need to be fully aware of the aims and approach; however, as we found today, a personal agenda sometimes interferes – she too at times saw the answering of questions posed as the most important outcome of the day. Would other parents also, based on their own personal experiences?

> One area of concern, however, was the mismatch between the girls' questions and the information available to them in the exhibits. I regarded this as problematic. The girls had been encouraged to ask "Why" and "How" questions, then some discovered that the majority of these would not be answered today. Many had also selected a specific area – for example, native mice and rats or native parrots. When they located the animals, they found that through their research, they often knew much more about the animals than the two or three lines . . . provided in the exhibit.

> I realised today that it takes time for children to be able to draw generalisations, and in this respect, we still have a fair way to go. However, the day served to also increase their motivation further and perhaps view their research in a different light.

> <div align="right">(Kimberley's diary entry, November 2)</div>

Interestingly, one of the other major findings in my research – the need for the students to have a clear purpose for their learning, i.e., to know how they are going to use their learning on the excursion – was revealed through this not being done by the two teachers from Lawnview Girls School.

The shared learning between Kimberley as research participant/teacher and myself as researcher was extensive. From the first time I observed Kimberley teaching I began learning new aspects of the process of classroom teaching. From the experiences we shared in the school-museum programme, I learnt a great deal about the framework that I was developing – both through my observations as researcher of Kimberley as teacher, and of her class, and then through her reflections where she stepped inadvertently into the researcher role herself and analysed many of the experiences of the day. This role does of course also double with her role as a reflective teacher. These intermingled roles will be explored further in subsequent discussion about learning about our professional selves.

Researchers Learning from Teachers Through Working Together
and Sustaining Change: Kimberley's Experience

By participating in Janette's research project as a beginning teacher, my own understanding of teaching for effective student learning was greatly increased. In the years following Janette's research, as a classroom teacher I began to experiment with designing learning units using a Learners' Questions Approach and incorporating excursions to varying institutional and field locations (Pressick-Kilborn, 1999, 2000). This process also involved me in critically reflecting on new research literature that I was encountering as I commenced postgraduate study and part-time lecturing in teacher education. My developing theoretical understanding of communities of learners, motivation, and science education was having an exciting impact on my

classroom practice, stimulating me to discuss new ideas with colleagues, to engage them in trialling different approaches to our teaching, and then documenting our experiences. I also felt the impact of my classroom teaching and reading on the workshops that I was designing and teaching with undergraduate primary education students, where I was able to incorporate a similar, strongly student-centred approach that was responsive to students' interests in my university teaching. Having inquiry as a stance substantially enriched my own education as a teacher educator (as predicted by Cochran-Smith, 2003). When I agreed to participate in Janette's research, I did not foresee the dynamic and lasting changes that would evolve in my teaching practices or the stimulation it would provide to explore new pathways as an educator.

Initially when I started working with Leigh in her classroom (research context 3), our teaching together was very structured. We reviewed the written lesson plan prior to the class, written by one of us in advance, politely negotiating who would take responsibility for leading the teaching at different stages. There was a degree of formality evident in our conversations. Leigh felt a strong sense of being observed, which she related as being similar to when she was a student teacher on practicum. I felt the responsibility of being "the researcher", a role that I was relatively new to in the classroom – a site in which I felt more confident as a teacher. What were Leigh's expectations of me? How did the students see me? I felt it was important for us to team-teach, so that we could share ownership of the process of planning the lessons that were the focus of the research.

> Team-teaching is so satisfying as you share the planning, teaching and reflecting as professionals working together. I sometimes felt early on as though Leigh expected me to be the expert in the classroom, an expectation I knew I could not meet, and I now also feel more relieved of this "responsibility" as I co-learn about teaching and learning with Leigh. I find this way of doing research so stimulating – the analysis is still worrying me a little but I'm trying to address this in my reading. I think my expectations are sometimes too high – I'm a beginning researcher.
>
> (Kimberley's researcher journal, February 23)

Leigh was also more comfortable with team-teaching than with me in the classroom as silent observer, and as the project developed, we became relaxed in each other's presence in the classroom. Nearing the end of the project, at the beginning of a lesson,

> Leigh looked at me quizzically, with a cheeky smile, and said, "So, what are we doing today?!" I took this as a sign that she wanted me to begin the lesson. There was no planning as to who would explain what to the girls in the introduction to

> the lesson that followed, unlike at the beginning of the project during the early lessons. Each of us slipping in and out of teacher roles during this lesson, interchangeably and spontaneously.
>
> (Kimberley's researcher journal, May 27)

This provided a situation in which each of us was increasingly comfortable to take risks and to be honest and open with one another, both before the lessons and in evaluating them. I noted in my researcher journal: "Leigh commented that working with me had helped her to become aware of different ways of doing things – which has been the same case for me in working with her" (March 28). This was specifically reflected in our revision of an electricity unit a few weeks into teaching it, when it became clear that the Learners' Questions Approach that we had planned to use would not be appropriate in the form we had intended with this group of students, owing to their limited prior knowledge of the focus topic and related issues. In this process, it had become clear that I was more comfortable with a broad framework when planning a unit, whereas Leigh preferred a more structured and planned sequence in which there was a higher degree of teacher control. The Learners' Questions Approach could not provide the certainty of content that Leigh was used to in more teacher-directed units. This was a difference to which we both needed to adjust and which made me question whether my own style was too loose in the current outcomes-based educational environment. It made me more clearly articulate my belief in multiple ways of achieving a learning outcome, even when this may take more time. Leigh became noticeably more responsive to student-directed planning and negotiation during the course of the research project, so that her role within the classroom community was increasingly as a co-participant who had expertise in learning, rather than the controller of the learning.

In teaching with Leigh, my theoretical thinking also was challenged. A specific example of this was in relation to the role of imagination in learning and the development of interest. The focus of my theorizing about communities of learners had been on authenticity of classroom practices, and investigating the emergence of interest in contexts that reflected real issues and real-life problems (Brown, 1997). I had discussed this with Leigh and shared research papers with her relating to this aspect of fostering classroom-based learning communities. It was with surprise, then, that I watched her introduction to the initial lesson that she had planned for the learning unit about electricity and conservation of energy resources. Leigh engaged the students in the fictional context of Heathville Manor, creating a story of a historic house in the neighbourhood that was earmarked for demolition, which they wanted to save from being turned into a public car park. Initially, I wondered why she had bothered to create a fictional context, when I believed there were so many real-life

scenarios that she could have drawn on to create a purposeful reason for learning about electricity. However, as it became increasingly evident that the use of this imaginative scenario was effectively engaging the students, I began to reflect on the role of imagination in the development of interest and pursued this in my research. Our teaching together thus prompted me to revise some of my theoretical assumptions.

Sustaining Change: Leigh's Experience

When I agreed to participate in sharing my classroom and students with Kimberley, I did so because of the high regard I held for her as an educator. I had never considered her as a researcher until the first formal meeting we had together. Kimberley took her role as researcher very seriously and I quickly began to doubt that I could offer her what she was looking for. When I think back to the time we spent team-teaching and remember the conversations we had, I realize that our agendas were quite different. Kimberley had definite research outcomes and seemed to know exactly how she was going to achieve them. I, on the other hand, was looking to further develop my teaching practice and enhance student learning by working with someone whom I regarded as an esteemed teacher. When we began to understand and acknowledge where we were both coming from and the roles we had, a sense of shared purpose was established. It was not until then that I felt truly excited about the work we were doing together.

Kimberley, the researcher, has since left my classroom but the research-based approaches that she introduced me to continue to challenge my thinking and inform my practice. I continue to use and refine many of the teaching practices we put in place for the particular class we were working with. A specific example of this is in relation to a commercially produced science and technology programme, *Spectra*, which the teachers at Heathville College use each year. Although this particular programme is specific in detailing the way it should be implemented, I have been able to incorporate some of the research-based teaching approaches that foster a classroom learning community. Some of the strategies that I have incorporated include group negotiation, reflection, and a strong emphasis on student-centred learning. These strategies also have been used with my grade 2 classes in recent years, in both science and technology and studies of society and environment lessons.

While I was working with Kimberley, I felt it important to share ideas and approaches to teaching with my co-teacher, Laura, who was responsible for the other grade 5 class. This was important to me for a few reasons. Laura and I had always planned units of work together, and I felt uncomfortable in

making science and technology the exception. I felt that she too should be invited to share in the lesson evaluations and research-based conversations that I had been privy to with Kimberley. I visited her classroom during some of my free lessons, offering my support and opening up dialogue about the teaching approaches we had adopted. It was with some concern that Kimberley agreed to include Laura, and I think this was due to the limitations of ethical approval for her project being conducted solely in my classroom. Laura has since left Heathville College and accepted a position at another school in the UK. As a result of engaging Laura in broadening her teaching practices to incorporate research-based approaches, her school principal asked her to give in-service training to his staff on the pedagogy she adopted in her planning and teaching of science and technology. So the ripple effect of engaging teachers directly in research in our projects has now extended beyond Australian shores.

WHAT WE HAVE LEARNT ABOUT OUR PROFESSIONAL SELVES

There are real pressures and changes in the work of teachers, teacher educators, and researchers, such that in our respective research contexts and our varying roles within these we were approaching the projects and our participation with differing agendas. For example, Kimberley had concern as a researcher about what Leigh would get out of the project, even though she had gained significantly in her own professional learning by participating as a teacher in Janette's research. This concern was not shared by Leigh; however, there were times during the project when she felt that she had competing pressures from teaching all Key Learning Areas, whereas Kimberley's focus was solely on science and technology lessons. At the same time, Kimberley also was juggling her university teaching and related research role, aspects of her "professional self" only glimpsed by Leigh. This has led us to appreciate the need for articulation of our expectations in our research partnerships and the contexts in which we work. However, our professional identities within the research contexts were not constant or static. In the following section, we each aim to capture our learning about ourselves as teachers, researchers, and learners. Being brief stories of professional growth that have arisen from shared research experiences, each story tells something of our history before revealing our learning and our changing multidimensional selves.

Janette as Teacher, Researcher, and Learner

The experiences described below highlight the way in which my move into research has greatly increased and further influenced my own teaching skills,

my recognition of skills in others, my ability to mentor other teachers, and the reciprocal roles of teachers, teacher educators, and researchers. I celebrate the facilitation of this learning through my experiences with Kay and Kimberley.

I started my career as a science teacher in a girls' high school. After a few years I realized that I was fitting into a stereotyped "school ma'am" mould that I disliked and decided that I no longer wanted to work in this (or perhaps any) school. I moved to work at a natural history museum and then a science education centre as education officer, teaching classes from kindergarten to grade 12 during their visit to the museum or centre. Having watched many teachers with their classes during this time, I decided that I wanted to move into teacher education where I have been working with primary and secondary teacher education students in the science area, and have moved into researching the learning process in and out of classrooms. My career moves have reflected my growing interest and understanding of teaching and learning processes.

As a beginning teacher, I had considered the most important aspects of teaching to be knowing the content and disciplining the class. My emphasis at that stage, and even through my time as museum educator, was on teachers and teaching rather than learners and learning. As I considered the teaching/learning process when developing and running the science education centre, I began to recognize the role of the learners as central to the learning process. Did my original teacher-centred emphasis result from my own schooling, my university education, or the influence of my peers? No doubt all of these aspects were influential. I believe it also resulted from the prevalent approach to schooling during the 1970s and 1980s. Both at the high school where I taught and at the museum, I had dominant supervisors who encouraged me to follow the "way things were", and in fact actively opposed any change in teaching approaches. It took some years for me to develop the self-confidence to value my own views and push for change.

These personal experiences have underlined my recognition of the need to encourage self-confidence and independence in learners, which a learner-centred approach to teaching fosters. Perhaps heralding this change, I was pleased to find that I was able to put into practice what I had learnt about teaching and learning since becoming a teacher educator, when I taught the class in the Researcher's Trial. I left classroom teaching some years ago because I did not like the style of teaching I was using, which was based on what I saw around me. Now I have tried and liked a different approach and have seen how effective it can be, providing me with a considerable increase in confidence and experience to share with my teacher education students.

As a teacher educator/researcher, my greatest learning has been about learning itself: learning in informal settings, learning that is self-directed,

the role a teacher has in the students' learning, attitudes and understandings of the concept of learning, and much more. My major shift in perception as a teacher educator has been to think more deeply about teaching, rather than the teachers, and further, to think more about learning than teaching. I approached this research project thinking and writing about teachers as a rather homogeneous group of people with similar behaviours and attitudes. As I have worked through this research, I have come to a better appreciation of teachers as individuals with a wide range of approaches, experiences, and strengths. I have come to think much more about offering teachers real choice in the way they facilitate their students' learning. Providing teachers with the confidence to choose their approaches and strategies enables them to take ownership of their teaching in an environment in which they will feel increasingly confident and competent, and will privilege their students' learning.

I have gained enormous respect for children's ability to determine and manage their own learning, to assess their own learning, and to recognize enjoyment in learning. In each of the field studies, the students' insights into the teaching and learning processes continued to amaze me. I can see no stronger reason to move towards providing opportunities for students to be self-directed learners than in their own declarations of their enjoyment of learning under these conditions.

The researched framework was based on giving students purpose, choice, and ownership. I have realized that teachers need to be provided with purpose, choice, and ownership; and I now observe that as my purpose, choice, and ownership of my own learning has developed, so have my skills as a researcher and a teacher educator.

Kimberley as Teacher, Researcher, and Learner

The constantly shifting nature of my professional identity as teacher, researcher, and learner has been characterized by fraudulent moments, but also fostered by a sense of connection and support. When I began to work in Leigh's classroom, I had confidence in my knowledge and abilities as a teacher who was dynamic in her practices. But the question that resounded in my mind was: "How can I contribute to education as a researcher?" Initially in the project, I felt like a fraud; while Neuman (2000) suggests that the field researcher is an "acceptable incompetent" (p. 359), this clearly was not realistic in my case of a researcher who was a teacher, conducting research in a classroom and working with another teacher. I was a competent teacher; however, in my new and unaccustomed role as researcher, I felt that others in the school context were expecting me to be someone else,

when I was not yet sure myself what role that someone else might take. It was through conducting the research that it became clearer to me the role that I could take as a researcher, which was being constructed by others in the context as well as my own expectations. Yet, well into the project, a sense of uncertainty about my researcher role and efficacy as a researcher remained:

> With the anticipation of participating in lessons with grade 5 again this term, I also felt a sense of anxiety returning – will I be observing keenly, will I be taking detailed notes, can I keep my eye on the focus students, can I manage my role as researcher/teacher, will I be "in the right place at the right time", will I gather "good" data?
>
> (Kimberley's researcher journal, May 4)

Four months into the main phase of the project, I had established my identity in the classroom in the eyes of the students, as an "assistant teacher" who had a particular role of gathering information to conduct research about their learning. I was enjoying the time that I spent with the class and with Leigh, and felt suited to this role in the classroom. My learning about my professional selves was fostered by a sense of connection and blurring between those selves, as I occupied this role of teacher and researcher in the context of the classroom-based project. My sense of these professional selves and my development also has been enhanced through support from other educators, such as Leigh and Janette, in the various contexts in which I have worked, as well as my students. Through having others believe in me as a teacher, teacher educator, and researcher, I have come to better understand myself in these roles.

I have learnt that as a learner and teacher, I am stimulated by change and excited by the sometimes unpredictable nature of student-centred learning environments, which may not be shared by my colleagues or the students – children and adults – whom I teach. However, I too have developed an appreciation of the need for structure and a high degree of responsive teacher planning to create effective student-centred learning experiences. It is within such a framework that I have seen that students can be supported in negotiating their own pathways and genuine learning communities can develop. My understanding of my role as a teacher, researcher, and learner within these communities also has developed, with an emphasis on the importance of reflective questioning and negotiation in my own practices, along with the delight in sharing experiences with others who share a passion for learning, teaching, and research. Like Roth (1998), "I believe that all students can get excited about learning when they see their teachers excited about learning . . . my enthusiasm for learning may be the most important `secret' of my teaching" (p. 302).

Leigh as Teacher, Researcher, and Learner

I believe that teaching is a continually evolving process and those teachers who challenge themselves to monitor and change their pedagogy in ways that embrace learning are the teachers who remain dynamic and passionate about what they do. In teaching and learning with Kimberley, I became significantly more self-reflective about my practice, and I continue to be so. I no longer keep a journal, but I challenge myself to read recent educational research and synthesize this in ways that can enhance the students' learning in my own classroom. This is reminiscent of the time Kimberley and I worked together, as she would often come to our weekly session armed with research-based readings and ask for my views on current educational practice and research. I have also come to expect that the students whom I teach engage in similar reflective practice. My current grade 6 students keep a reflective journal and also use their workbooks to write about their thoughts, feelings, and questions during or after a lesson. I encourage the students to question and wonder, and heighten their awareness of their learning.

Kimberley and I decided to share more widely some of what we had discovered about reflective activities and their significance in negotiating classroom learning communities. We co-authored and presented a paper for the Australian Association for Research in Education's Annual Conference (Pressick-Kilborn & Weiss, 2001). This was particularly inspiring for me, as I was introduced to some prominent educational researchers and it gave me a chance to speak with them about their work. This experience was fundamental to my decision to enroll in postgraduate study and it gave me some direction as to which area of educational study I wanted to pursue further. I remember meeting and having an in-depth conversation with one of the presenters at the conference, who marvelled that Kimberley and I had brought what he considered to be the two worlds of research and teaching together. He was intrigued that the educational theories that Kimberley was interested in developing were compatible with the classroom environment in which I taught. This has been an interest of mine ever since. Other teachers often ask me why I am bothering to undertake a Master's in Education, as they point out that it is expensive and the financial rewards are nil. Many teachers view educational theories as dry and quite remote from what happens in the real classroom. But for me, it is the challenge of synthesizing research for its practical use in the classroom that stimulates my engagement in further study, and it was through the work that Kimberley and I did together that I developed this interest.

SOME COMMON THEMES AND FINAL REFLECTIONS ON LEARNING FROM RESEARCHING WITH OTHERS

Our experiences related here highlight the complex relationship between teacher, students, researcher, and teacher educator. Who really has ownership of the learning? Who are the learners and who are the teachers? How and what did the researcher learn from the students and from the teacher? How and what did the teacher learn from the researcher and from the students? For example, it was not Janette's intention to "teach" or even attempt to sway Kay to using the Learners' Questions Approach; nor did she overtly exercise her "right" to have some control over her class! However, both Kay and Janette learnt a great deal, well beyond the direct results of the trial of the School-Museum Learning Framework. Both learnt more about teaching and about partnerships, and both learnt more about research. This was evident in a further development of the relationship between Kay and Janette: Kay was keen to be one of the teachers in the second set of trials where class teachers conducted the programme on their own. At the Introductory Seminar, Kay took a researcher role in the way she shared her views of the experiences she had with the Researcher's Trial and was also able to give the other participants a "teacher's eye" view of the programme. She stepped easily across the lines between teacher/researcher/participant and teacher educator.

We also have recognized the self in several roles, which has deepened our understanding of the learning processes in which we collaboratively have engaged through our research projects. This has been a humbling experience, as we have developed greater awareness of our own learning from those whom we are teaching or "doing research on". As university-based researchers, we may be perceived by others as the "experts" who come into a school context to conduct research; the reality is that our research participants have particular expertise and insights into these contexts from which we learn that extend beyond the aims and goals of our specific research projects.

The challenge of being open to learning from each other, in fostering genuine, ongoing relationships between school-based practitioners and university-based researchers, has been a significant factor in the success of our relationships in classroom-based research. On reflection, our research has had lasting practitioner impact. Loughran (2002) asserts: "In teaching generally, and in teacher education particularly, there has been a long history of research that has had little influence on practice" (p. 241). We claim, however, that our sequence of projects has been effective because support for research-based innovations has largely focused on the individual teacher's practice (Stein et al., 1999). In her discussion of practitioner uses of

research, Yates (2004) highlights reasons why research may fail in the context of practice in schools. Our research projects have inadvertently addressed some of these potential failings by establishing personal contacts and relationships between researchers and practitioners, addressing issues of practitioner concern, investigating action or implementation questions based in the classroom context and including articles and documents written for a practitioner audience in our publications. This is not to say that there were not any "blips" in our relationships along the way; however, the genuine and open ongoing partnerships that we had developed enabled such blips to be addressed without becoming problematic to the continuation and development of the research.

The challenge of being willing to pursue and travel along unanticipated pathways has been a further factor in our learning. This has included going back to our data, having been changed through participation in the research. This has involved revisiting the research contexts as the "changed self" and participating in conversations that have at times exposed our different experiences in the same context and revealed our assumptions. Perhaps most importantly, the writing of this chapter has led to new insights into our professional selves and the processes of collaboration in teaching, researching, and learning that will ensure that we continue to seek and create new pathways as educators.

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Chapter 3

Working with Gandalf: Professional and Personal Learning in a Doctoral Student – Supervisor Relationship

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The Road goes ever on and on
Down from the door where it began.
Now far ahead the Road has gone,
And I must follow, if I can,
Pursuing it with eager feet,
Until it joins some larger way
Where many paths and errands meet.
And wither then? I cannot say.

(Bilbo in Tolkien, 1996a, p. 44)

INTRODUCTION

This chapter is written from Leonie's (a doctoral student) perspective with interjection from Sandy (her supervisor) as they explore their relationship throughout Leonie's doctoral candidacy. It is written in the first person by Leonie; Sandy's responses are italicized.

I selected the quotation that begins this chapter because the use of the word Road with a capital letter suits my doctoral journey. The Road is portrayed as something special, something much more than a mere road. The Doctoral Road that I have journeyed upon is similar to that described by Bilbo in his song. Whilst I acknowledge that each person's doctoral experience is unique, there are similarities in the journeys undertaken by all who engage in doctorates, and so aspects of the story of my journey should resonate with others.

My doctoral research is a self-study in teacher education practices, and it concerns my work as a gender equity consultant to teachers. At the time of designing the research and collecting data, I was employed by the New South Wales Department of Education and Training (DET) to support teachers'

implementation of the policy Girls and Boys at School: *Gender Equity Strategy* (1996). The DET is the government body responsible for public education from kindergarten to grade 12 in the Australian state, New South Wales, and is the largest single employing authority of teachers in Australia.

This chapter explores the journey I have undertaken, in conjunction with, and supported by, my supervisor, Sandy. The chapter offers an exploration of the development of ways in which both I, as a student, and Sandy, as a supervisor, constructed ourselves and each other in these roles, and investigates these constructions from both our perspectives. It details changes that I underwent in my identification of myself as a student and indicates how this was supported by Sandy in her supervisory role.

DOCTORAL SUPERVISION: A PERSPECTIVE FROM THE LITERATURE

Much of the literature exploring doctoral supervision focuses upon issues of power within the student – supervisor relationship. Salmon (1992) suggests that the dimension of power is responsible for exploitations of students that derive from "gross inequality in the respective positions of those involved" (p. 92). This view of the doctoral student – supervisor relationship is supported by the research of Lee and Williams (1999), who suggest that the process of obtaining a doctorate is "often characterized by trauma, contradiction and ambivalence" (p. 11) brought about by the complex relations of power – desire – knowledge at work in the relationship.

The work of Lee and Williams explores various facets of the student – supervisor relationship, including gender and autonomy. Their participants reveal that gender plays a role in power issues when a male is the supervisor of a female student, with female students speaking of their being positioned as "good girls" in the student role. In the search for autonomy as researchers, many of the student participants discuss feelings of neglect and extreme trauma produced by their relationships with supervisors.

Taylor and Dawson (1998) describe the supervisor's role as one of drawing upon the authority of one's expertise to guide the student's development of knowledge and skills in research design, research questions, data analysis, and reporting of research. At the same time, they underline the importance of the student's own professional authority, especially in cases where the researcher is a practitioner such as a teacher. They maintain the importance of continuing meta-discourse in ensuring that the communicative relationship is a positive one.

Throughout the period of the student's doctoral candidature, the role of a student working with a supervisor is one that requires negotiation on the part

of both student and supervisor. This process has to be learnt. Not only does doing a research degree involve reading and writing but it also involves learning to become intellectually independent (Hassall & Wilson, 1998). It is in this process of learning to become independent that Lee and Williams (1999) suggest that much of trauma of doctoral candidates takes place as they often suffer feelings of neglect and abandonment by supervisors. Lee and Williams (1999) describe this as "the breaking down of the old self and the development of a new self" (p. 17). They suggest that separation trauma is experienced by some students in relation to the loss of the old self and the development of the new self. This is seen as the case particularly for women.

Part of the process of developing a new self is the achievement of autonomy as a student. Lee and Williams (1999) describe this as an issue particularly for women who need to overcome their constructions as "good girls" in order to achieve the position of "Man of Reason" (p. 18). They suggest that women are often more likely than their male counterparts to spend long periods of time as students under the close direction of their supervisor rather than developing an autonomous position as a researcher. Part of my story is the struggle to emancipate myself from this position as student and move to the position of researcher. While the issues pertaining to gender and power that arise in the literature were not relevant in our case, the issue of professional authority described by Taylor and Dawson (1998) contributed to the challenging nature of my journey, although in quite different ways from those experienced by Dawson. This aspect of the journey will be described in detail in what follows.

The doctoral process in teacher education differs both in terms of the relationships between students and supervisors, and in the subject matter, from those that occur in scientific arenas. Students usually come to a supervisor with a particular topic in mind and tentative ideas about the research design. They do not tend to act as interns working on aspects of the supervisor's research projects, as happens in scientific doctorates. The implications for the supervisor are that we are often called upon to supervise a student whose general area of interest is one which is shared, but who may well investigate a specific topic that is not completely in the supervisor's area of expertise. Further, student choice and autonomy are central to educational research, and as a supervisor I feel I need to be wary of imposing my directions on my students. Conflict arising from this sort of supervisor dominance has often been documented (see, e.g., Taylor and Dawson, 1998).

The other area in which doctoral students in education often differ from students in the scientific fields is that the former are usually professionals who have valuable life experiences that impact on their choice of topic and

ways of researching. Unlike doctoral students who move directly to their graduate studies on completing their degrees, teacher education doctorates tend to emerge out of students' work experiences. Our faculty offers two types of doctoral experiences: one via a doctor of philosophy, which tends to be somewhat philosophical in nature, and the other via a doctor of education track, where the student's professional experiences play a major role in the research. Leonie fell into the latter category.

The next section of the chapter explores the doctoral student supervision relationship between Sandy and me throughout the period of my candidature as a Doctor of Education student. The focus is upon the changes that occurred throughout the candidature through an exploration of both our experiences: as student and as supervisor. I offer an exploration of my experiences as a student and relate it to the literature that focuses on the student – supervisor relationship that is a core dimension of the doctoral process. The difficulties connected with my professional authority and autonomy will be deconstructed and examined.

BEGINNING THE JOURNEY: LEAVING THE
SHIRE FOR MORDOR

Sandy and I met initially when I was part of a group of teachers who were participants in a research project on mentoring of beginning teachers. Sandy was the investigator in this research. At the completion of the project I was keen to undertake further study in the area and, after discussions with Sandy, decided to begin my doctoral studies exploring the role of teacher mentors supporting beginning teachers in an online environment. Sandy agreed to be my supervisor. At the time, I was working as Assistant Principal in a primary school.

I was delighted to be Leonie's supervisor and felt very comfortable with her chosen topic as it extended the research that I was doing. I had been impressed by Leonie during the previous project and felt that her research would be worthwhile and significant, and that our two projects would collectively contribute more than merely the sum of the two parts.

I began my doctorate with a view of myself as a student in need of support from my supervisor, Sandy. I had little experience as a researcher and knew that I had a long and difficult path to travel to achieve my doctorate. Whilst I saw myself as very much a beginner in the academic world, I was an experienced teacher with expertise in a variety of areas including writing teaching and learning programmes, supervising other teachers, and chairing various committees within my school. The world of academic research was new to me and one that I regarded with awe.

This awe may explain why I saw myself as similar to Frodo from *The Lord of the Rings*. I felt that I needed a lot of guidance similar to that provided to Frodo by Gandalf throughout his journey with the ring. Sandy was Gandalf to my Frodo. I was uncertain of the direction to take and was guided each step of the way by Sandy as I tentatively produced my first pieces of writing that were based on the literature I was reading.

At each meeting with Sandy I took extensive notes as she spoke about my work and indicated suggestions for changes. I worked on these changes after each meeting and returned in several weeks with a new draft for comment. I was significantly dependent upon Sandy for feedback and appraisal of my work. I made any changes she suggested as I regarded her as the expert in relation to my status as novice researcher. I wanted to learn all I could from her.

Whilst I was dependent upon Sandy, I felt valued by her. Each meeting I have had with Sandy over the period of my doctorate has opened with positive feedback about my work. In these early stages Sandy praised my writing style and the work I had undertaken. I often arrived at the meetings despondent and unsure of my direction. I left every meeting feeling positive about my ability as a student and with a direction to follow.

Our early meetings involved much discussion about possibilities and there was a real two-way process of deciding my next moves. Unlike the power issues described by Lee and Williams (1999), I felt no such tension with Sandy. Salmon's (1992) discussion of gross inequality between supervisor and student has not been part of my relationship with Sandy. Rather than a relationship based upon unequal power, our relationship was one where I constructed Sandy as expert to my novice student. I regarded Sandy as an all-knowing expert who could guide me through the journey of my doctoral studies. I credited her with a certain power over me as a student, power that was generated by my dependency upon Sandy.

While I did not feel that my role was that of all-knowing expert leading Leonie through the perils of the doctorate, we did share a common view of some aspects of the role of the supervisor at this point. It agreed with the description given by Taylor and Dawson (1998) in that we both felt that my role as supervisor was to draw on my expertise with respect to both the topic of Leonie's research and the process of conducting doctoral studies, and then to share this expertise with Leonie. At the same time I felt it was important to encourage Leonie to use her developing research understandings to increase her own sense of autonomy. I also held a great respect for her professional knowledge and the contribution this could make to her doctoral studies. However, having researched and taught in the area of mentoring allowed me to feel that I did have some expertise in this area, which

would be useful for Leonie. Consequently, the first stage of this supervision was comfortable for me, as I felt I was advising Leonie well and that she was making great progress with her research.

The first year of my study went relatively smoothly. I took long-service leave from my teaching position so that I was a full-time student. However, at the end of this first year I suffered a major disruption to my studies and goals for the doctorate. At this time I applied for, and was successful in obtaining, a position as a Gender Equity Consultant in the DET state office. I realized that the initial direction of my doctorate would no longer be one that I could follow as I would not be working with beginning teachers. As I was working in a full-time capacity, I believed that the only way that I could continue my studies was to change to a topic that was related to my work situation. I was extremely nervous about approaching Sandy about this, as I feared that she would be angry that I had wasted her time. This was a fairly traumatic time for me as I had spent 12 months as a full-time student travelling in one direction, which I now felt I needed to change. I was not certain that I could continue as a student and was worried about discussing this issue with Sandy. However, when I finally broached the subject with her, I was pleasantly surprised and relieved when she agreed that, of course, I must change my direction. She explained to me that she too had changed direction during the course of her doctorate.

My initial feelings were of disappointment and devastation. A student with whom I had a most fruitful relationship, and who was studying in an area of great interest to me, was going to change topics, and to a topic about which I knew very little. However, I also knew that to continue to research in an area that was removed from her professional life would cause tension and make the research extremely difficult. Given my belief that research and teaching are so intricately entwined, I had to support Leonie when she diffidently suggested that she would like to change direction in her doctorate.

At this point Sandy suggested that I would need to find a new primary supervisor as she had little expertise in the new area of focus for my research, professional development in the area of gender equity. I was reluctant to follow this advice as I was very happy with our student – supervisor relationship. Like me, Sandy was a mother, and she was working full-time as I was. This meant that we had both experienced the challenge of balancing a number of different roles and responsibilities that, whilst being rewarding, drained a certain amount of energy and focus away from the research process. Sandy understood the various pressures on my study. We had already worked well together for 12 months and I knew that she was an excellent supervisor, and so I refused to change. I felt that areas of Sandy's research experience that included pre-service teachers' beliefs about teaching

mathematics were similar to my new research interest of teacher beliefs about gender issues, so that Sandy could indeed support my work as a research student. Sandy and I had a relationship that was similar to two women friends meeting to discuss areas of interest. I felt no power issues in our relationship and felt comfortable raising any issues with Sandy, including personal problems that were affecting my progress. Part of my refusal to change was based upon my dependency upon Sandy. I felt that she provided all that I needed as a student. Therefore, I chose to remain with her as supervisor and selected a new co-supervisor with expertise in the area of gender studies.

At this point I felt that our relationship underwent a significant change as Leonie was now investigating an area about which I knew relatively little. I felt constructed as a novice in this area and wondered what I could offer Leonie in my role as supervisor. However, Leonie assured me that the relationship would work. As I enjoyed working with Leonie, I did not insist that she seek supervision elsewhere; with some trepidation, I agreed to continue. It was at this point that I felt my role was to help Leonie with the process of carrying out a doctorate but I also felt that, in terms of helping with the content regarding gender equity, her own expertise in this area would have to guide her direction. A feeling that lurked somewhere in my consciousness was that neither of us was being totally honest with each other and ourselves: I loved working with Leonie and did not want to lose that opportunity, so agreed to supervise her even though I suspected it was not the best outcome for her. I also believed that Leonie felt comfortable with me and was a little intimidated by the expertise of the co-supervisor, who was an international expert in matters related to gender and also held a very senior research position in the faculty. Therefore, I understood that Leonie did not feel ready to make a move that would be challenging but might ultimately be far more productive for her thesis development. While inwardly believing that staying with me would not be the best option for Leonie, I did not pursue this issue of changing supervision.

Once I had made the decision to change the focus of my research, I needed to seek a question worth asking. This was to prove more difficult than I initially believed. I immediately grabbed hold of a question on teacher beliefs about gender as an educational issue and began reading widely to support my work in that particular area. I worked away in this direction for 12 months, at the end of which I prepared for my initial doctoral seminar in which I presented my work to faculty and wrote a detailed research proposal for my first doctoral assessment.

The paper was sound and well conceptualized although it did not problematize one of the design issues concerning Leonie's role as participant in

the research. We had some discussion about this, but I did not feel that it was appropriate to be too directive, given that she had more expertise in this field than I did. I did think longingly about suggesting other pathways for the research that would place me, as supervisor, on firmer ground, but I worked at keeping these views to myself as I felt it would be unethical to steer Leonie into my comfort zone. The difficulties regarding Leonie's professional authority were arising, but in different ways from those described by Taylor and Dawson (1998) and others. These authors discuss the tensions that arise when the supervisor does not recognize the student's professional authority and, with good intentions of leading the student through the journey and safeguarding her from its perils, strips her of autonomy and the right to professional judgement. In our case, due to my uncertainty about the subject matter, I deliberately took a backseat on this journey and counted on Leonie's expertise in the area to steer her through the dangerous shoals. I also adhered to my firmly held conviction that Leonie had to research an area of great interest to her and that I had no right to impose any sort of direction on this research.

I was confident (unlike Frodo) that I was following the right path. As Gandalf did with Frodo, Sandy let me choose my course through the mountains. I submitted my paper and waited for the response. When it came, I was devastated. Although I passed, the indications were that I needed to rethink my direction so that I was researching something of relevance that would add to knowledge in my area of focus. Like Frodo after the death of Gandalf, I wished I had never undertaken the journey and felt that I had undertaken far more than I was capable of ever completing. The comments came from my co-supervisor, an academic whom I greatly admired, whose opinions I respected, and who has an international reputation in the area of gender studies in education. Whilst I was disappointed with the assessment, I also knew that the comments were perceptive and provided me with much that would assist my journey.

I met with Sandy to discuss the report and we talked for some time, but I was not really certain of the way forward that I might take. As I was about to leave the meeting, Sandy suggested that perhaps a self-study was the direction that I might take in my research. After some consideration and discussion with Sandy about the process of self-study, I knew that was the direction that would be most useful to me in terms of my professional practice. I was learning to be a gender equity consultant and regarded self-study as providing me with the opportunity to explore and improve my practice. My initial research focus had been on the beliefs about gender held by the teachers with whom I worked. I realized that for me to learn about, and

improve, my practice, I needed to focus on my own understandings and experiences of the consultancy process. Rather than having a research gaze that looked at teachers, and how to change them, I believed that by looking into the mirror at my own practice I could learn much more about working effectively with teachers as a consultant.

I too felt floored by the comments on Leonie's report. I felt that I had failed Leonie in not having anticipated these comments. Two major criticisms were made: that much research has already been conducted in the area of teacher beliefs about gender and that it was not clear how her research was going to contribute to the area; that there was a contradiction in Leonie's theoretical framework which both acknowledged the importance of under-standing teachers' perspectives and simultaneously considered ways of changing these perspectives to the one Leonie held. The latter tension was one we had discussed previously but without resolution. After discussing these two criticisms at length and with neither of us getting closer to finding a way forward, I hesitantly mentioned self-study as a new direction. However, even as I suggested it at this time, I was mentally berating myself for trying to move back to comfortable terrain. Discomfort at not having been a sufficiently good guide on the doctoral journey due to unfamiliarity with the terrain motivated this suggestion.

I have since discussed this situation with Sandy, as I wondered why she let me wander through the forest so long before indicating the correct path to take. She told me that she trusted that I would find the right path eventually (just as Gandalf trusted Frodo) and that she believed that it was important for me to discover just what the right path was.

In allowing me to find my own direction, Sandy had provided me with the space described by Hassell and Wilson (1998) to find my own intellectual direction. Had I not undergone this process, I believe my position as a student would have remained one of total dependence upon Sandy. I now felt confident to make the decision to follow this new path, certain that it was the right direction to take.

For me, the joy with which Leonie accepted my very tentative suggestion about self-study as a direction to guide the research was interesting. I had hesitated in suggesting this direction as I could not be completely sure of my own motives in suggesting it. Self-study was an obvious solution to the problem with which Leonie had been struggling. I had previously thought it would be a way to go forward, but had not been sure whether I had come to that idea because of my desire to work with Leonie in familiar territory or because it genuinely would be an appropriate way forward. Seeing Leonie's relief at this suggestion justified this direction for me.

THE JOURNEY THROUGH THE MISTY MOUNTAINS

> On either side and in front wide fens and mires now lay, stretching away southward
> and eastward into the dim half-light. Mists curled and smoked from dark and noi-
> some pools. . . . Faraway, now almost due south, the mountain walls of Mordor
> loomed, like a black bar of rugged clouds floating above a dangerous fog-bound sea.
> (Tolkien, 1996b, p. 232)

Once I determined that I wanted to undertake a self-study in teacher educa-
tion practices, I set off on the journey along this path with renewed vigour
and confidence. There was a body of literature with which I needed to famil-
iarize myself and I began this task. I also started to collect data. The despon-
dency that I had felt after my doctoral assessment lifted and I felt positive
about my progress. Sandy had provided me with a piece of the map, which
I now had to develop into a detailed plan of action.

At this stage Sandy took a sabbatical. I felt like Frodo when Gandalf fell
from the Bridge of Khazad-dûm, utterly alone and without direction. I did
not know how I would get through the semester without her. I felt that I was
still significantly dependent upon Sandy for advice and support. During this
period I felt like I was walking through a fog. I felt that I had no direction.
I desperately missed my meetings with Sandy, meetings that had been my
source of inspiration and that had always provided me with direction and
feelings of certainty about my work. I considered dropping out and was only
prevented from doing so by my fear of disappointing Sandy. Like Frodo,
I was driven on by thoughts of my mentor.

I relied on Sandy to provide feedback on my work. Whilst I worked with my
co-supervisor for this period, the relationship was not the same and I felt aban-
doned, just as described by Lee and Williams (1999). I had constructed myself
very much as the "good girl" student they describe and I was reliant on Sandy
to provide positive feedback to support this construction of myself as a student.

This period of Sandy's absence was a difficult one for me. The volume of
my writing was not what it had been previously, as I was missing the regu-
lar feedback and support that Sandy provided to sustain a positive approach
to my work. I felt that I was writing in a fog and I was unsure that what I was
doing was the right way to approach my data analysis.

THE FIELD OF CORMALLEN

> The task proved hard indeed, yet in the end it was done.
> (Tolkien, 1996a, p. 414)

Eventually Sandy returned from her leave and our relationship continued
much as it had previously. I was making some progress collecting data and
had begun to analyse the information I had gathered. I was writing as I went,

as Sandy had advised me to write from the beginning of the journey. I looked forward to our first meeting after Sandy's return, as I was keen to hear what she had to say about the work I had completed in her absence. When I met with Sandy to discuss my progress, I was unsure that I had any more to write. Her advice was to go once more to my data and to immerse myself in it so that I knew it completely. A return to my data resulted in my discovering several new areas that I had not noticed before.

At this stage Sandy encouraged me to begin thinking about writing for a wider audience, and so I began to submit papers for conferences. I was initially reluctant to submit my writing for refereed publication as I was not confident that it was of sufficient quality. I attended several conferences and was pleased with the verbal feedback I received from those in the audience. I found this process useful to my writing as it was the first time I had presented my writing to an audience other than my own university faculty, and the feedback I received provided me with much to contemplate.

I found that as I thought about conference papers that I might submit, my detailed knowledge of my data facilitated my decisions about which points to expand upon in various papers. My thesis then began to develop from the papers that I was writing. Factors such as the power issues present within various school contexts, teachers' understandings about gender equity, and the ways in which teachers translated policy into practice were some of the points I focused on in my writing. Through the processes of data analysis and interpretation I began to understand myself as a competent researcher and academic writer.

During this time I began to change in my understanding of myself as a student. I continued to meet with Sandy on a regular basis for discussion of a chapter or paper on which I was working. I felt far more confident about my writing and was now able to discuss points of contention with Sandy with some authority and confidence that had not been present at the beginning of my study.

The dependency was over. Leonie's story appears to me to fit well with the stages in a mentor – protégé relationship that Kram (1985) describes. The stages start with an initiation stage and move through to a cultivation stage in which both parties work at optimizing the benefits of the relationship, something that occurred through Leonie's change of research topic. The third stage is a separation stage, which is often quite traumatic for the protégé, and this is also discussed in Lee and Williams (1999) as noted previously. Leonie experienced this while I was on sabbatical. The final stage is one of redefinition, in which both parties redefine their roles and the relationship on a more equal footing. It appears clear to me that there is a point in the doctoral relationship at which the student is aware of her expertise and the relationship undergoes a subtle change. Leonie had reached this stage.

Throughout my doctoral study I had been concerned by teachers' construction of me as an expert in the area of gender equity. I had often discussed this with Sandy, who commented that it was not a problem because I was an expert, given the time I had to read and be aware of current gender theory. However, I was uneasy about this label and disliked being introduced as an expert to the teachers with whom I worked. This began to change as my thesis developed. I was able to make recommendations for changes in the area of policy implementation. I felt that I had extensive knowledge of teachers' ideas about gender as an educational issue. My self-study had enabled me to reframe my practice as a consultant and to make significant changes to support teacher knowledge about gender equity.

One day I was discussing this with Sandy and she commented that I was an expert in the area. For the first time I felt confident enough to agree with her. I realized that I did indeed have expert knowledge of the field I was studying. Sandy assisted me to recognize my professional authority (Taylor & Dawson, 1998) as a gender equity consultant.

Shortly after this I wrote a paper for a conference that was to be refereed. I carefully edited my work and spent some time rewriting until I was happy with the paper. I did not have a meeting scheduled with Sandy before the paper was due, so, for the first time, I sent the paper off without Sandy commenting on it. Whilst I felt a little uneasy about this, I also felt confident that I had done a good job. My paper was accepted for the conference. I had become an independent scholar as described by Lee and Williams (1999).

I have indeed changed as a person in my construction of myself as a student. My "new self" is developing as I achieve professional autonomy (Lee & Williams, 1999). I speak with confidence about my research in discussions with fellow students and academics when we meet. I am confident about the direction I am taking and I eagerly seek out conferences that I can attend to present my work.

I too have learnt about the supervision process and my role in it. I have learnt that I should not insist on giving complete autonomy to my doctoral students unless they specifically require it. They will assert their professional authority when they feel able to do so. Meanwhile, I should use my expertise in both methodology and content to help guide my students to a point at which they feel they can take over. They will do so at some stage of the process and when it happens, that will be the time for me to take a lesser role.

CONCLUSION

The journey of my doctorate has been an intense one in which, like Frodo in his quest to destroy the ring, I have come to learn much about myself.

I have changed in many ways, but I believe the most significant changes have been in my construction of myself as a student. I have changed from a beginning student, completely reliant upon my supervisor for all direction in the journey I was undertaking, to one who is confident in my understanding about my area of research. This confidence has changed my perspective on Sandy. Whilst I respect her as an academic, I feel on more of an equal footing with her and feel capable of arguing a point of contention, as one with a certain level of expertise in my area of research interest. I have developed a measure of intellectual independence (Hassall & Wilson, 1998) that has been born out of a positive and nurturing relationship with Sandy.

The journey of my doctorate has not been an easy process. It has been fraught with tension and with moments of despair when I questioned both my ability and my desire to undertake the journey. The experience has been a traumatic one but one that is necessary to experience the transformation that has occurred (Lee & Williams, 1999). It is a journey that I value and, looking back, would not have missed, despite my frequent thoughts to leave my studies altogether. This journey has been supported by Sandy, my supervisor. She has accompanied me, providing me with sustenance as required, while recognizing my professional authority (Taylor & Dawson, 1998) as I learnt about being an educational researcher. I believe it has been a significant journey for both of us as we have learnt much about ourselves as student and supervisor.

For me, the learning journey as a supervisor has been informed by the metaphor that Leonie uses. I have come to see that perhaps Gandalf is an appropriate metaphor for me as supervisor. Although I initially felt uncomfortable when Leonie cast me as all-knowing, powerful, and certain, I am now more prepared to see myself in Gandalf's role, partly because I realize that Gandalf was, in fact, not all-knowing or certain of his way, but also because Leonie had cast me in this role and this metaphor gave me insight into her perceptions of me and my role as supervisor. This chapter has articulated our relationship through the use of a metaphor, which, while not always precisely matching our situation, had sufficient resonance with it to inform and illuminate it. For this reason, I suggest that the process of articulating the relationship between supervisor and student is essential, and the use of metaphor is highly appropriate for doing so.

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Chapter 4

Sharing My Teaching Journal with My Students: Learning from Each Others' Reflections

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INTRODUCTION

Many teacher educators stress the need to prepare teachers who will be reflective. How do we accomplish this goal? A number of approaches have been described in the literature. A piece that influenced my particular project appeared in 1990. Ross (1990) summarized research showing that faculty members can model reflection by sharing their reasoning about teaching with their students, thereby illustrating the uncertainties and complexities of teaching (McDonald, 1992), and enabling students to see and, possibly, question the work of the teacher. This chapter discusses my students' learning and my learning about my teaching as we shared reflections stimulated by my reflective journal. I describe my experiences with one approach to sharing my reasoning with the pre-service teachers in my course in an attempt to model and nurture my own and students' reflections, and then move to describe how my teaching has changed since trying out this approach.

After a few years of teaching the initial course for students preparing to teach mathematics or a science at the secondary level, I had begun keeping a personal teaching journal. I used my journal to evaluate class sessions, to plan upcoming classes to ensure we returned to points that needed development or refinement, to note feedback that I wished to provide for individual students or the class as a whole, to explore my concerns about schooling practices that have shaped mine and my students' assumptions related to equity issues, and, at times, to vent my frustrations with, or dislike of, particular students' actions in order to understand both myself and my reactions as well as to speculate about possible reasons they acted as they did.

Occasionally, I shared carefully selected segments of my teaching journal with my class, but did so haphazardly. I had never systematically explored students' reactions to my sharing of journal segments. And so this project began. In an effort to serve the goals that Ross identified, I decided to share my

teaching journal more regularly with students and to explore systematically their responses to reading my journal. I hoped that sharing my journal would allow these pre-service teachers to learn the kinds of issues that engaged me, as a teacher and as a person. I hoped also to model attitudes of a reflective teacher: open-mindedness, responsibility, and wholeheartedness (Rodgers, 2002; Zeichner & Liston, 1996). I expected that the pre-service teachers might be surprised at some of the things I considered, but hoped that they would begin to think more deeply about our class from the perspective of a teacher, rather than the perspective of a student in the class. As I have engaged in the process of analysing the students' responses to my journal – a process that has gone on for several years – I have learnt a lot about my own teaching and about myself as a teacher. What started as a project I considered fairly straightforward has continued to evolve as a self-study (e.g., Dinkelman, 2003).

THE SITUATION

The Students

All but 2 of the 25 students in the class were considering careers in secondary science or mathematics teaching. The two not considering teaching careers were graduate students in the sciences who planned to teach at a research university. Over half the students considering teaching careers had been accepted into the Cornell teacher education programme. The rest of the students were trying to decide if they wanted to apply to Cornell's teacher education programme. All the students were majoring, or had all majored, in a science or mathematics field.

The Goals

At the time of this project, my teacher education course syllabus listed three course goals relevant to this chapter. These goals were:

1. To provide the chance for you to begin thinking about some fundamentally important issues in teaching. These are issues you should struggle with your whole career. They include: What knowledge is of most worth? What counts as knowledge and as evidence of understanding? What qualities of thought are of value? Whose needs or concerns are most important in a classroom of individuals? How are teachers and students supposed to interact? What are teachers' and students' ethical responsibilities? What is science? What is mathematics?
2. To introduce you to the triple consciousness that a teacher must develop. Teachers must think about the content they are teaching, the needs of their students and how they can be met, and the ways in which

the students are responding to the content or the activities or the assignments. Teachers make innumerable decisions during the day. I will work to explicate some of the decisions I make in teaching this class, in order for you to begin developing a triple consciousness.

3. To help you understand yourself better, as a learner and as a prospective teacher.

My syllabus also listed a major assumption, which was central not only to my course but also the entire teacher education programme at that time. The assumption was "that different people may have quite different ways of thinking about a particular phenomenon or notion and that these different ways of thinking all make sense, at least to the person doing the thinking". The class met twice a week, for 90 minutes each time. I relied heavily on discussions, with smaller groups and in the class as a whole. We read and discussed research articles about students' learning in sciences and mathematics, about multicultural education and ethical issues in teaching.

The Assignment

In the course, I required two types of assignments: journals and interview projects. Students had to write a minimum of three journal entries each week, which I would then read and respond to. The journal entries were unstructured. I asked only that they write about something related to learning or to teaching that engaged them; something they were experiencing, observing, or had remembered from prior experiences or observations. I emphasized that informal journal writing was a specific genre, one that valued spontaneity and authenticity over proper syntax, spelling, grammar, or organization. Students' journal entries often functioned like the teacher anecdotes reported by Bell and Gilbert (1996). The in-service teachers Bell and Gilbert worked with used anecdotes to clarify their existing ideas about science, teaching, learning, and science education, to generate new ideas, and to link the new ideas they were studying to their existing ideas. Many journal entries worked this way for the pre-service teachers. I learnt about their assumptions about teaching and learning, and their views of themselves as learners. These entries provided me opportunity to do such things as commend their ideas, prod them to continue thinking, or reassure them that their puzzlings and confusions were important ones. Other journal entries allowed students to express their frustrations, worries, or concerns. I would offer help if needed or provide emotional support.

The interview assignments asked the pre-service teachers to develop and administer interviews with novices, individuals without strong backgrounds in science or mathematics. The interviews were about some phenomenon or scenario that embodied specific scientific or mathematical notions. To analyse the interviews, the pre-service teachers had to explore how, or if, the

novices conceptualized the particular phenomenon presented. In the process, pre-service teachers not only learnt that the novices often did not use the conceptualizations these science or mathematics majors had come to take for granted but also learnt where their own understandings were partial or confused (Trumbull, 1991; Trumbull & Slack, 1991). Students in the class, then, were used to writing extensively and analysing their own and others' ideas. To provide them the opportunity to make sense of my journals did not introduce a completely foreign activity. They were used to reading my comments, because at least some of my comments on their journals would have addressed issues in teaching or learning as I attempted to help them think more deeply or attend to factors they had not considered.

My Teaching Journal

During this semester I wrote my journal entries as soon after class as was possible. I used the informal writing style I encouraged students to use in their own journals. Sometimes my entries veered close to stream of consciousness. I wrote nearly all of my entries on the computer. When I wrote entries by hand (generally during a boring meeting), I later input them into the journal file. Before I handed out my journal entries I corrected spelling and syntax mistakes that could be confusing, but did not worry overmuch about grammar and organization. For example,

> I didn't make the connection that a lot of what I try to do in class is arrange the class so people can articulate and share their different views. That by hearing the views of other students, of other authors, of other interviewees, and hearing my reactions to their writing, there is a range of stuff to which they can attend, and possibly assimilate or use to accommodate [their ideas]. Maybe part of it is that they expect a list of methods and techniques because they view teaching as a one way sort of thing. With the teacher still in control. But instead, I'm hoping they can come to see that there's more to teaching than imparting.
>
> (Journal extract, November 1)

> A time in the semester when I have to consciously consider their interests and concerns because there are all sorts of other pressures, and because I choose to make things more flexible, this class may well be the thing that doesn't get priority. But that's good, I can't feel rejected.
>
> (Journal extract, November 15)

I was always conscious that the students would be reading what I wrote, so never referred to people by name, and included no negative reactions to student actions. I tried to avoid a pedantic or stilted tone, and was not always successful. I sometimes found myself lecturing, rather than writing about my own thinking. It was more difficult than I had expected to write a journal for myself that might also be helpful for the pre-service teachers who would be reading it. Now, thinking about my experiences, I wonder how students' own journal

writing was shaped by having me, their teacher, as the audience. Regardless of my struggles with voice and tone, by the end of the semester, I had accumulated 21 single-spaced pages of journal. When I reviewed my journal, I found I had done many things, some of which I had not planned on doing. I found that I:

- presented my interpretations of classroom events;
- analysed class activities, looking at such things as discourse patterns in large and small groups;
- noted ideas that were well or poorly explored, concerns when it seemed the class missed the point of a reading or failed to explore fully some issue;
- commented about things I had noticed about their learning;
- thought further about some of the science or mathematics subject matter that was brought up in class and articulated some of my perennial confusions about chemistry and physics conceptualizations;
- noted students' remarks that I found especially illuminating;
- commented on factors that seemed to influence classroom climate or learning;
- chastised myself when I had done something I felt was counterproductive;
- brainstormed ideas about how to build on the events of a particular class and elaborated my reasons for setting up assignments or class organizations as I did;
- thought about some of the sociocultural assumptions that shaped expectations for acceptable behaviour in the institution, with reference to some of my experiences as a university faculty member;
- groused about ancillary activities of being a professor such as going to meetings;
- complained when I was tired or they were enervated.

I was somewhat surprised at all I had written, but such is the power of word processing – the words can sometimes just fly out of one's fingers. Rereading my entries I did realize how frequently I related my experiences to my teaching. When I analysed the students' responses to my journal, I was surprised that no one discussed any of my writings about content knowledge. I had thought that modelling my confusions would have been something they would relate to and possibly explore.

MY EXPLORATION

The Final Examination Question

When the semester began, I told the students that I would be writing a teaching journal about the class, which I would hand out occasionally. I said that

they would have an optional question on the final examination that would allow them a chance to react to my journal. I handed out my journal three times during the course of the semester, and then gave them copies of the full journal at the end of the semester. I first handed out my journal in week 6 of a 14-week semester. I waited until near the middle of the semester in order to give them time to develop their own style of journal writing.

The final examination was a take-home examination that students wrote outside of class. I gave them the final examination questions near the end of the semester, which provided them 3 weeks to write their answers. The question about my journal that I posed to students on the final examination was:

> What I'm really interested in is how your experiences in Ed 402 compare to mine, but I realize this is too big a thing for you to consider. So, review my journal and pick two or three things that really struck you about what I wrote. For each thing, explain: what struck you and how this thing compares to your experiences or thinking.

Who Wrote About My Teaching Journal

Twenty of the 25 students in the class chose to respond to my journal on their final examination. Ten students who responded were *not* formally enrolled in the teacher education programme. Some students had interpreted the question strictly, and addressed two or three things from my journal. They wrote relatively little. Other students wrote much longer answers, responding to my journal more holistically or thematically, rather than citing a short segment and writing about that. Making sense of these 20 responses was a lengthy task. In fact, the analysis reported here is the second analysis, done after I found an earlier analysis wanting. For this deeper analysis, I had to return to the literature.

THINKING ABOUT REFLECTION

After my semester of sharing my teaching journal, I facilitated a graduate seminar in which we explored the literature related to reflection. All of the students had done some reading about reflection prior to the course. These students – Erika Chrobak, Morrison Chakane, Angela Cobb, Richard Kiely, and Grace Scarano – read early drafts of my analyses and provided some helpful comments. During our seminar discussions it became clear that reflection in education was a term that served what Taylor (1982, p. 176) referred to as a common meaning:

> Common meanings are the basis of community. . . . But we could also say that common meanings are quite other than consensus, for they can subsist with a

> high degree of cleavage; this is what happens when a common meaning comes
> to be lived and understood differently by different groups.

There have been many reviews of the literature on reflection. This is not another one. I have chosen some key points from reviews which were helpful to us in our seminar that proved useful here, and that represent the range of the field. In a 1990 review of studies in reflection, Grimmett, Mackinnon, Erickson, and Riecken distinguished three main conceptualizations of reflection they saw in the literature, based on the underlying epistemological commitments. They named these three technical, deliberative, and dialectical. A technical conceptualization views reflection as the systematic and thoughtful use of externally derived knowledge for action in specific situations. The technical view does not admit of uncertainty and complexity in the knowledge base about teaching, but seeks the solution to a problem. A deliberative conceptualization views reflection as the process of choosing among competing knowledge claims in order to determine and enact the best solution to a particular problem. As such, it admits of controversy and uncertainty in teaching, since there is no one best solution. A dialectical notion of reflection views reflection as the reconstructing of one's ideas, using one's own and others' experiences. This transformative process enables one to surface and question previously taken-for-granted assumptions about the self, social order, and the puzzling situation. The knowledge used for transformative reflection is derived from a range of sources, but always includes one's own experiences. It thus honors individuals' experiences *and* emphasizes that these experiences are reconceptualized, possibly by using externally derived knowledge claims or perspectives. Their distinctions focus less on the final outcomes of reflection than others.

In a 1996 book on reflective teaching, Zeichner and Liston returned to Dewey to distinguish between routine (non-reflective) and thoughtful action. Like Dewey, they emphasized the holistic nature of reflection, seeing it as a process that engages thought and emotion and resists being broken down into a set of steps. They identified characteristics needed for reflection: open-mindedness, responsibility, and wholeheartedness. Zeichner and Liston used Schön's critique of technical rationality to emphasize that reflection must be grounded in the experiences of actual practice (Schön, 1986), but argued that Schön failed to attend to the need for a learning community to support and call for reflection. Zeichner and Liston were concerned with a particular goal for reflection. They made the case that responsibility to an ethical concern for social justice requires reflective teachers to attend to the social and political factors that shape educational practices and that can be, without reflection and the scrutiny it brings to bear, maintained by educational practices.

In a 2000 review of theoretical and empirical work on teacher reflection, Yost, Sentner, and Forlenza-Bailey argued that learning to reflect was actually a developmental process and cited studies which indicate that teacher education programmes can foster students' reflection. Van Manen's (1977) developmental continuum for describing reflection provided a framework for their review. Van Manen's continuum is somewhat similar to the three conceptualizations identified by Grimmet et al. (1990). The first stage is the application of technical knowledge; the second stage involves thinking about "the assumptions underlying a specific classroom practice as well as the consequences of that practice on student learning" (p. 40); and the third stage concerns consideration of the moral and ethical dimensions of decisions. Yost et al. argued that teacher education programmes must provide novices with experiences that enable them to see multiple perspectives and to develop their own pedagogical and ethical commitments. The mission of teacher education programmes should be to prepare teachers committed to effecting changes in schools.

All of these views of reflection stressed that learning to reflect is not a simple process of learning skills or techniques. Being reflective means not acting automatically, so that even at the level of technical reflection, the teacher must think about that situation to see it as one to which a particular piece of knowledge can be applied.

CHARACTERIZING STUDENTS' RESPONSES

In order to see how reacting to my journal worked for my students, I read through all the students' responses to develop categories that would characterize their work, that would summarize **what** they wrote about and **how** they wrote about it. I used a constant comparative approach (see Piantanida et al., 2004; Strauss, 1987) to determine the content of students' writing – what topics did they address? I characterized **how** they wrote about the topics by comparing their responses to each other and to the theoretical literature on reflection. I found that the ways in which I characterized my journal entries did not correspond closely to the categories I found in their responses. We were reading and interpreting from different perspectives.

What They Wrote About

I developed 8 categories that served to capture nearly all the content of all the responses. They are presented in Table 4.1.

The longer student responses tended to contain more categories than the shorter responses, because most of these responses attended to a range of my entries that they perceived as related.

Table 4.1. Content of student responses.

Category	Description	Total
Challenge	Question a teaching move I had written about	8
Comparison/contrast	Present either a similar or contrasting interpretation of an event I wrote about	4
Seeking self	Attempt to determine if they were the student I described anonymously.	4
Learning	Relate to some aspect of learning I discussed	4
Structure of the course	Respond to what I wrote about structuring the course	16
Social/cultural	Address some social or culturalfactor affecting classroom actions.	12
Identification	Discuss how they had an experience or reaction similar to one I described.	9
Teacher role	Express what they have learnt or realised about the role of the teacher.	23

How They Wrote: Identifying Reflection

Because I wondered if reading my journal would elicit student reflection, I needed to do more than analyse the content of the students' responses. I needed to look for evidences of reflection and to do that I needed to determine how to apply the conceptualizations of reflection in the literature to what these students had actually written. Dewey and his interpreters describe reflection in abstract terms (e.g., Rodgers, 2002). Other researchers developed their own frameworks to apply to the specific assignments or data they collected. LaBoskey's work is one example of this work; but I needed to develop my own analysis since my students were doing work quite different from that of her students (LaBoskey, 1994).

Through a process similar to the one I used to develop content categories, I developed four categories that described the thinking processes evident in student responses. Determining the first category was relatively easy. Some student responses showed no evidence of thoughtfulness, of any explanation or justification. These responses merely expressed their own opinions or preferences, with no explanation. For example, in writing about the course structure, one student said: "I liked the flexible due dates for the assignments." There was no explanation of why these were good. In a challenge to something I had done in discussion, another student wrote: "Most of the issues flew by me because I had nowhere to ground them. . . . I guess that I think the best way to become a teacher is to teach." Again, there was no detail about why issues flew by, only the implicit judgement that all the discussion was irrelevant to learning to teach.

Other responses showed what I believe could be described as technical reflection. Students supported or explained their response by applying a

particular course reading or structure. For example, in discussing learning, a student wrote:

> An education class, however, does probably develop in the scope and ideas presented in it in terms of letting the most applicable stuff come last. It is when students can apply things, relate things to themselves, and finally break critical barriers [a main concept in one reading] that success comes in the classroom. . . . It is only towards the end of the semester that we handle multicultural and bilingual education and ethics, a logical summary and application of many of the ideas initially introduced in the course.

This student used existing resources, and thought about how these were applied to the way learning was structured in my class. The student did not, however, discuss possible alternative ways to support learning.

There were other responses that showed evidence of deliberation, of thinking about and selecting from different possible courses of action. In this deliberation, students frequently formed a principle for future action. Sometimes the deliberation was more implicit, as this example responding to my pondering about the benefits of the interview assignments:

> I remember my first interview I thought was horrible. I didn't think I got anything accomplished. But in listening to the tape it turned out to be a great interview. So, from this I could possibly infer that teaching can seem like it's going really badly when really it is moving along fine. That is sort of a light and fluffy thing to talk about. I'm going to try to get at some of the reasoning behind the course.

I must point out here that these science and mathematics students sometimes found educational thinking "light and fluffy", even when they had developed an important insight.

Some student responses involved a reconsideration and/or reformulation of a prior experience. The student did not always explicate the ethical or moral dimensions involved, as Yost et al. (2000) mention, nor did they question societal arrangements as Zeichner and Liston (1996) would wish, but they did question prior assumptions and actions. I therefore considered that these responses could represent transformative or dialectical reflection. In one entry, I had written about making someone mad at me, and worried that offending a student could lead to destructive class dynamics:

> To me, this is all one problem. Unfortunately it also happened to be one of MY problems. I have no problem challenging people – when they say something contradictory or excessively stupid or just plain wrong. But if someone REALLY offends me or is simply being an unmitigated ass, I just sit there and stew. . . . When I try to tell someone that I'm absolutely livid with them, I somehow end up feeling guilty and apologizing, even for justified frustration. . . . Unfortunately, I also see myself in the student who helps ruin a class atmosphere by not resolving problems. . . . Because I was unwilling to discuss my problems [with a prof] I helped make the class a tense waste of time. . . . Now that I'm aware of this, I can hopefully keep from doing it again. I hope I will also be able to create an atmosphere where people feel they can criticise me.

The distinctions between these kinds or levels of reflection are not sharp, and can be debated. I believe, however, that it is relatively easy to distinguish between reflective and non-reflective responses. Let me provide two other examples in which students discuss Teacher Role:

> Another issue that Dr. T confronts in her journal is student participation in the classroom. Monitoring class participation is a great idea. It is very aggravating, at least from the student end, when one classmate continues to drone on and on about something that I either do not agree with or do not care about.

I consider this a non-reflective response, because the person stated only their opinion, without considering anything else. Contrast the non-reflective response above to the one following:

> I do feel that taking note of daily classroom interactions is beneficial to the practice of teaching. For example . . . if the same students are always working together, the students will always be limited to the same people's ideas. A teacher that recognises redundant group interactions can assign groups, and alleviate the problems associated with working with the same people over and over again. In the future, I will try to notice the daily classroom environmental happenings that I have ignored in the past.

This person stated a personal preference, and then went on to deliberate about possible actions a teacher could take, and possible consequences of acting or not acting.

I presented a non-reflective challenge earlier. To me, the following challenge represents deliberation at the least, if not a dialectic change in conceptions, as the student began to understand that teachers will not be certain, and that cultural or social factors affect individuals:

> You wrote: "I find that the culture at Cornell is foreign to me. . . . I feel like an outsider in many ways." Now, why did you not say this in class? Although I can understand this [silence] from a personal point of view, this would have, I think, made the multiculturalism discussion easier for the class to talk about. It would have also addressed this difficulty . . . many of us have [trouble grasping], which is that we are not supposed to figure out every aspect of teaching so that we can go out and teach our "all-knowing" education.

Links Across the What and How

When I characterized the content of the responses, I noted every category represented in the responses of each student. When I characterized the responses for reflection, I made note only of the highest level of reflection I found in each category, because I was interested in the best that each student could do. Also, I wanted to see if there were any relations between the different categories and the reflection associated with them. As Table 4.2 shows, some categories had more non-reflective comments than others

Table 4.2. Categories of responses and associated reflection.

Content	Thinking				
	Non-reflective	Technical	Deliberate	Transform	Total
Challenge	6(2)	0(2)	1(2)	1(2)	8
Comparison/contrast	3(1)	0(1)	0(1)	1(1)	4
Seeking self	2(1)	1(1)	1(1)	0(1)	4
Learning	1(1)	2(1)	0(1)	1(1)	4
Structure	5(4)	3(4)	4(4)	4(4)	16
Social/Cultural	5(3)	2(3)	3(3)	2(3)	12
Identification	2(2.25)	1(2.25)	2(2.25)	4(2.25)	9
Teacher role	6(5.75)	5(5.75)	7(5.75)	5(5.75)	23

(the numbers in parentheses indicate the distribution we would expect if each type of reflection were equally distributed across the categories).

It seems clear that the first three categories had a disproportionate number of non-reflective responses. Here is one example of a non-reflective compare and contrast: "The more I thought about that day in class, I thought that even in that class we had the ideas of levels [of explanation] down fairly well."

After noting the distribution of reflective and non-reflective responses in the eight categories, I wondered if it were the case that responses in a particular category would naturally be non-reflective, or if students who tended to write less reflective responses tended to address certain categories. So I looked first to see whether there were differences in reflection across students. Eleven students wrote over half their comments with some form of reflection. There were nine students whose responses were consistently not reflective. As Table 4.3 shows, the students whose responses tended to be non-reflective were overrepresented in the first three categories, and underrepresented in the last four. Something seems to be going on here. It seems that there are some kinds of comments I made that tended to elicit less thoughtful responses, and that allowed less reflective students to be less reflective. How can I use this knowledge in future?

Table 4.3. Responses of reflective and less reflective students.

Content	Non-reflectives	Reflectives
Challenge	6(4)	2(4)
Comparison/contrast	3(2)	1(2)
Seeking self	4(2)	0(2)
Learning	2(2)	2(2)
Structure	6(8)	10(8)
Culture	4(6)	8(6)
Identify	3(4.5)	6(4.5)
Teacher role	7(11.5)	16(11.5)

What Did We Learn?

I learnt a lot about which of my own reflections might most productively be shared with students. I think that many students did learn that it is possible to link many things to teaching, that it is not only possible but necessary to re-examine one's teaching, and that teachers worry about mistakes they make. The students who engaged more fully found a chance to develop some principles to which they hoped to attend in the future. Even students whose comments I considered non-reflective did have the opportunity to express their preferences in reaction to something I wrote, thereby realizing different interpretations existed.

Clearly, there are some things about which I wrote that tended to elicit reflective responses from students. When I wrote about the ways I structured the course, how I experienced issues of culture, how I felt about teaching, or the arrangements I needed to work on for the class, the students responded more often with some reflection, even those who tended to be less reflective. There are, then, lessons to be learnt about the kinds of things that a teacher educator might focus on in a journal written to be shared with pre-service teachers. One lesson is that it is important to focus more on thinking processes and less on evaluations or judgements.

Did I shape their responses in unintended ways? I was somewhat disappointed by what I found to be the lack of reflection in some students' responses. As I look at my description of the assignment from my current vantage point, I see that I might have engendered less reflective responses, particularly in the students for whom the final examination was just one more task to get done. I prefaced the actual question by stating that I wondered how their experiences in Ed 402 compared to mine. This statement could well have been in invitation for the kinds of responses I labelled non-reflective. They simply told me about **their** experiences – they gave me the response I asked for, rather than the response I hoped for. In the actual question, I asked them to find two or three things that struck them, then explain what struck them, and how this thing compared to their experiences or thinking. I continued, then, to not be explicit about the kind of thinking I wanted them to present in their responses. I can see that my presentation of the assignment was vague. Could more students have written more reflective responses if I had been clearer? This is a question to investigate.

As I reread my journal, it is not a little ironic to me that I wrote as I did, covering so many topics and at such length, because my original impetus for sharing my journal was to explore and expose my thinking about pedagogy. And yet I wrote about any number of things. When I was doing my journal, I found myself linking many aspects of my life to my teaching of this course.

At the time, I enjoyed relating all sorts of experiences to my teaching journal for this one class. It was fascinating to me to relate a range of situations to some aspect of teaching. I wonder, now, if there are other reasons why I included so much material, resulting in a dilution of the focus of the journal. I think there are several reasons, some of which I do not like to face.

First, prior to this year I had been using my personal teaching journal to help me work through a number of issues, including my responses to certain students and my evolving understandings of them. I have learnt that it is easier to deal with students who annoy me if I wonder why they are acting as they are and explore different actions I can take with them. When I made my teaching journal public, I knew that I could not include this kind of writing, but still had some notion that beginning teachers should learn how teachers can and should work to understand their students. Also, I thought that some of my entries would help students to understand that their actions in a classroom are shaped by prior experiences, sometimes in ways not helpful for their learning. Although some of the students could have gleaned these lessons from my writing about them, others became entranced and hence distracted by seeing how, or if, I was describing them. I have since learnt that I can more helpfully use pre-service teachers' experiences in the field, working with their own learners, to help them see the value of working to understand their students and to observe how social or cultural expectations play out in schools.

Second, when I wrote descriptions or evaluations, I was unconsciously giving authority to my own viewpoint. My descriptions – and often evaluations of – particular class events tended to be responded to less reflectively. What was it about descriptions, whether of the class as a whole or individual students, that did not work as I had hoped? When I began my journal writing for the class, I made what I call the ethnographic assumption. Or, as Creswell might say, I began my journal writing influenced by the ethnographic question: "What is going on here?" (see Creswell, 1998). I was then recording what I felt was going on. However, students did not read my descriptions as would an ethnographer, who would use others' interpretations of events to reflect on possible reasons for differences in interpretation. The students who responded to my interpretations of events mostly did not tend to explore any reasons for the differences and use these for reflection. Rather, they "corrected" my view by presenting their own. I was arrogant in thinking that students would necessarily acknowledge my interpretation or evaluation as superior, and then explore why their own recollections did not match mine. It is uncomfortable to realize that I so unconsciously assumed I had the better interpretation, especially since my course and our whole programme assumed that many interpretations of a shared event could and would exist for good reason.

Third, I have come to wonder about the efficacy of sharing a teaching journal. I have not distributed my teaching journal since the year of my exploration. Several times I was teaching the class with colleagues, and they were not keen to share the journal. The time I would have spent writing was taken up in meetings with my colleagues, and we discussed many of the issues I would have written about were I teaching alone. Further, my course and the whole teacher education programme went through significant revisions, which again took time and energy. But most importantly, I have moved to **enact** my commitment to reflection as part of my lived practice rather than as a solitary activity done in a room with my computer. I remind myself to share many of my teaching deliberations with students in real time and in my descriptions of assignments and evaluations. I explicitly work to foster a classroom community in which students work with each other so that they are partners, who can deliberate with each other and with me. I am also using student journal entries as a means to help them prepare for class discussion. For example, I now ask students to describe in a journal entry a key youngster they have observed in their fieldwork. They share these descriptions with each other, discuss their reactions to their youngsters, and collaborate to build an understanding of the youngster. I can participate in these discussions to raise the issues that are not being addressed or to further probe their observations and thinking, but I do not lead the discussions. Being reflective in my work as a teacher educator hoping to engender the reflective stance in my students is a goal towards which I continue to move, and continue to understand. Like all goals, I will never reach it fully.

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Chapter 5

Educational Partnerships and the Challenge of Educational Reform

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INTRODUCTION

This chapter considers the concept of a partnership or shared journey in education from two perspectives:

1. Is the partnership or shared journey a context of productive learning?
2. How well are the partners listening to each other as they work together?

The perspective of a context of productive learning is drawn from the work of Sarason (1996, 2004), while the significance of listening is drawn from the work of Cook-Sather (2002). As I build on the preceding four chapters, I also extend those chapters by introducing issues and experiences from pre-service teacher education, the educational context that I know best. The central focus is on Sarason's claim that education must involve contexts for productive learning. The chapter begins by revisiting the examples of shared journey and partnership provided in the preceding four chapters. Then the perspectives of Sarason and Cook-Sather are introduced briefly prior to their illustration in an account of a personal journey shared with a teacher education colleague over the last 8 years. The chapter concludes with consideration of several issues relevant to judging the quality of a shared journey or partnership.

Pre-service teacher education, like schooling generally, is a vast and complex enterprise. Pre-service education is driven not just by what new teachers need to know but also by what both academics and politicians think they need to know. While pre-service teacher education generally occurs in university settings across the English-speaking world, it cannot happen without placing teacher candidates in primary and secondary schools for their practicum experiences. For reasons as obvious as the intensely immediate

and profoundly personal aspects of the practicum, it is the practicum experiences that are universally reported to be perceived as the most valuable element of pre-service teacher education programmes. Thus schools and universities must cooperate at some level if the universities are to provide practicum placements for those learning to teach. At the same time that many teacher educators see partnerships with schools as highly desirable, school – university cooperation for practicum placements often falls short of familiar expectations of a genuine and significant partnership.

Despite their many similarities in terms of broad patterns of teaching, schools and universities have different roles to play in society, and generally seem to have considerable difficulty in establishing partnerships. In my own context, in Ontario, it is common for a faculty of education in a university to be viewed by many teachers in schools as an ivory tower with a view of teaching disconnected from the everyday reality of schools. Just as teacher educators may criticize teachers in schools for not adopting new, perhaps research-based, approaches, so teachers may criticize teacher educators for living in a dream world that fails to recognize the diversity of students in today's schools and the complexity of today's curriculum expectations. Teacher education institutions are often criticized for perpetuating the gap between theory and practice (Russell, 2005a). These familiar differences are hardly a promising foundation for successful partnerships, for a partnership implies some sense of shared goals and purposes.

PARTNERSHIPS AND SHARED JOURNEYS: FOUR EXAMPLES

This chapter aims to develop a broad view of partnerships and shared journeys with special reference to the conditions necessary for significant reform in education. The preceding four chapters offer unique and important perspectives and remind us that working in partnerships and sharing journeys can take many different forms and involve individuals and organizations in very different types of relationships.

Brady provides both literature and a personal example concerning one of the most sought-after educational partnerships, a partnership between a teacher education programme in a university and one or more schools, typically schools that provide practicum placements for those learning to teach. Brady mentions developments in the UK (where pre-service teacher education must be based in schools for prescribed amounts of time) and in the USA (where Professional Development Schools are a basis for school – university partnership) prior to describing the Innovative Links Project in Australia that generated many school-initiated action research projects that were advised by an academic associate from a university. Brady's personal example of a partnership between one school and his own university illustrates clearly the

constraints and challenges associated with efforts to go beyond the familiar provision of practicum placements. His attention to the importance of structural supports for partnership helps us understand why school – university partnerships are recommended far more often than they are achieved.

Seaton and Schuck recount their shared journey as doctoral student and supervisor. One major theme reveals how two individuals with very strong commitments to each other can survive virtually any challenge that comes their way. As they confront changes of topic, absence on leave, and the unexpected events of life, they show how personal commitment always seems to find a constructive way forward. Issues of time and organizational structures seem to fade into the background in the context of the one-to-one, long-term relationship between doctoral student and supervisor.

Pressick-Kilborn, Griffin, and Weiss write as teachers and teacher educators sharing journeys of participation in research projects and focus on how their journeys fostered professional learning. In contrast to Brady's concern with the importance of time and organizational structures when a partnership involves two organizations, these individuals worked together and simply got on with their work. Although they speak of themselves as school-based practitioners and university-based researchers, individuals based in universities are also practitioners. While they attend to both how the research contributed to their learning and what they learnt in their different roles, their openness to "unanticipated pathways" affirms their commitments to each other and to the research projects they shared.

Trumbull takes us into her own teacher education classroom as she attempts to understand the ways in which sharing and inviting comments on her own teaching journal may help her foster the development of reflection, which she values quite highly. While examples of students' reflective responses are provided, the students' experiences are available to readers only in the tables that categorize her interpretations based on frameworks selected from the literature. When Trumbull's chapter concludes with "what did we learn?", the emphasis is on what she herself learnt and saw differently. What had set out to be a learning journey for teacher candidates had also become a learning opportunity for the teacher. Ultimately, the experience of sharing a teacher educator's personal journal led her to work to more explicitly enact reflective moves in her classroom and to work more deliberately to build a classroom community.

A FUNDAMENTAL PERSPECTIVE ON LEARNING AND REFORM

The numerous works of Sarason provide a significant perspective on the complex and enduring issues of learning and reform. Sarason has argued for more than 30 years that school and university cultures fall short of providing

contexts for productive learning. Recently, he has given up hope that school reform is possible, arguing that schools lack the necessary self-correcting features. Sarason (1996, 2004) contends that creating contexts for productive learning requires that conditions of learning change for both students and teachers. He has also argued that pre-service teacher education programmes must model the conditions of learning that they expect future teachers to create. Consider the following points about learning:

> *Unless, and until, on the basis of careful studies and credible evidence we gain clarity and consensus of the distinguishing features of classroom contexts of productive and unproductive learning, the improvement of schooling and its outcomes is doomed.* The history of reform efforts is testimony to the recognition that the bulk of American classrooms are contexts of unproductive learning, and the diverse efforts of reform had to have the goal of making them productive. They failed because they were not clear about what they meant by *productive*, *unproductive*, and *learning*.
>
> <div align="right">(Sarason, 2004, pp. 1–2)</div>

With this perspective in mind, I invite readers to return to the previous four chapters to consider the extent to which each shared journey or partnership represented a context for productive learning for the individuals or organizations involved. For Seaton and Schuck, productive learning was possible because they were two individuals sharing a journey as doctoral candidate and supervisor. When they reaffirmed their mutual commitment to Seaton's work, productive learning resumed for both of them. For Pressick-Kilborn, Griffin, and Weiss, the shared journey is similar from a perspective of productive learning. The words learn, learning, and learnt may be the most numerous in their chapter; their focus is not just on their personal learning but on each other's learning, including the ways that participating in research fosters their learning. As with Seaton and Schuck, the strong commitment to each other and to learning rings clearly. Trumbull's report describes a very different type of shared journey, involving many more individuals with one teacher and many students. Her section on "What did we learn?" makes it clear that learning by students was variable. She had an ambitious goal and she recognizes that the context was not always as productive as she might have hoped. Finally, like Trumbull, Brady's shared journey is a context in which many individuals and several organizations are involved. Here we see what we would anticipate from the perspective of creating a context for productive learning. When individuals from different professional environments come together, there is no one in the explicit role of assessing the partnership as a context for productive learning.

The literature on educational partnerships suggests that such partnerships are not easily experienced as contexts of productive learning. The following

comment reminds us that the ultimate purpose of improving the quality of student learning must always be kept in clear view.

> The goal of improving the students' learning experience must take precedence over other aspects of partnership function. . . . The means to an effective partnership can easily become ends in themselves. For example, the energy for change in schools may become focused only on improving working conditions for teachers, establishing more collaborative decision-making structures, or creating more flexible schedules, all of which can be means to the end of learning but should not be ends themselves. Administrative practice can change without passing the advantage to the classroom. Partners must focus on student learning, viewing the partnership as a vehicle to be steered toward a goal that is of greater significance than the vehicle itself.
>
> (Kimball et al., 1995, p. 24)

In a similar spirit, the following statements by other researchers remind us that partnerships are the exception, not the rule, and thus they require some level of support with respect to resources, communication, and responsibilities.

> School and higher education institutions are both very busy places. Unless sufficient resources can be freed to provide opportunities to support the extended conversation needed to create a shared agenda and unless there is a greater commitment to stabilizing participation, separatist partnership patterns will not only persist but predominate. Our data do not suggest overt resistance to the partnership concept per se by either school faculty or the majority of university faculty. When school faculty reluctance occurred it resulted from either ineffective communication channels . . . or non-involvement by teachers . . .; when university faculty oppose the concept resistance crystallizes over concern about scarce resources and expanded and unrewarded responsibilities. Communication problems were especially acute in the secondary schools we studied because of turnover, school size, and the difficulty of crossing departmental barriers.
>
> (Bullough & Kauchak, 1997, p. 231)

Despite the traditional challenges to partnerships and shared journeys, challenges that seem embedded in familiar school and university practices, Sarason's suggestion that the image of a context for productive learning can guide the way forward is a powerful and important one. One significant element in creating a context for productive learning involves attention to how often and how well those who share a journey are listening to each other.

A BOLD PERSPECTIVE ON THE IMPORTANCE OF LISTENING

Cook-Sather (2002) develops the importance of listening in the context of school classrooms by arguing for the authorization of student perspectives on educational policy and practice. Her paper deserves to be considered in its entirety, but for present purposes the following excerpts are indicative of the

approach and the conclusions. The first quotation suggests that maintaining a power relationship acts as a barrier to teachers listening to their students:

> Most power relationships have no place for listening and actively do not tolerate it because it is very inconvenient: to really listen means to have to respond. Listening does not always mean doing exactly what we are told, but it does mean being open to the possibility of revision, both of thought and action. At a minimum, it means being willing to negotiate. Old assumptions and patterns of interaction are so well established that even those trying to break out of them must continue to struggle. And understanding that is part of what it means to listen.
>
> (p. 8)

The second quotation is part of the paper's conclusion and calls attention to the link between listening and quality of learning:

> We cannot afford to continue old reform efforts or to develop new ones that do not succeed in making school a place where students want and are able to learn. The authorizing of student perspectives for which I am arguing here is not simply about including students as a gesture. It is about including students to change the terms and the outcomes of the conversations about educational policy and practice. Such a reform cannot take place within the dominant and persistent ways of thinking or the old structures for participation. The terms of the conversations, who participates in them and how, and the ways we act on what comes of the conversations must be reconstituted.
>
> (p. 12)

As with Sarason's perspective of productive learning, we gain further insights into the preceding four chapters in this section when we review them from the perspective of listening. Again, the chapters by Seaton and Schuck and by Pressick-Kilborn, Griffin, and Weiss are rich in evidence of listening. Only two or three individuals are involved, and listening to each other is a central feature of their journeys. The contexts described by Trumbull and Brady involve many more individuals and listening immediately becomes more challenging. Both Trumbull and her students were attempting to listen to each other, yet they were doing so across an inevitable barrier; the understandings that Trumbull was hoping to develop were the same understandings required for good listening. Brady's partnership linking a school and a university involved a broad range of activities, and so evidence of successful listening is inevitably far more limited than in the other three accounts.

These two perspectives, from Sarason on productive learning and from Cook-Sather on listening, and the explicit premise that listening can be a powerful strategy for both initiating and maintaining contexts of productive learning set the stage for an account of a personal experience of partnership with another teacher educator in which creating contexts for more productive learning was driven by listening to those we teach.

A PERSONAL SHARED JOURNEY: TEACHER EDUCATORS
LISTENING IN ORDER TO ENHANCE PRODUCTIVE LEARNING

After 28 years of work in pre-service teacher education, my work with individual classes of teacher candidates finally resembles something I think my students and I can recognize as a shared journey. When former students write to me about their earliest teaching experiences, the relationship gradually begins to feel like a productive partnership. The Pressick-Kilborn, Griffin, and Weiss chapter comes closest to the type of personal shared journey relevant to the points to be developed in this section (which draws extensively from Martin & Russell, 2005). In recent years I have been fortunate to develop a sense of shared journey with several colleagues. We have come together around mutual interests in the quality of the teacher education programme in which we teach and in the practical search for ways that we can improve that quality, both personally and organizationally. The following paragraphs summarize the journey that Andrea Martin and I have shared in recent years as we work to understand and improve our teaching with special reference to the context of the programme in which we teach and to the general calls for reform of pre-service teacher education. Our shared focus has been a commitment to the fundamental importance of listening to students completing the pre-service programme when we invite them to consider the quality of their learning experiences. In hindsight, we realize that we have experienced a partnership that can be characterized as a context for our own productive learning.

Calls for teacher education reform continue, as do calls for improvement of teaching in elementary and secondary schools. Many constraints on improvement arise because these two levels of reform are not seen as complementary pieces of the same large intellectual and practical puzzle. Feiman-Nemser (2001) constructs a useful continuum of teacher education from pre-service preparation through induction and initial professional development to continuing professional development. As Feiman-Nemser (2001, p. 1049) notes, the shortcomings of teachers' professional development are not limited to those commonly attributed to pre-service programmes:

> The problems of preservice preparation, induction, and professional development have been documented. The charge of fragmentation and conceptual impoverishment applies across the board. There is no connective tissue holding things together within or across the different phases of learning to teach.
>
> The typical preservice program is a collection of unrelated courses and field experiences. Most induction programs have no curriculum, and mentoring is a highly individualistic process. Professional development consists of discrete and disconnected events. Nor do we have anything that resembles a coordinated

> system. Universities regard preservice preparation as their purview. Schools take responsibility for new teacher induction. Professional development is everybody's and nobody's responsibility.

Despite all that we know from decades of educational research, there is extensive evidence that propositional knowledge alone does not and will not generate or sustain change. (Goodlad, 1990; Sarason, 1996).

Listening is a powerful concept that can be applied in at least two ways: (1) listening (actively, responsively, and in diverse ways) to those who are learning to teach or working to improve their professional practice as a teacher, and (2) extending listening into the study of one's own practice as a teacher educator. The growing literature of self-study is particularly relevant to the second use of listening. Program changes at Queen's since 1997–1998 have generated many pressures to adjust how we teach (Russell, 1999). Our earliest work with focus groups inspired us to continue to listen to those we teach, and that listening has compelled us to re-examine our own teaching. In that process we have come to appreciate the high need within a preservice program for coherence and collaboration (Russell et al., 2001).

Our experiences listening to those learning to teach and then identifying and evaluating the teaching changes they have inspired help us appreciate Cook-Sather's (2002) arguments for authorizing students' perspectives on learning. We present our sense of the new practices emerging in our own pre-service classrooms in the form of statements that Berry and Loughran (2002, p. 17) characterize as "assertions that guide our practice" – statements that guide our actions and help us understand their purposes. Perhaps the broadest conclusion we can draw at this stage in our work is the following:

- Listening is far more effective than telling or questioning if we wish to foster the development of new teachers' perceptions and their ability to learn from experience.

In drawing this conclusion, we are not suggesting that all a teacher educator needs to do is listen. Rather, we find that listening is an essential element in the ongoing design and maintenance of learning contexts that will be productive for those we are helping learn to teach. This approach includes at least two fundamental elements of pre-service teaching: designing activities that develop and illustrate new perspectives on teaching and learning, and designing activities that help candidates interpret their practicum experiences and link them to those new perspectives. This process is recursive and iterative; once begun, listening must become a regular and persistent feature of one's teaching.

We have also come to the following conclusions about the challenges of listening and creating contexts of productive learning:

- Learning to teach requires learning to listen to one's own learning.

This perspective arises from a former student whom we both taught who sent us a summarizing statement titled "How I Succeeded at McArthur" (the building where our faculty is located). The author told us that he developed the skill of listening to his own learning in his last 2 years as an undergraduate. When he found himself unable to comprehend what lecturers were saying, he used a different colour of ink to write in his notebook about why the teaching strategies he was experiencing were unproductive. This experience made him attentive to how he was learning to teach, and his insights have led us to show other candidates how to listen to their own early professional learning.

- Learning to teach teachers requires learning to listen to one's own learning as a teacher educator.

We are astonished by how much our thinking about our own teaching has been challenged and extended by listening to pre-service candidates who are beginning to think about the quality of their own learning to teach. Russell (2005b) was moved to rethink his entire approach to fostering reflective practice by exploring one candidate's comment that teacher educators should do far less preaching of the value of reflection and far more teaching of the skills and intricacies of reflection.

- Teaching and learning to teach are not about "getting it right". They are more about "getting in touch" with how and why we are teaching as we do and with the full range of effects we are having on those we teach.

Here we are trying to capture Schön's (1987, p. 158) sense of reflection-in-action as a "reflective conversation with the materials of a situation", in which listening (in new ways) plays a central role. Here we are also extending Sarason's (1996, p. 367) insights about the way that right answers can rapidly reduce student interest, whether students are in kindergarten or in a teacher education classroom.

> There is a world of difference between *wanting* to learn and *having* to learn. The enemy of productive learning is disinterest, boredom, and the feeling that what you think and feel is seen as irrelevant by others, learning is a chore, a chore of routines developed by adults who see the learner as an empty vessel to be filled for reasons the student neither comprehends nor accepts.

When we argue for the importance of listening to pre-service teachers, we are aware that we are also modelling to future teachers a practice that we believe is essential for them to carry into their own classrooms. We are not suggesting for a moment that pre-service teachers already know what they need to teach or that their opinions alone should drive their learning to teach.

We are saying that neither we (as teacher educators) nor they (as teachers) can create contexts for productive learning without carefully listening to our respective learners.

- The preceding assertions about the challenges of listening and learning lead us to offer the statements below that describe the development of our personal teaching practices as a result of listening to pre-service teachers. These are offered as specific illustrations of our partnership's focus on the stance that *if one is serious about improving the outcomes of teacher education, then one must first be serious about changing interactions within the teacher education classroom*. At this stage in our own development as teacher educators, moving beyond a right-answer environment and listening carefully and critically to those we teach are central in our efforts to create more productive contexts for learning to teach. We ask questions differently, we attend to and change the pace, and we avoid the word "reflection" until well into the year. We speak openly about reflection only after we have provided exercises that develop skills of reflection.
- We try to be explicit about educational purposes and rationales as we work to weave practical experiences into theoretical perspectives. We stress that sharing of practicum experiences must move beyond story-telling to in-depth analysis of problematic elements of practicum experiences. As we explore the "why?" of education, in addition to the more obvious "what?" and "how?", we also try to be explicit about these same aspects of our work with those we teach.
- We try to avoid being didactic, and we also try to be explicit about why. Here we are working to illustrate ways to move beyond the familiar "what's the right answer?" pattern of classroom interaction and to do this in ways that are both practical and conceptual. Any teacher or teacher educator attempting to move beyond teaching-as-telling in order to create a context for more productive learning must confront the innate response of all teachers to perpetuate the practices that were modelled by their own teachers throughout school and university.
- We encourage collaboration among teacher candidates – sharing experiences, sharing resources, and working to develop the issues fundamental to our courses. Candidates often recognize that their pre-service collaborative learning with peers is quite productive, but it is a huge further step for them to create similar opportunities for collaboration within the schools where they begin to teach. Thus it is important for us to develop rationales for collaboration among learners and to highlight the importance of listening.

- We try to use the broader themes of coherence, collaboration, and minimizing dissonance to foster broad programme goals within our own courses. We find ourselves wondering, at times, if we as teacher educators, like our teacher colleagues in schools, can be so busy cramming in as much content as possible that we lose sight of more fundamental issues of teaching and learning, ones that are explicit in Sarason's (1996, 1998, 2002) concern about creating contexts for productive learning.

Listening to those we teach and to those who complete the programme in which we teach has been our most valuable source of inspiration as we work to reshape our own pre-service classrooms into contexts for more productive learning about how to teach. Making visible the features of schooling that we tend to take for granted, but must become aware of if we wish to improve, is a slow and complex process that is both inspired and supported by actively listening to those we teach. Our partnership began almost accidentally in 1998 when we worked together to interview programme graduates in a focus-group setting. The experience of (quite deliberately) listening to their responses and discussion of each other's responses to broad questions about their professional learning was so powerful that the focus groups are now an annual event. Critical analysis of transcripts from several years of focus groups inspired us to extend what we were hearing to the analysis and improvement of our own teaching in teacher education classrooms.

ARE PARTNERSHIPS AND SHARED JOURNEYS ESSENTIAL TO EDUCATIONAL IMPROVEMENT?

Sarason (1996) argues persuasively that conditions for student learning can only change when conditions for teacher learning change simultaneously and in comparable ways. A message of the preceding four chapters is that the traditional teacher – student, practitioner – researcher, university academic – schoolteacher dichotomies can be recast such that the borders are blurred. Traditionally, such relationships can often feel like something being done to someone by someone else. In these chapters, to varying degrees and with varying success, the shared journeys led to partnerships in learning.

In contrast, the problem of non-partnership appears to be a significant element in the lack of interest and motivation that teachers so often report observing in their students. The Project for Enhancing Effective Learning (PEEL, http://peelweb.org), now more than 20 years beyond its inception in Melbourne, Australia, in 1985, is a unique project in which teachers have shared journeys within and between schools to help each other find ways to

involve students more in their own learning. This involvement has the potential to create new conditions of learning for teachers and students alike and to thereby make schooling more of a partnership or shared journey. Quite possibly, the broad cause of educational reform could be advanced significantly if we were to work towards images of shared journey and partnership. Experiences such as this drive my efforts in this chapter to link partnerships and shared journeys with the much broader goal of educational reform. Partnerships and shared journeys are not ends in, and of, themselves. Their larger goal is improving the quality of learning, whether for individuals (as in the chapters by Seaton and Schuck and by Pressick-Kilborn, Griffin, and Weiss), for groups of students (Brady), or for teacher candidates and teacher educators (Brady and Trumbull). In this sense, it may be not only valuable but also essential to frame educational partnerships from the outset in terms of creating contexts of productive learning for all members of the partnership or for all who share a common educational journey.

There is a single central point that I hope readers will take away from this chapter and the four that precede it: *Is there any reason to think that the educational improvement we all wish to see can occur without significant partnerships and sharing of our educational journeys?* I see none. For reasons that become apparent in historical and sociological analyses, education in the English-speaking world developed through the 20th century as an enterprise in which individual teachers at all levels work quite independently of other teachers. The increasingly ambitious goals that politicians set for learners are pursued under the direction of a single teacher, however trained. Sarason has had the courage to name a fundamental aspect of the problem: We have no shared understandings of what a context of productive learning might be. Without significant new perspectives and practices, there is little reason to expect the 21st century to be profoundly different from the 20th. Formal and informal partnerships (between teachers, between teacher and students sharing a classroom, and between different educational institutions) and other ways of sharing our realities, challenges, and aspirations may well carry us forward.

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Part II

Dilemmas and Challenges: Finding a Way Through

Chapter 6

**Columbus and Crew: Making Analogical
Reflection Public**

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INTRODUCTION

We think about what we do when we teach. As teacher educators we some-
times share this professional thinking with students in the hope that, by priv-
ileging them with access to our reflection, we and they might learn. This is
achieved in two ways: first, by providing role-modelling of reflective prac-
tice; and second, by revealing our ideas about practices so that they might be
scrutinized and adapted. The privilege is also extended to us, as exposing our
thinking to ourselves makes it known and more accessible to us. It can
become subject to our own scrutiny and, thereby, we learn. This chapter dis-
cusses my attempt to reveal my thinking about my teaching to my students
using analogies. The experience and analysis of data raises questions about
the use of analogy and the role of public reflection including: How does the
use of metaphor in reflection influence teacher educator and student profes-
sional learning? What reflection should be made public? Why should this be
made public? How does making reflection public influence the reflection
and teacher educator thinking? The chapter addresses these questions in two
parts. In the first, the use of analogy for reflection, its influence on student
teacher interaction, and implications for professional learning are discussed
(this part of the chapter is based on a conference paper by Aubusson, 2004).
The second part discusses the implications of making reflection public. It
addresses questions raised by teacher educator colleagues, but left unan-
swered, during and after the presentation of the Aubusson (2004) paper.

CONTEXT

The study took place over a semester while I was teaching my science meth-
ods class in a secondary teacher education programme. I was trialling a

project-based model that involved students choosing a teaching approach (cooperative learning, problem solving, investigating, etc.), using the approach with their classes during practice teaching, and working closely with other students and me to develop ideas for teaching during practice teaching. This resulted in responses by students similar to those of problem-based learning (Woods, 1994) including: resistance ("I'm not going to play this dumb game"); surrender and acceptance ("OK I'll give it a shot"); and confidence ("I may be able to pull this off"). Having used problem-based learning before, I had anticipated these reactions. What I had not anticipated was that I, the teacher, might suffer a similar crisis of confidence. The crisis of confidence was consistent with the tensions in the work of teacher educators identified by Berry (2004). Berry identified six tensions: between "telling and growth"; "confidence and uncertainty"; "action and intent"; "safety and challenge"; "acknowledging and building on experience"; and "planning and being responsive". Each of these was evident in my analogical reflections when using the project-based teaching approach. However, the most compelling, and hence the focus of this chapter, was the tension between confidence and uncertainty, i.e.,

- between making explicit the complexities and messiness of teaching and helping student teachers to feel confident to proceed; and
- between exposing vulnerability as a teacher educator and maintaining student teachers' confidence in the teacher educator as leader.

PART 1: A REFLECTIVE JOURNEY THROUGH METAPHOR

Since Shön's (1983) *The reflective practitioner*, the case for reflection in teaching and teacher education has been soundly argued (e.g., Brookfield, 1995; Calderhead & Gates, 1993; Loughran, 2002; Valli, 1992). It has also been argued that making professional reflection public provides a service, as it outlines the decision-making that underpins contextualized practices (Boody et al., 1998). Indeed, making our individual practices and the theoretical bases for these practices public is central to self-study (Bullough & Pinnegar, 2001). In this study, making reflection public is not contentious. What makes it unusual is that the reflection was analogical, regularly recorded online over a semester, and made public to students being taught at the time. The reasons for emphasizing metaphor and analogy in the reflection will now be explained. First, the usage of the terms metaphor and analogy will be distinguished and then the emphasis on metaphor and analogy in this case will be justified.

The usage of the terms metaphor and analogy varies in education literature. The distinction suggested in Aubusson et al. (2006) has been adopted

in this chapter. That is, metaphor refers to any comparison in which a similarity between two things is made. "You are a rat" implies a similarity between you and a rat. Analogy refers to a metaphor that is extended. In the extension, similarities and/or differences between the two things that are compared may be detailed. Hence, all analogies are metaphors but all metaphors are not analogies. For example, through Isabella in *Measure for Measure*, Shakespeare uses metaphor and analogy to expose the excesses of petty people with a little authority:

<blockquote>
Could great men thunder
As Jove himself does, Jove would ne'er be quite,
For every pelting petty officer
Would use his heaven for thunder; nothing but thunder.
Merciful heaven!
Thou rather with thy sharp and sulphurous bolt
Split'st the unwedgeable and gnarled oak
Than the soft myrtle; but man proud man,
Drest in a little brief authority,
Most ignorant of what he's most assur'd,
His glassy essence, like an angry ape,
Plays such fantastic tricks before high heaven
As make the angels weep.
(Quoted in Clark & Wright, 1928, p. 79)
</blockquote>

Here, there are analogies and metaphors. Using metaphor, man is likened to an ape and his/her victim to soft myrtle – without elaboration. By contrast, the metaphor of man as God is extended to illustrate the many similarities and differences; e.g., both are capable of thunder and lightening but God directs "sulphurous bolts" appropriately, more temperately, and so on. The extension of metaphors into analogies does not always reveal both similarities and differences, as Shakespeare does, but it has been argued that identifying the matches and mismatches between things being compared is productive in analogical reasoning (Gentner, 1983). In my public reflection, I used both metaphor and analogy presenting similarities and differences. The aim was to use (extended metaphors) analogies to explore and explicate my professional thinking *for my students*.

Analogy is used for thinking and to communicate (Dunbar, 1997; Holyoak & Thagard, 1995). Metaphor is so intrinsic to humans that it has been long considered a critical attribute of thought and talk (Black, 1962; Lakoff & Johnson, 1980). It is a "strong" mode of thinking because it allows knowledge to be built on ideas that are well established (Kurtz et al., 1999). At the same time, it encourages us to see things differently – from an alternative

perspective. Analogy has been used to investigate and promote teacher development (Ritchie, 1994), to understand the ways in which teachers teach, how teachers change, and why teaching is resistant to change (Aubusson & Webb, 1992). Analogies have been used as analytical tools in researching teaching, teacher beliefs about teaching, and by practitioners as reflective tools (Tobin, 1990). This study reports my experience as a teacher educator using analogy as a thinking devise to explore my teaching role and as a communication devise to share my reflection with prospective teachers.

Metaphor and analogy were introduced to my class as a tool to assist them to think about what it is to be a teacher. To illustrate the ways in which metaphor and its analysis might lead to insights into their teaching role, I presented a variety of metaphors including: teacher as police officer, potter, and gardener. Each was displayed to the students as a picture and attributes of the metaphors consistent with teaching were identified, discussed, and extended – becoming analogies. To illustrate the way in which metaphors might inform personal analysis of ideas about teaching, I outlined a few metaphors that revealed aspects of how I viewed myself as teacher. These included teacher as sheepdog and teacher as travel agent. For example, the sheepdog metaphor (see Figure 6.1) was used to show how, as a beginning teacher, I knew where students had to go (what they had to learn), and I would drive them, as a dog herds sheep, towards the corral (required learning). Chasing any that wandered off, yapping at their heels, I would push them to my predetermined destination (learning).
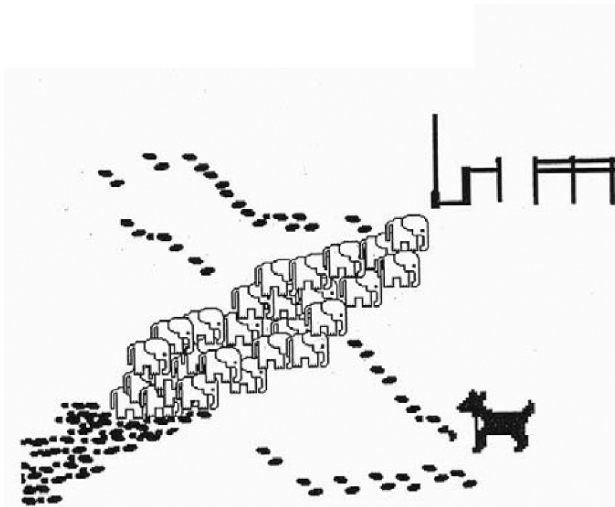
Figure 6.1. Copy of sheepdog metaphor on overhead transparency (OHT) (Elephants were used instead of sheep as part of a running gag with the class)

The students were invited to construct their metaphors and to list relevant attributes of them. Their metaphors included teacher as zookeeper, painter, and ship's captain. However, they appeared to be unsure how to use their metaphors for ongoing reflection. I therefore offered to engage in a public reflection by posting my reflections about how I saw myself as a teacher, using metaphor, on an online discussion board.

As the students could and did respond to my reflections I did not model the "isolated" self-reflection that I had envisaged. What began as a demonstration quickly developed into a public, online study of, and conversation about, myself, my students, and our roles in teacher education. The online entries were analysed and are the main source of data reported here.

Independent Traveller becomes Columbian Hostage

In my first online reflection I extended the metaphor: teacher as travel agent. For example, I reflected on how students, as travellers, travel in different ways to different destinations to become different, good teachers, and how I could advise on where to go and how to prepare, but I would not always be present on parts of the journey, such as practice teaching, with them. I elaborated that there would be a "local guide" (the cooperating schoolteacher), who knew the "local customs". These served as a starting point to consider my view of my role as their teacher. Joe, a student, responded by asking to be treated like a sheep and explained how he found being a student teacher-traveller difficult because, for a novice, travel was dangerous:

> I seriously doubt that the sheepdog metaphor applies to your teaching any more. In some ways I wish it did apply, because many of us . . . come straight from undergraduate degrees where almost all learning is teacher-centred/receptive learning or textbook-centred . . . and therefore are not in the practice of serious independent thinking and are . . . in need of . . . some serious receptive learning lessons.

> The travel agent is more suited to your style now, but I doubt I would take any vacations because I would probably end up as a hostage in Colombia. The fact that most of us were totally lost and inexperienced in all aspects of education would make us the most . . . stupid travellers. It seems that as the journey progressed the tour guide became a little overconfident in our abilities to navigate the world alone, and now some have become a little lost and confused. Maybe this is for the best since we will have to become self-sufficient next year but . . .

This response brought into the open concerns that some students had and caused me to think about the students' journeys as they learn to teach. I reconsidered the support the students as travellers received and the roles that I and others should, but may not, be playing. I began to reconsider the balance in my teaching between providing guidance and the extent to which

I was expecting students to work through problems and issues in groups, albeit with my support. Analogically I began to suspect that I was catering for independent travellers when some wanted the support of dependent travellers but, at the time, my response both online and in my teaching did not adequately address the problem. My next reflection included:

> Perhaps the travel agent and learning to teach as travelling on a journey . . . is good because the experience of travel, if it is a good one, should change the traveller. The experience should make you a better person as you interact with other people and places. On the other hand, if travelling is viewed as purely mechanistic, a process of being in the right place at the right time to catch planes etc. and ensuring bags are packed and hotels are booked into, then it is a poor way to view teaching and learning to teach as I see it.

> As a travel agent I don't have the right to tell you how or where to travel. I advise and talk about alternatives, suggesting places you might visit and ways you might get there. Do I have a right to tell you how to teach? Should I presume to know how you should teach?

> Perhaps I have not got(ten) the balance right between providing the travel experience and ensuring that you have the mechanics of travelling – how to catch planes, read timetables, pack warm clothing, etc.

> Do you really want a sheepdog? Perhaps I could drive you somewhere but where, and should you all be in the same corral? Could it be done and would you thank me for it?

Although I did not realize it at the time, my reflection showed, in the rhetorical questions, the first hints that I was unsure about my teaching. I knew that there were difficulties but I was blaming this on the fact that students were often unable to obtain the information from their practicum school that was needed to make progress on their projects. After a frustrating session, where about half the class could not work productively, I thought about what to do and inadvertently cast myself in the role of teacher as manager and babysitter rather than teacher as travel agent:

> I had a very bad feeling as I was preparing . . . classes. I found myself thinking like a manager rather than a teacher helping you to learn, more like a babysitter than a colleague leading a team. . . . I dread to admit it but I heard my mind saying, "What will I do with them on Tuesday". I was horrified when I recognized the thought . . .(I) recoiled. No! . . . what do I want them to learn and how will I help them to learn it.

> I think the travel agent metaphor is breaking down. The travel agent doesn't care whether the traveller learns, only whether the traveller pays on time, probably whether he/she has a good time and will come back. . . . I need a metaphor that places more emphasis on learning than the experience . . .

I had recognized that I was beginning to think inappropriately about upcoming classes but I thought I had recognized my error and avoided taking an inappropriate role. Yet, I began to question more deeply my teacher–travel

agent metaphor by identifying inappropriate attributes of the relationship between teacher and travel agent analogues. At the time of the reflection I had not realized that I had become unsure about how to proceed with the class and remained confident.

Enter Columbus

My confidence was shattered suddenly when Linda introduced her Columbus metaphor:

> Being a teacher is like being Christopher Columbus. We are heading out into the great unknown (where most people think we will die!) and what's worse is that we are responsible for our crew's (students') lives. We believe it will be a great adventure, but we are not really sure what we will find on the voyage and if we will live through it. Right now, I feel like Chris would have felt when he first documented that true north and magnetic north were not the same – worried about where I really am! As a matter of interest, he chose not to tell the crew of this (scary) finding for fear of what their reaction would be.

> As to whether you are Christopher Columbus in your teaching of our class, I do see you as leading us on an adventure – but I am not sure if you are withholding vital information or not?

This metaphor surprised me in its impact. I responded:

> I am Christopher Columbus.

> I wrote this five minutes ago and I can take the idea no further without saying I don't know what to teach.

> I am worried by Joe's view about what he wants, as it is what I thought I wanted to provide. Clearly it is not being provided . . .

> Back to the Columbus analogy – I am no longer sure that I know how to get us all to where we are going – partly because I am not sure we should or could all be in the same place and be happy there. I wish I had the certainty of my past ignorance, uncluttered by research and study. My reflection and your responses have shaken my thinking. I suspect I don't know how to teach my students how to teach . . .

> Am I Christopher Columbus? I think I know how to teach science well. I have taught science well. I think about how I learnt to teach science well and I realize it took me years. I have walked a path and can see my path but I'm not sure I can lead others by the same path. I worry that I have become a guide who knows how to climb out of a ravine and feel the sun on my back but doubt that I can guide others along the path. Or do I think that there are many paths, many journeys we each must take. The literature tells me that there are three levels of "relationship" between mentor and beginning teacher: apprenticeship, competence, reflective. I had thought of them as a hierarchy but perhaps they need to be viewed as . . . a sequence through which we all pass. I am aiming for the "top" and my students are telling me they want the bottom.

> I want you to have your own journey as I did but perhaps that is too hard or not what you want. I am trying to smooth the way, put in signposts and share experiences

> of success and failure to guide you but I feel that you think it is not working. On the other hand, I know from reports that many people think my students are teaching well. . . . It used to be easy. I would just model good science teaching and my students and I could then analyse it. Science teaching according to Aubusson – this is how it's done, copy me, mind your step, and try not to trip over the furniture. . . . Do my students want simple solutions to complex problems? Might they work? If this then that . . .

Christopher Columbus, yes both for good and ill. I know research says that teacher education in its current forms is not working and I am trying to find better ways to do it. I am exploring because there is no other way to move forward.

Linda wrote of Columbus describing how he was lost but revealed none of his doubts to his crew. My students were surprised when I applied the unsure, lost, and worried attributes of Columbus to myself. I had asked myself whether I knew what I was doing – I did not like my answer. I reflected on the way I sometimes felt lost in my teaching and had never revealed this. I analysed myself as explorer trying to find ways to teach better. I discussed how I had learnt to teach through a journey of exploration, sharing key aspects of this journey with them. When I read Linda's Columbus metaphor, I realized I was Christopher Columbus, but not in terms of the attribute Linda identified (intentionally keeping them in the dark). Linda had only intended to suggest this one attribute of the Columbus analogy. However, analogy works best when it reveals something unanticipated – not already known. This occurred here and the revelation to myself made it possible to share my doubts with others.

It seemed, from later discussions, the idea that teaching was fundamentally problematic for an experienced, arguably capable teacher (myself) was surprising to students. Yet the notion of me wanting them to learn as a journey seemed acceptable, as was the suggestion that they had only begun an exploratory journey. The reflection using metaphor had demonstrated its value in allowing me and my students to explore our experiences, our roles, and ourselves as teacher and student teachers. I suspect that it had allowed us to share ideas that may have been difficult to express directly. It became apparent that revealing my own doubts first to myself and then to my students had helped them to feel more comfortable about their misgivings. It helped them to be more accepting that they were trying a new approach to teacher education with me rather than having me try out the approach on them. It opened up a dialogue informing me and my students about how we could work together. The metaphorical reflection prompted me to think about, and to discuss, important ideas related to my teaching and teaching in general including: that teaching is problematic, to be learnt in the act rather than in advance then applied, and that I saw them (and myself) as explorers who experience adventures, ups, downs, and moments of discovery.

The metaphorical reflection and discourse served a purpose I had not intended. It had begun as an attempt to model the use of metaphor in teacher reflection. I had entered into the task lightly; being familiar with metaphor use, the modelling did not seem threatening. Strangely, as researcher I was aware that metaphorical analysis serves to reveal the unknown but as teacher I had not anticipated that it might reveal things that I did not already realize.

Assertion 1: Analogical Reflection is Useful to Teacher Educators and their Students

The use of analogy in reflection can be productive in providing and sharing insights into teacher thinking:

- being iterative, it exposes thinking that is not known in advance;
- drawing on models and ideas (in metaphors) removed from education, it generates new thoughts and different conversations about teacher education.

In this case, the capacity of students to respond to the reflections influenced the reflection and professional learning that occurred. The implications of the reflection being public and allowing conversation about the reflections are discussed below.

PART 2: PUBLIC REFLECTION. PUBLIC GOOD?

Do our Students Need to Know What We Had for Breakfast?

The online reflection began as an attempt to allow students to view my reflections during the semester between teaching classes so that they might learn from the examples about how they might engage in productive reflection themselves. Key outcomes of this relate to the interaction that arose using metaphor for reflection, and these have been discussed above. However, a second unanticipated question raised in this study is: what reflection should be made public and, by implication, why should it be made public?

The reflection made public in this case was limited in that it was primarily metaphorical thinking. I decided from the second online reflection that I would not edit the written reflections so that the students could view the "raw thinking" manifested in the online discussion board. Unfortunately, this results in information being presented for students to view that is probably of little interest and use to many of them. The thinking I did that drew on past experiences of teaching students, to guide what I would do next with

them, was useful to me because it raised my level of confidence when I had doubts and suggested ways to proceed. By contrast, it may not only have been perceived as useless by students but may have also been of so little interest that some students were "turned off" by it. Jo made this clear in a response to one of my long reflective reports where I had been thinking about how to help my students to learn how to teach. This reflection was significant for me because it reminded me how difficult it is to learn how to teach and of what I might reasonably expect of students as they begin teaching. It helped me to feel better about continuing with the project-based approach, with which I was experiencing some difficulties, because I was convinced that a return to previous modes of delivery would be even less satisfactory. I wrote:

> My teaching consisted of two things: doing practicals and teaching by telling. I was doing my bit – so if they were not learning there was something wrong with them. They must be lazy and/or stupid. It didn't take long for me to realize how wrong I was. So I began looking for better ways to do things. I like to pretend I was like a member of a Formula One racing team fine-tuning a racing machine (me the teacher) but I was not. I was a battered Holden in need of a major overhaul. I looked for new resources and tried lots and lots of different approaches. I tried independent groups . . . shifted from teaching by telling to assisting groups as they moved through activities at their own pace and could track through alternative pathways. In another class I tried setting up the lab with many stations of tasks with clear instructions for each and again moved about providing advice and keeping students on task. I discarded the textbooks! I tried problem solving and gave it away because it didn't work. I was impatient and any approach only got one go. . . . I hadn't realized each different approach required me to also learn how to do it well. For me if I couldn't ride the bike at first I threw away the bike. I am wondering now whether the bike I am riding with you, the reflective, analytical approach I have adopted where I am trying to allow you to choose and purposefully try a range of ways of teaching is the wrong bike or whether I am just not riding it well enough yet. I certainly have not managed to get the exchange of ideas among you that is essential to make it work.

What is critical in understanding the significance of this is that this reflection represented a turning point for me as I had been considering "pulling the plug" on the problem-based trial because of the difficulties students were reporting. At the time I wrote it, I was perhaps trying to convince myself that it was worthwhile persevering with the approach. The reflection recalling past struggles with changes in my teaching, something I had not had to struggle with for some years as change had tended to come easily, reminded me that change had been difficult and that things can get worse before they get better. Its significance to me, my professional self, and my teaching was consequential. The entry, of which the above is only an extract, reflects my thinking that helped to convince me to continue with

project-based approach. However, its significance for some students was trivial and, worse, considered the meanderings of a senile old man. Jo responded to the very-important-to-me reflection as follows:

> The biggest problem I have is the "Grandpa Simpson" syndrome. . . . One of them is to tell them stories that don't go anywhere. Like the time I caught the ferry to Shelbyville. I needed a new heel for my shoe. So I decided to go to Morganville . . . which is what we called Shelbyville in those days. So I tied an onion to my belt . . . which was the style of the times. Now . . . to take the ferry cost a nickel. And in those days, nickels had pictures of bumblebees on them. "Gimme five bees for a quarter," you'd say. Now where were we? Oh yeah. The important thing is that I had an onion tied to my belt. Which was the style of the times. They didn't have white onions because of the war. All you could get was those big yellow ones . . . .

The opinions and personal experiences of our lecturers can be interesting and valuable in moderation but: In a conversation, soon after posting his comments, Jo explained that he did not "just mean you [me]" but was referring to all lecturers "some of the time". Nevertheless, the response was to my reflection and, despite the sometimes negative feedback, this was probably the only time I had felt a little bruised by the students' online comments. At the time, I felt defensive telling myself that I had to write what I was thinking. Now, I recall a scene in Neil Simon's play *Butterflies Are Free*. "The son" criticizes his mother for having little regard for a play featuring drug addition, violence, and prostitution saying, they are "part of life". The mother responded: "So is diarrhoea but I don't classify it as entertainment."

The discussion with Jo reminded me that I was not (supposed to be) writing the reflection to help me to critically analyse my teaching. Rather I was only (supposed to be) doing this as a demonstration for my students to allow them to see "how it could be done using analogies". These two purposes were in conflict. If I reported "all" my analogical thinking to students online, as I attempted to do in this case, then at least some of it was boring, irrelevant, and incomprehensible to my student audience. While a part of my professional life, some of it was not classified as engaging.

Throughout the public reflection I learnt (slowly), with help from student feedback, about what to put online, what might be helpful to my students, and what might be harmful. I recognized that in every choice I made about what to write, which metaphor to use, and which aspects of my reflection to write about I was editing my thinking, and that merely writing freely without editing the written word could never provide more than a glimpse of my raw thinking. I still had thoughts and reflected on matters that I did not report to students. These were useful to me but, I judged, were of dubious benefit to my students.

*Assertion 2: Our Students Do Not Need to Know What We
Had for Breakfast*

Public reflection should be relevant, and of interest, to its audience. Hence, a public reflection should be edited to allow its audience to connect with the ideas. A complete, even if honest, reflection may result in disengagement not despite but because of endeavours to make it authentic. Everything we teacher educators think is simply not interesting to others. (Shocking news, I know.) Rather it would be advantageous to be selective and to make public those examples of reflection likely to engage and promote critical analysis.

FIG LEAVES AND LOINCLOTHS

A question that I asked in the analysis of my reflection was: Is it honest? By that I mean would I have written the same analogical reflections if there had been no audience? In this analysis it is important to report that, at the time of writing, I endeavoured to do so and took steps such as not editing my work, other than for typographical, grammatical, and spelling errors. Yet, I recall writing that I often had my audience in mind when I wrote and this influenced my writing. At the time I considered this influence small, even to the point where I wrote of matters of little import to them. However, reading and analysing the reflections after 3–6 months brings into question the authenticity and integrity of the reflections. There is evidence in the language that my audience was influencing the way in which I was writing, what I was writing, and my reflective thinking. For example, I often used the term you, referring to students, as if I were talking/writing to them. Students wrote to me about themselves in response to my reflections and, not surprisingly, I responded by writing to them.

> I am very interested in your perception of yourself as a naive tourist. It seems you might venture where a "wiser" tourist might not dare to travel – dark alley at night where dangerous thugs might pounce. You might also dare to go off the beaten track and find a beautiful waterfall rarely seen by others and be enriched by the experience. It seems there has been much of the former and little of the latter. It is almost as if you see schools like a jungle fraught with danger but you have boldly entered without adequate equipment or the back-up team you need.

> The notion of a tour guide is compelling because in some senses the cooperating teacher fulfils this role. Someone with the local knowledge to advise you where to go, where not to go, and how to deal with and experience the local customs (sic). Perhaps the problem is that the travel agent (me), the tour guide (cooperating teacher), and the traveller (you) are tending to work independently each not

> knowing what the other is doing so that while the support is well intended, it is fragmented and perhaps not timely and sometimes the advice to the traveller might be conflicting. The travel agent suggests train travel but the tour guide recommends a taxi – indeed the destination recommended by the travel agent may be very different from the destination for the traveller and your students. As travel agent I stress and concentrate on the journey, confident that you will determine your own destination. Perhaps the tour guides operate very differently.

The above shows that I was attempting to do many things. Although I was conscious that I was trying to model reflection on action, the extract above shows that at times I was writing to my student audience rather than to myself and sharing it with students; that the unintended conversation between me and students influenced my reflection; and that the metaphorical reflection was providing insight into my views of teacher education particularly by clarifying for me the roles I, my students, and their cooperating teachers played in the project-based teaching approach. The conversation caused me to think about what I was doing in different ways because I was forced to consider not just my own views and perceptions but also those of my students. While this was good for me, as it provided another window through which to see the experiences of students and another mirror in which to see myself, it raises some key questions about the trustworthiness of this work. Specifically, whether my online reflection was authentic and honest? And, if it was not, does it matter? Initially, I considered that if it was not authentic it could not be honest.

UNIQUE, PREGNANT, HONEST, AND AUTHENTIC

In considering the authenticity and honesty of my reflection, I am reminded of my mother's views of the words unique and pregnant. She always told me that something is unique or not unique, never "quite unique" or "very unique". The term is absolute. Similarly, someone could not be "slightly pregnant" – you either are or you are not. I suspect she would feel the same way about being honest or authentic.

I found it difficult to make my reflection public. At times, I felt I was "flashing" my teacher thinking; laying bare some of my professional self to a critical audience. I worried that in revealing doubts and uncertainty, my students might judge me to be incompetent. Conversely, I also found that my reflection in talking to myself reaffirmed my approach to teaching. However, in the final analysis (literally) I am concerned that the "arguments" that I metaphorically presented may have been written as much to try to convince my students as myself that an open-ended teaching approach is productive. In many ways, the online reflection was not authentic in the sense that it would not have been the same if there had been no audience. To extend the analogy

of laying myself bare in my reflection, I was unwilling or unable to do so. Just as I would not walk naked into class because it would be a shocking and traumatic experience for my class and me, so too I could not expose some of my professional thinking. For example, I never revealed any of the frustrations I had in working with other staff, or my thinking that if I had been willing to dedicate more time to my teaching and preparation, they might experience less difficulty. This was mainly because neither of these matters loomed large in my thinking about what I was doing with the class. On the other hand, I thought a great deal about whether I should "pull the plug" on the project-based approach, but never mentioned this to the students. Why? To some extent I was unwilling to tell them that I may have made a mistake that had already committed them to a great deal of work and considerable aggravation. I also thought it might jeopardize my ability to proceed with the project if, as happened, I decided to continue. I concealed part of the important thinking I was doing because I thought its revelation might do more harm than good. It seems I retained a well-placed fig leaf or loincloth.

It is perhaps better for others to judge, but I remain convinced that the reflection had integrity. That is, my online metaphorical reflection revealed my thinking about my teaching and the approach I had adopted. It simply did not reveal some things that I chose to withhold. I do not think I can write a public reflection that is not influenced by it being public, particularly to a responsive audience. Towards the end of semester I shared some thought on the authenticity of the reflection with students:

> I said that I would make my reflection public to use metaphor to indicate how it can be used as a thinking device. In my reflection I have tried to reveal some of my thinking at the time about what is happening. I now realize that by making it public it affects others and also tends to be operating as a communication device – which was not my original intention. Even as I read the reflection it is a mix of language talking to myself and to others. Perhaps it makes it a bit corrupted but that is OK.

The interaction with students did not make analogical reflection less authentic; it simply made it different from both private reflection and public reflection that does not permit feedback. My online reflection, however, did lack authenticity, not because I left some things out but because I left out selected, important things, albeit justifiably.

Assertion 3: Public Reflection Is Not Merely Private Reflection Made Public, but Corrupted Reflections May Do Good

Public reflection may be corrupted and lack authenticity because it is changed by being public but it remains useful by providing an extended

example of the process of reflection and insights into teacher decision-making. Public reflection may invite a response and lead to conversation that changes the nature of the reflection. Feedback from others brings a range of perspectives to teacher thinking, making it richer for the teacher educator and audience alike. While the conversation between me and my students influenced the reflection, this influence enhanced my professional learning experience and provided opportunity to tune my reflection to issues and ideas of consequence to my students. The audience also influenced my motivation to reflect and record my reflections. Having committed to public reflection, I recorded lengthy reflections online at least once a week throughout the semester. Knowing that over 60% of students accessed each reflection prompted me to think more deeply, write more, and express my ideas with more clarity than I might have had there been no audience.

IMPLICATIONS

There are many competing and conflicting needs, purposes, and interests when reflection is made public. The reflection using metaphor, for this teacher educator, could not model private reflection. Making the reflection public changed the reflection despite initial attempts to avoid this. Nevertheless, it provided a way to model reflection that students found useful and, unlooked for, a means of communication between teacher educator and students that allowed us to discuss ideas that would have otherwise been difficult to broach. It was arguably "good" that the reflection lacked authenticity, as knowing that the reflection had an audience resulted in the reflection, to some extent, being written to influence and engage this audience. However, a weakness of the reflection was that there were occasions when the introspection was of interest to me, the teacher educator who was doing the reflection, but of limited interest to students. Hence, the editing of public reflection so that the needs of the students are paramount seems wise. In attempts to engage students we select which thoughts to reveal. Herein lies a danger.

Producers and reporters of current affair programmes bury revelations about big corporate sponsors, sensationalize stories, ignore the important items if there are no pictures, and harm people because the public has the "right to know". Similarly, public reflection is open to corruption in the pursuit of student engagement (that too readily could be seen as an educational equivalent of television ratings) or because we may hide things that we are unwilling to expose. A delicate balance is required. Reflection should reveal the thinking that influences our professional learning and the decisions we make about teaching but it does not need to disclose some of

the thinking that influences us because much of it may be of little relevance to our students, merely titillate without contributing to learning, or could cause harm.

CONCLUSION

The tensions for teacher educators identified by Berry (see above) were evident in this self-study, but an overarching tension was apparent in this work, a tension that it had seemed to me should not exist but did: a tension between teacher-educator-as-teacher and teacher-educator-as-learner. There was an implicit assumption that a reflective analysis of my teacher thinking would enable not just my learning but also that of my students. This assumption was not false but it proved less true than I had hoped.

   This research had begun with a desire to take Polonius's advice:

> This above all: to thine own self be true,
> And it must follow, as the night the day,
> Thou canst not then be false to any man.
>   (*Hamlet*, quoted in Clark & Wright, 1928, p. 866)

Being "true" proved difficult and was, at the same time, excessive but insufficient. It seems the attempt was valuable to both the teacher and the taught, and therefore a worthy pursuit. However, to make this pursuit even more valuable, I have recommended that careful choices be made in our reflective revelations. More study of the influence of such public reflections is needed to clarify how best to make these choices.

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Chapter 7

Different Traditions and Practices: Preparing Teachers for Inclusive Classrooms

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INTRODUCTION

In writing this chapter I cannot abandon my professional identity as a special educator with a commitment to a scientific approach to education. This has created some dissonance, as I would not regard self-study as a scientific approach to the problems of teacher education. However, the questions that are addressed by a scientific approach must emerge from observations and experience. I have become comfortable with the idea of self-study and other qualitative and descriptive approaches as a source of observation and problems that could be addressed through a more rigorous approach. Certainly, before entering academia, detailed consideration of the impact of my teaching on students with disabilities grounded in the frequent collection of detailed data on student progress towards learning outcomes was an important element of my professional practice. Like many other aspects of special education practice this has elements in common with other approaches to education. I would link self-study to this special education practice, but again I note the difference in the role of hard data. In this chapter I have tried to give an overview of a special educator's approach to teacher education from the perspective of a representative of this professional field as well as from a personal perspective. I think both are important for people coming from other teaching traditions to gain an appreciation of the dilemmas we face as a minority group in education.

Approaches to teaching can be thought of as a continuum between direct instruction approaches with a focus on teacher-directed, explicit, and systematic instruction and child-centred approaches, which acknowledge constructivist and sociocultural theories of learning. There has always been a tension between the pedagogy of special education and the pedagogy of regular education. Special education has traditionally positioned itself at the explicit instruction end of the teaching spectrum. Special educators see themselves as educating those students who have failed in, and been rejected

by, regular classrooms and schools. They pride themselves on the use of teaching strategies drawn from empirical research carried out in the scientific tradition and have at times been hostile to so-called child-centred, discovery approaches, which are seen as emerging from postmodern approaches and some constructivist positions.

There are obvious differences between the poles that need to be acknowledged. Strategies drawn from behaviourist approaches tend to focus on student performance and teacher behaviour, with less focus on implied or deduced internal mental processes. Interaction between teacher and child is likely to be preplanned, structured, and based on a hierarchical analysis of the skills to be learnt. Teaching that draws on constructivist learning theories tends to focus on providing experiences, often employing less formal interaction between students and between students and teachers, that are believed to assist children to work through presumed internal mental processes. Constructivist theories vary as to the weight given to the role of reciprocal interaction with other people in the child's construction of new knowledge, the role of interaction with the environment, and the child's own internal processes. Extreme child-centred approaches may deny the need for explicit teaching of basic skills and focus on the provision of authentic, motivating, and meaningful tasks. The middle ground may be exemplified by, for example, explicit instruction in cognitive strategies (such as reading comprehension strategies) that aim to make overt (through teacher or peer modelling and coaching of internal talk and through dialogue) these internal processes for students who have not learnt them "automatically". Thus, some contemporary behaviourist approaches are compatible with some constructivist approaches, and integrated approaches, although not always recognized or acknowledged, do exist.

If teachers are to meet the needs of all students included in modern classrooms, they must have access to a range of teaching strategies and be able to make reasoned decisions about appropriate use. They need to know how to design meaningful activities and how to embed explicit instruction in relevant contexts for those students who require explicit, and sometimes isolated, teaching. They need to know when it is appropriate to seek further support for themselves and their students from a specialist. Teacher education courses need to move away from polarized views of regular students and students with disabilities or special education needs and present a more coherent view of pedagogies that emphasizes the continuities of a spectrum of approaches rather than the differences between the ends of the spectrum. Student teachers need to see that individualized instruction has a place, as does whole-class and smaller group instruction. They need to appreciate that one measure (the only measure) of the success of their teaching is the achievement of learning outcomes by students.

CONTEXT OF PREPARING TEACHERS FOR
INCLUSIVE CLASSROOMS

An increasing awareness of, and commitment to, the education of students with disabilities and learning difficulties, and the movement to inclusive education, both here in Australia and overseas, has meant that teachers are now expected to deal with a greater range of student diversity in their classes than ever before. Inclusive educational settings cater for all students, and the implication is that all students will belong to a regular class and that the school can provide appropriate resources, curriculum, and pedagogy to meet the needs of all students.

The move to inclusion has meant that students with more severe, low-frequency disabilities (such as severe sensory impairment and severe intellectual disability) are being educated in regular classrooms, but of more significance is the expectation that students with high-frequency disabilities such as mild intellectual disability and learning difficulties will have their educational needs met within regular classes. There is also the related expectation that the special education needs of students without identified disabilities who may struggle in literacy and/or numeracy will also be met within regular classrooms. A recent survey (McKinnon & Gordon, 1999) found that a group of teachers from 44 schools in New South Wales (NSW), Australia, identified up to 30% of students as having a special need. This figure includes students for whom English is a second language and students without an identified disability who were believed to need extra support.

Although the ideal is that a teacher in a regular classroom that includes students with disabilities and/or significant difficulties with literacy or numeracy would be supported by a qualified special educator in designing and implementing appropriate programmes and supports, this support is often not available in practice. Recently, Vinson (2002), after an enquiry into public education in NSW, called for more support for regular classroom teachers from specialized staff (special educators) to educate students with recognized disabilities and for increased numbers of qualified special educators to support teachers working with students with difficulties in literacy and numeracy. At present, it cannot be assumed that regular educators will receive appropriate professional support, and this has implications for how regular educators should be prepared.

The expectation that regular classroom teachers will be at least in part responsible for the education of students with difficulties in literacy and numeracy, in social behaviour, and in communication has meant that many teaching authorities require pre-service teachers to complete a course component on teaching students with special education needs as an element of

their education degree. This is the case in NSW, Australia, where universities are required by the NSW Department of Education and Training, the major employing authority of teachers, to include a one-semester unit on teaching students with special education needs in all pre-service teacher education courses. The single unit in the Bachelor of Education in Primary Education offered by the University of Technology, Sydney, is the focus of my discussion. This one-semester unit includes 30 hours of class contact and a related 11-day field experience in a regular classroom containing students with special education needs. It has been taught in recent years by permanent staff and by casual staff currently working in schools who have particular expertise in literacy or numeracy. I have both coordinated and taught some sessions in the subject. This means all students are taught by three different people, with expertise and experience in different elements of the subject.

A single unit cannot give student teachers the skills acquired by a special educator with a year or more of specialized training. The problem is to determine what can be achieved in a single subject and what the content and focus of such a subject should be.

APPROACHES TO THE SUBJECT

My experience with teaching within the mandatory unit on teaching students with disabilities and special education needs encompasses units at different institutions since the mid-1990s. During this period, there has been a movement from a categorical approach based on medical diagnoses of disability (such as sensory impairment, intellectual disability, and emotional and behavioural disorder) to one with a more generic approach with a focus on support needs and effective pedagogy. My own approach, developed during my experiences of teaching and coordinating this course with other special educators, is to focus on classroom practices, with an emphasis on effective teaching practices for students with lower support needs who will be present in all classrooms.

As a special educator planning this course for general education students I have started from my own field. Special educators have developed a range of practices that are supported by empirical research as effective for learners with special needs. Such practices would include direct, explicit instruction in basic skills (such as phonemic awareness, phonics), explicit instruction in cognitive and meta-cognitive strategies (such as reading comprehension strategies), mnemonic instruction, curriculum-based assessment and measurement, self-monitoring, and approaches drawn from applied behaviour analysis such as functional assessment and related intervention design for students with problem behaviour (Cook & Schirmer, 2003). These are the

practices that we introduce to those student teachers who are preparing to become special educators. However, the aim of the mandatory unit is not to produce special educators but, in an ideal world, general educators who can work intelligently and collaboratively with a special educator. In a less than ideal world, where regular classroom teachers will be solely responsible for teaching students who have difficulty with literacy and numeracy (and other curriculum areas), these teachers need to have some knowledge and understanding of alternative teaching practices that are effective for these learners.

SPECIAL EDUCATION APPROACHES

Special education approaches depend on careful individualization of instruction after detailed assessment of students' strengths and weaknesses in particular curriculum areas. Assessment precedes instruction and regular detailed monitoring feeds back into programme and strategy adjustment to ensure continued student progress towards specific outcomes. Explicit, teacher-directed teaching approaches for basic skills and cognitive strategies are not those widely recommended for use in regular classrooms, yet these strategies have been shown to be effective for many students with special education needs. The focus is on teaching specific skills and content that the individual student has failed to master, rather than the presentation of the curriculum over a particular time span to a whole group of students. The explicit teaching strategies of special education can be caricatured as mechanistic and manipulative, implemented by authoritarian teachers just as child-centred strategies can be caricatured as the immersion of students in "meaningful" activities in a classroom where teaching is regarded as unnecessary, and student enjoyment is the measure of success.

AIMS AND CONTENT OF SUBJECT

One aim of our current subject is to begin to develop in student teachers the belief that their teaching can make a difference to students with special education needs. There is general recognition that quality of teaching has a significant impact on student outcomes (see, e.g., Rowe, 2003). Special educators believe that there are teaching strategies that are likely to be successful for students who have failed to learn from the strategies most commonly used in classrooms and that quality teaching would include the use of such strategies. It is interesting that in a group discussion exercise I often use, where I ask students to identify the reasons why some students fail to learn at school, factors under the control of the teacher are rarely given. Most student teachers come up with reasons related to perceived student and family

deficits, rather than inappropriate curriculum and teaching strategies. The first hurdle (which some students fail to negotiate) is the realization that there are things, under the control of the teacher, that can be done to minimize difficulties with literacy and numeracy.

We then aim to introduce effective practices for students with special needs, and begin with strategies for assessing individual student skills and performance as a way of setting specific learning outcomes, rather than as a method for assessing student learning after teaching. At this stage student teachers need to come to grips with curriculum analysis and the assumptions they make about what students need to be able to do in order to be successful at any given task. We discuss effective teacher-directed strategies of explicit instruction in basic skills and cognitive strategies in some detail. We ask students to plan teaching dialogues to teach specific skills to individuals or small groups. Finally, we look at ways of monitoring progress towards individual student outcomes and evaluating programmes and teaching.

In line with the practice-based focus, the major assessment task is practicum-based and is an attempt to assess student competencies in assessment, educational decision-making, detailed planning of explicit teaching episodes, monitoring of students' learning, and lesson evaluation. This assignment is designed to guide students through the application of the skills we present in class and to provide us with a way to judge whether or not they have attained some level of competency in these skills and are able to integrate them into their existing teaching practices. We judge the success or failure of the course by student performance on this assignment.

ASSESSMENT AND STUDENT RESPONSES

We have agonized over the practicum assignment each year, yet each person new to the course has looked at this assignment and judged it wholly appropriate as a means of assessing the competencies we target. We have shared our extreme disappointment and reaffirmed common assessment criteria when a significant number of student teachers fail to demonstrate minimal competencies. Our approach has been to work with students on an individual basis to complete additional assessment tasks related to their area of difficulty in this task. The student responses range from extreme hostility through to an appreciation of the individual help they receive. This work is labour-intensive and individualized, and is perhaps a model of the strategies we are trying to communicate.

As my experience with this model for the unit has been disappointing in that a significant minority of students do not demonstrate the level of competency we hope for, I have spent a lot of time reflecting on what we do and

how we do it, and we have made changes each year with gradual improvement in student outcomes. The student feedback on the subject mirrors the results. We have a large minority who report considerable dissatisfaction with the subject, and a small number who are very positive about it. As those of us who teach the subject are committed to research-based practice and to assessment based on performance in classrooms, we have to deal with students' failure and dissatisfaction.

IS IT POSSIBLE?

There are, I think, many reasons why students find this subject so difficult, although the fact that each year we have a number of students who do well suggests that it is not completely impossible. As special educators we must be consistent and look at the curriculum, teaching strategies, and mastery of prerequisite skills before we blame deficits in the students. This has led me to reflect and read around the topic of what makes special education different and to try to identify commonalities with regular education so these can be made explicit to student teachers as a means of bridging the gap.

At our most pessimistic, we think that the task of providing student teachers with an alternative approach to teaching that draws on special education practice is doomed to failure. Some writers seem to think the tensions between special and regular education are so great that they cannot be overcome. There are opinions expressed in the literature (e.g., Zigmond, 2003) that strategies drawn from special education practice do not transfer to regular classrooms, particularly where the general educator is unsupported by a special educator through consultation, co-teaching, or otherwise. The research certainly shows that although regular classroom teachers agree that individualized adaptations would be a good thing, they do not often implement them. Indeed "special education's most basic article of faith – that instruction must be individualized to be effective – is rarely contemplated, let alone observed in most general education classrooms" (Fuchs & Fuchs, 1995, pp. 528–529). Regular classroom teachers who agree that individualizing instruction is desirable see dealing with students as individuals as the least reasonable and feasible of strategies, but these teachers are also unlikely to have received training in the skills required to implement adapted instruction with small groups (Scott et al., 1998).

On the other hand, there is evidence that regular class teachers, with appropriate support and making use of curriculum-based measurement, can modify and adapt their classroom practice to provide appropriate support, and that explicit instruction (e.g., in phonics and decoding) can be incorporated into regular classroom instruction (Fuchs & Fuchs, 2001; King-Sears,

1997). I believe, as do others in the field, that regular class teachers, even with support, are unable to meet all the educational needs of some students, and that there are students who will always require individualized instruction planned and delivered by a special educator. However, effective practices for learners with special education needs can be delivered in regular classrooms, both to prevent and to remediate less severe difficulties, and these more explicit and teacher-centred approaches can be integrated with more child-centred approaches.

WHY DO STUDENT TEACHERS FIND IT ALL SO DIFFICULT?

The focus of a special educator is always the individual student and his or her individualized educational programme (IEP), which contains the individual student goals, specific outcomes related to goals, planned teaching strategies and supports, and monitoring procedures. The student teachers in our subject, at the end of their second year of the course with limited field experience, are still focused on the whole class, and have not yet completed the subjects that deal with assessment and programming in general. They have mostly observed and been inducted into whole-class instructional strategies, with assessment as a summative activity at the end of a unit, term, or year. We present a model in which instructional strategies and content are selected for individuals after individual assessments designed to identify specific content and/or skills for instruction. These children have, by definition, failed to learn from the curriculum and teaching approaches most commonly used in their classrooms, even though these strategies may be widely regarded as good practice, and indeed are good practice for the majority of students. Our student teachers are still learning to implement these practices. They are still grappling with mastery of the elements of effective classroom management and the delivery of whole-class instruction that meets the needs of most learners. Even when they plan small group activities, they are often a way of enabling all students to have similar experiences within similar groups. Because at this stage of their development they have not considered individualization in any depth and have been exposed mostly to constructivist, experiential approaches, many students see our approach as one that is in direct opposition to these approaches. Student teachers (not unreasonably, given their level of development) assume that teaching strategies that engage children in interesting activities will automatically result in student learning. This assumption may be underpinned by a simplistic understanding of some constructivist positions that advocate child-directed exploration in a stimulating context. They do not seem to question this belief in the face of evidence that not all students learn from these relatively

unstructured approaches. They do not see, and perhaps their lecturers outside special education do not see, the fundamental urgency that drives the outcomes-focused approach characteristic of special education.

A significant difference emerging from individualization compared to whole-class teaching that presents difficulties to student teachers is the issue of mastery. Typical whole-class teaching and programming assumes that after teachers have spent their time on the planned activities, students have learnt the skills – that presentation (typically time-limited) infers learning. A colleague pointed out to me the urgency in relation to the achievement of individual outcomes that appears characteristic of special education, and indeed Zigmond (1997, p. 385) characterizes special education as "intensive, urgent, relentless and goal directed". The students with special education needs have fallen behind their peers, the need *is* urgent and demands individual treatment and careful monitoring to ensure that at least the student falls no further behind, and at best catches up with peers.

The focus on internal events as the crux of learning according to some constructivist theories means student teachers have difficulty visualizing what they will see the student do in order to demonstrate that they have acquired a particular concept or cognitive strategy. Their presumption is that if children have worked through the activity, they have acquired the knowledge or skill. For many children, the presumption is valid, but teachers cannot afford to presume that learning has occurred; they must monitor outcomes and provide additional teaching and support for those students who have failed to learn. The expectation in our subject that student teachers will write observable and specific outcomes for students with special education needs as part of individualizing learning is one many students struggle to meet.

In individualized instruction as typically used in special education, the outcomes set by teachers for students include a performance standard, based on standards set in curricula or on the performance of a competent peer. The outcome is not achieved until the performance standard is met, and thus the rate of progression through a programme sequence is dictated by the progress the student makes in demonstrating learning, and cannot be time-limited. This approach obviously presents considerable logistical difficulties for classroom teachers who are trying to move students through a prescribed programme in a limited time frame. Decisions about content to be mastered and ways of accommodating students who have not achieved the same outcomes as the majority of the class can be difficult to make, and may easily fall into the "too hard" basket. However, if students fail to master necessary prerequisites, particularly in early literacy and numeracy, they will be left floundering as the class moves on, and fall further behind. Teachers must pay some attention to mastery of skills by individuals as well as to general class progress through the curriculum.

RELATED FIELD EXPERIENCE

Although we believe the field experience linked to this subject is an asset in that it allows assessment of skills in a real classroom, it can also be a liability for many student teachers. Given that many teachers in schools completed their professional education before the requirement for content on students with special education needs, and that some of those who have received such content may have experienced a survey course with no practical component, many students complete the field experience with a cooperating teacher who does not have the skills we are asking our student teachers to demonstrate. Some teachers who receive support from a specialist educator receive that support as a pull-out programme for the student(s) involved. This individual programme may then be related to, and extended in, the regular classroom, or may operate in total isolation with the class teacher ignorant of the content covered and the teaching strategies used. Our experience is that those students who go into a class where individualized programmes and adaptations are in place within the regular classroom are more successful than those who go into classes where such individualization does not occur or where teachers are actively hostile to the idea. In many ways though, the difficulties with field experience face all teacher educators in that classrooms where high-quality, evidence-based teaching consistently occurs are not common, and student teachers are frequently placed in settings where the practices advocated in university courses are not implemented and may be derided.

Student teachers have been placed with teachers with a range of attitudes to dealing with students with special needs. A range of experiences have been reported to us from students around the attitudes, knowledge, and beliefs of cooperating teachers including: presumptions made about students on the basis of their disability (he/she has an intellectual disability, he/she can't learn properly and you can't do anything about it); unhelpful attitudes (if he/she can't learn, he/she should not be in a regular class/school); ignorance (he/she has an intellectual disability, you can't expect him/her to learn to read, he/she can't read and I can't do anything about it); hostility to careful assessment (it's not fair to keep assessing him/her); hostility to individualization (it's not fair to give different students different materials, experiences); and overprotectiveness (it will damage their self-esteem if we assess, if we provide explicit error correction, if we individualize, provide different materials, etc.). These attitudes, combined with the fact that many teachers (through no fault of their own) do not have skills in explicit instruction, means that the practicum experience may not be very helpful. In our current system, the university adviser who liaises with students and schools, and who may observe student teacher lessons, may also lack skills and knowledge in

effective practices for students with special education needs. In practice, students may receive a glowing report from their cooperating teacher and fail miserably on our practicum-based assignment. This results in considerable confusion and anger, and stretches our tact and professionalism in dealing with these students and the shortcomings of their field experiences.

PHILOSOPHICAL DIFFERENCES

The tension between the two poles of a continuum of teaching strategies – explicit, direct, systematic, teacher-directed teaching (from behavioural and cognitive psychology) and child-centred, experiential, discovery approaches (from constructivist perspectives) – means many students (and perhaps others who take extreme positions) see only the poles. They see the two extremes as disconnected and incompatible, even though child-centred methods do not work for all students, and many students may benefit from explicit instruction on occasions. Students tend to have these polarized views, and it is hard to know if they reflect faculty viewpoints: the lack of treatment of explicit instruction compared to child-centred approaches drawn from constructivist theories or simplistic conclusions drawn by students with limited knowledge and experience. In any case, the polarized view is not particularly helpful and there is increasing interest in bringing the approaches together and making the continuum between them more obvious (see, e.g., Rainforth & Kugelmass, 2003).

There are many characteristics that are often claimed for constructivist teaching that also apply to good explicit teaching (Dixon & Carnine, 1994). Such common practices and desiderata include group work that uses peer-mediated instruction; the contextualization of skills and knowledge, rather than teaching of isolated skills; the aim to move students from supported, prompted, or scaffolded performance to independent performance; to move students from learning that is extrinsically motivated to learning that is intrinsically motivated; building on existing skills and strengths; the aim to move students from fact/rote knowledge to applications such as problem solving, and the aim to have learning transfer or generalize to new contexts. Perhaps, as Knight (2002) noted, explicit teaching has a focus on the first stages of these movements, while child-centred methods assume the first steps and focus on the later steps. Constructivist positions have influenced contemporary special education practice, which has moved away from isolated skill teaching to teaching in context, where explicit teaching of strategies and basic skills is integrated into motivating and authentic tasks (Fuchs & Fuchs, 2001). And special education has influenced constructivist teaching when teachers make obvious strategies, connections, and applications

rather than leaving students to discover them for themselves (Rainforth & Kugelmass, 2003). A number of special educators (see, e.g., Warren & Yoder, 1994) have pointed out that "constructed versus instructed knowledge creates a false dichotomy" (p. 254). Children learn from a range of different inputs and the challenge is to match the input to the needs of the learner – sometimes the input will be explicit and teacher-structured and at other times it will be implicit in an experiential approach. Many of our student teachers do not see these relationships, but only the tensions between the poles, and some seem to decide they are in one camp or the other. Those of us who prepare teachers need to find convincing ways to help student teachers develop the whole spectrum of teaching skills, and to use appropriate skills in appropriate contexts.

A further source of difficulty for student teachers may be the terminology or language adopted by educators coming from different perspectives. Often the same practice is couched in different language (and the language may have emotional overtones, depending on who is using it). We have, for example, prompting and cuing from behaviourist approaches and scaffolding from sociocultural approaches. Both are aimed at supporting the learner as he/she moves towards independent performance. Student teachers need to appreciate different viewpoints – but also understand that effective practices are not effective because of any dogma about them. Teachers can waste time with an interesting hands-on activity (e.g., covering the tennis court and the floor of the room with sheets of newspaper) if students do not draw conclusions about measuring with standard units. They can also waste time on a boring drill of a rote strategy (such as invert and multiply when dividing fractions) if students have no insight into why that strategy "works".

THE WAY FORWARD

When we consider the way forward, a number of paths emerge. The first, which has been achieved in a recent review of the course, is to ensure that students come into the special education subject with appropriate prerequisite skills. In future, student teachers will complete subjects and associated field experiences that will introduce them to assessment and programming for regular students before they are expected to master the individualized, diagnostic, and detailed assessment required for students with special education needs. They will also have skills in programming for whole-class teaching that can be refined to include individualized instruction for students with special needs. They will have completed additional field experience, and may be more comfortable moving away from whole-class teaching and organization to incorporate more small group and individualized instruction.

The second is that there needs to be faculty-wide recognition that increasingly all classes will contain students with special education needs, and there are times when many students would benefit from the more explicit teaching of special education. The connections and gradations between child-centred and teacher-directed approaches need to be made explicit for student teachers. No teacher educator can afford to be wedded to one pole of the continuum – if we have learnt anything from the "reading wars", it should be that. This means increasing discussion between lecturers of the connections between subjects, and acknowledging the reality of the inclusive curriculum documents that are being introduced in NSW and elsewhere.

The final implication is that special educators must become more aware and informed about approaches outside special education with the aim of identifying the similarities, rather than criticizing the differences. As Dixon and Carnine (1994) note, examination of actual practices may be more fruitful for both regular and special educators than arguing ideology. Once special educators are more informed about practices in regular education, they will be more able to highlight the similarities for student teachers and to build the necessary bridges to connect conventional classroom practices to the more individualized practices necessary for students with special education needs.

This penultimate paragraph was written in my persona as representative of special education. It expresses conclusions that I have drawn personally from my involvement with this book that are also endorsed by other special educators. It is not a paragraph that I would have written before joining the staff at University of Technology, Sydney, and more particularly before joining the research group that shared their self-study during the production of this book. At the same time, I would not claim to have written a "self-study" chapter, although it is not really a "special education" chapter either. The discussion around this book certainly helped me see that many of the problems or questions I had about teacher education were shared by others. Our analysis and solutions to those problems would probably be quite different, but I think I understand more about approaches to regular education, and I can certainly see more commonalities than I would have recognized before as a result of the sharing and dialogue. I hope my colleagues can say the same about special education approaches.

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Chapter 8

Splashing in Puddles? What my Teaching and Research Tell Me About My Teaching and Research

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INTRODUCTION

> We think it's getting better but nobody's really sure.
>
> (Joe Jackson, 1983)

How do I know if my teaching is getting better?

Some entities, such as sport, can be measured in terms of higher, stronger, faster. With the arts, however, such as music, opinion may be more divided on whether they have improved, deteriorated, or simply changed in the past century or so. It seems to me that teaching has elements of both, with some constituent elements measurable and others not, and the boundaries between the measurable and the unmeasurable are themselves difficult to define.

Like (I imagine) all teachers, I am keen to improve my practice. While on leave, I conducted research into the effectiveness of a Graduate Certificate in Teaching Studies of Asia (GCTSA), which I coordinate. Customarily, during such leave periods, one tries to escape the demands and distractions of the office. It is equally customary for colleagues to ask, upon seeing an on-leave staff member on campus, "what are *you* doing here?" There is a certain irony, in that this self-study has prompted me to ask at a much more existential level "what *am* I doing here?" I will present the story according to the narrative traditions of orientation, complication, resolution, and coda (Derewianka, 1990).

THE ORIENTATION

For reasons of demography, geography, and economics, it is in Australia's interests to engage with the Asian region. The education of Australia's young people is a crucial link in this process (FitzGerald, 1991). This in turn depends on a functional "Asia literacy" on the part of Australia's schoolteachers (Asia Education Foundation, 1995).

Change in schools involves a complex set of processes (Hargreaves, 1994). In the context of competing demands and a crowded curriculum, it is

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tempting for teachers to ignore pressures and imperatives to adjust the content of their teaching. In any context, the curriculum is a complex phenomenon, ownership of which is often contested (Brady & Kennedy, 2003).

In Australia, this resistance to change can be compounded by an antipathy towards studies of Asia (Broinowski, 1992; FitzGerald, 1997). In the minds of Australians, the term Asia can evoke contradictory notions such as trade, tourism, technology, or terrorism. Various governments have established initiatives to promote the study of Asia in Australia, but government policy has not always successfully negotiated the crossover into popular thinking and practice. Fry et al. (1995) noted that the study of Asia in Australian schools had not fared well. Far from assuming a cross-curricular approach, it had largely been relegated to studies of languages and the social sciences. This is disconcerting given the low numbers of students studying Asian languages other than English (LOTE) and the at times sparse Asia content in Social Sciences. Subsequent research (Baumgart et al., 1998; Buchanan, 2002, 2003; Halse, 1999) has suggested that while some admirable initiatives have been undertaken, deeper understandings of Asia on the part of students is not widespread.

In order to address concerns about Asia literacy levels among Australian students, in 1994, the Council of Australian Governments (COAG, represented by the federal and state/territory governments of Australia), established the National Asian Languages and Studies in Australian Schools (NALSAS) Strategy, whose funding has been used to support a number of educational initiatives at primary, secondary, and tertiary levels (NALSAS, 2004).

One initiative sponsored by NALSAS funding has been the GCTSA, which I coordinate. Students are practising teachers sponsored by the New South Wales Department of Education and Training (NSWDET). A primary aim of this undertaking is the facilitation of curricular change in the schools, some of whose staff have completed the course. Assessment tasks are tailored with this aim in mind. Among the assessment tasks, students are required to conduct a cultural study of their school, to determine its readiness to embrace studies of Asia. Students are subsequently required to devise a 2–5-year plan that outlines priorities, goals, means of attaining them, and means of evaluating the extent of their success. Deriving from this, the student is required to plan, promote, and organize one element or aspect of the action plan and to evaluate it in the light of planned and unintended outcomes. In terms of assessing classroom practice, students are required to critique a resource, demonstrate a learning/teaching episode, and produce a unit of work related to the teaching of Asia. The course comprises two on-campus face-to-face sessions, supported by intersession assessment tasks, online and other communication, and readings. Other assessment tasks are of a more content-related nature.

As part of an evaluation of the effectiveness of the GCTSA, I set out to investigate the extent to which, and ways in which, participation in the GCTSA has helped two participants, both principals, to effect curricular change in their schools. The two principals were asked to provide me with advice on improving the course, to aid and abet an enhancement of studies of Asia in their schools. The two schools are substantially different in their needs and contexts. One is in suburban Sydney, in an area characterized by high ethnic diversity, while the other is in a small town in rural NSW.

In conducting research on one's own teaching, one hopes for positive and encouraging responses from a largely satisfied student cohort. My student informants obliged me with praise of the course, albeit interspersed with some suggestions for refinements. Some of the following emerged from informant comments, and some from my own observations of their schools. A related question for me in all of the following is: To what extent am I "my students' keeper"? In other words, to what extent is it my responsibility, as opposed to my students', to address these issues?

The principal suggestions for the GCTSA included:

- promoting a more robust sense of achievement, by hosting a graduation ceremony. This would also afford an opportunity for teachers to rekindle the networks forged during the residential schools, and to share their successes and sorrows. Other universities offer such a ceremony for graduates of certificate courses.
- using and demonstrating technology in such a way that it can be easily applied to the classroom. "It looks easy when the expert does it, but can we reproduce this back at school?" mused one of the informants. It is worth noting that the rooms in which we operate have access to a level of technology not commonly available in school classrooms.
- spending more time doing "the business of schools", such as producing a mock scope and sequence; workshopping existing units of work for "Asia infusion".
- supporting the formation of community–school partnerships with regard to studies of Asia. This emerged as the most pressing apparent need in both schools, and appears to be a particular challenge in the smaller of the two communities.

This led to a mapping exercise wherein I identified matches and mismatches between the original outcomes of the course as I had outlined them prior to its inception, against the activities and assessment tasks, and the eventual outcomes in the schools, and set out some proposed modifications.

Many of the above suggestions could be seen under the umbrella of "after-sales service", designed to maximize the effective and ongoing implementation

of desirable, relevant change in schools, and to avoid a hiatus or mismatch between professional development and subsequent classroom practice (Buchanan & Harris, 2004). Approaches could include a greater emphasis on a "train the trainer" mode, with a view to maximizing the multiplier effect of graduates returning to their schools. Finding sustainable means of supporting ex-students in this way, while catering to the needs of current students, is not without its difficulties.

At this point, a typical report might make some concluding observations and, well, conclude.

THE COMPLICATIONS

Pedagogue, teach thyself.

With apologies to St Luke

Given that the informants were generous in their praise of the course, and identified few elemental inadequacies, I was left to wonder why I was feeling less than satisfied with this outcome. The diagnosis of the GCTSA course became subsidiary to a pathology of my teaching. What began as a relatively simple investigation into the effectiveness of a graduate programme became a Bunyanesque journey of self-discovery, punctuated with the occasional disappointment along the way. This is perhaps complicated by the fact that I tend to be a pessimist. Every silver lining has a cloud, that sort of thing.

It struck me that no fundamental flaws in the delivery of the GCTSA course were identified for one of at least two reasons: either (a) there were no such flaws or (b) the research process failed to uncover any.

If the correct answer is (b), not only is my teaching found to be wanting, in that there are problems with the delivery of the course, but my research skills are also found wanting, in that they failed to uncover important data. This leaves me in an invidious position, given that my current employment requires and assumes some expertise in the domains of both teaching and research.

The informants' responses led me to investigate my professional practice more broadly, as outlined below. This was a relatively solitary process, with occasional input from colleagues, and some recourse to the literature. There is an argument for "valuing ourselves as primary sources of knowledge", as Crafton and Smolin (2004, p. 76) point out, while Korthagen (2001), reporting on the work of Dirkx, speaks of "problematizing one's own feelings, thoughts and actions in the relationship with others" (p. 55). I refer to these processes here as if I knew them *pre hoc*, but in fact my understanding of them came into focus largely from the study. Many of the remarks here are

ideas written as[1] they occurred to me, "thoughts . . . hot still" (Farwell, 1995, p. 174). To those steeped in self-study, these writings may appear raw and crude, but they may also rekindle memories. Others may be at a similar stage to me in the journey.

Self-study should generate self-study. This raises at least two related issues or risks: one is that this chapter will simply raise questions that all teachers have posed and answered many times, and the other is that it can be horoscopic, in that we find ourselves in this story, whether we are or not. Research has occasionally been criticized, with some justification, for telling us what we already knew. For me, regrettably, I confess that research sometimes reminds me of what I have forgotten.

The dilemma raised by the students' responses led me to ask some existential questions about my teaching of Asia in the Australian context:

- Is my claim of facilitating a deep understanding of Asia in the minds of the students a sham? Are we, instead, just splashing in puddles?
- Is it possible, or simply arrogant, for me to claim that I can offer an "Asian perspective", when arguably, as an Australian of Anglo-Saxon background, I don't, and possibly can never, have one?
- Can one be bicultural?

This last question has been part of the pedagogical condition for me for some time now. In my former life as a LOTE teacher, I was always painfully aware that, in theory at least, a native speaker of the language could come into my room and declare, "we don't say it that way", leaving me feeling and looking like a fraud. With regard to assessment, I occasionally quote to my students Seneca the Younger, who made a claim to the effect that "if you don't know which port you're sailing to, no wind is favourable", the point being that teachers need to predetermine ways of recognizing if their students have met outcomes. Extending the metaphor, however, is it reasonable and logical to assert that being in one port precludes you from being in another one, with a different viewpoint?

These questions led to further uncertainties about my teaching generally:

- Is my teaching a bridge or a barrier? Or in the words of Coldplay (2002), am I a part of the cure or of the disease?
- Should I insist that the GCTSA is a means to a deeper understanding of Asian cultures, or yield to the pressures of students and provide hints on good teaching ideas?

And more fundamentally:

- If I have been (relatively) satisfied with my teaching until now, is it because I had reached the point of being unconsciously skilled, or

[1] In both senses of the word 'as' - 'at the time that', and 'in the way that' they occurred to me.

because I was still unconsciously unskilled? The former strikes me as unlikely. In other words, am I defrauding myself in my beliefs of adequacy? What if, unlike Narcissus, I remain unseduced by my reflection when I look into the puddle?

This, then, generated some questions about the self-study process:

- Is it leading me towards growth or just making me wither and stunt? (And can one use the verb "stunt" intransitively?)
- Am I using this process as a cloak to hide behind?

In the fortnight leading up to a presentation I gave to my colleagues on this project, two other contributors to this book raised some very thought-provoking questions for me, during presentations of their own. Firstly, Peter Aubusson asked us rhetorically what metaphors we used to define our roles as teachers. Subsequently, Susan Groundwater-Smith asked us for examples of courage in teaching. My response to Peter's question is probably too idiosyncratic to be of interest (okay, I said, "tour guide"), but Susan's comments confronted me with the question "is teaching a courageous profession?". I commented to Susan at the end of the session that while I cannot claim as a teacher to be the most knowledgeable person in the classroom, I am seduced by the hope that I may be. I do know that I steer the course of my teaching across familiar territory, and feel uneasy when circumstances take me off the beaten track.

   I concluded my presentation with a list of dilemmas as follows, exposing mismatches I had discovered between my rhetoric and my practice.

I say	In reality
I don't need to know everything.	I hate not knowing the answer.
It's neither possible nor healthy for the teacher to always be in control.	I feel uneasy when things aren't in my control even to the point of the way I set out my writing.

I regularly preach to my students that two of the most unrealistic professional pressures we put on ourselves and each other as teachers is to know everything, and to be in control always. I add that the first (omniscience) is impossible, and the second (omnipotence) is not educationally or developmentally desirable for our learners, even if it were possible. Yet, if a discussion ventures into a field where a student or students have more knowledge than mine, and I'm consequently unable to direct or add to the conversation, I feel that I am not justifying my pedagogical position. I think (but am not sure) that this is a professional concern, rather than a personal one, even though it is personally gratifying to be knowledgeable. My particular teaching

responsibilities allow me to be in control more than might otherwise be the case, in that I repeat tutorials, so I am able to anticipate student questions and rehearse responses accordingly. These features are not pedagogically bad in themselves – arguably the opposite – but at times it is (from a point of view of personal and professional growth) dangerously safe here, in my humidi-classroom. All the while I am aspiring to broaden my students' horizons, helping them to discover Asia.

This dilemma is perhaps further compounded by the fact that I am allegedly preparing my students for the relatively robust world of the school classroom. Each semester sees me more temporally removed from the school classrooms in which I taught. My most recent schoolteaching was as a casual, and I confess that with classroom management, I struggled at times.

Again, linked to the above, I say	In reality
Taking academic risks is good.	I only embrace intellectual risks in highly controlled circumstances.

This raises a very real dilemma for the teacher. How do you learn and grow without taking risks and exploring new territory? On the other hand, when is an experiment justified? Or when is it indispensable? In what circumstances would it be unethical to offer students the placebo? Further, I expect, and am expected, to be beyond my students in terms of my knowledge, under-standings, and perceptions, yet I am disappointed when the material I present them with does not cause them to resonate in the same way it did for me. I concede that this is an unrealistic and inconsistent combination of expectations for me to have for myself and my students.

Again, linked to the above, I say	In reality
I don't believe the quality of my teaching corresponds to student opinion.	I'm desperate for student affirmation.

My longing for student affirmation is subtle in driving the content and processes of my teaching. Not only is it difficult for teachers to withstand the slings and arrows of student outrage but it is also a challenge to determine whether the students' critical comments are justified, and to determine one's motives and honesty in deciding how to determine this.

This raises the related question of approaches to teaching, with regard to students' desire to "do the business of school". There are a number of rea-sons I am resistant to doing this. It is partly related to my need to be seen doing my job. Asking students to get into buzz groups and discuss or devise teaching documents can leave students with the impression that I am of little assistance to them. Anyone, familiar or not with teaching, could ask students

to participate in such an activity. I find students are at times resistant to the small group thing, too. They want answers. There's the rub. Perhaps one reason why students are resistant is that collaborative group work demands more of them than asking them to sit and copy or hear (perchance to listen?) in passivity. Why should I begrudge handing over more of the responsibility for their learning to them, just so I can appear busy and quench my guilt?

Linked to this, I often reproach students whose primary evaluation of their schoolteaching or their presentations to peers is that "the students enjoyed themselves". I point out that students may enjoy all sorts of activities that have little relevance to the intended outcomes. In reality, however, I concede that I am seduced by witnessing student enjoyment of, and motivation in, participating in a learning activity. One of my favourite sounds in the classroom is laughter.

I say	In reality
That I believe in the primacy of learning over teaching.	I am preoccupied with my teaching.
Reflection is important.	I rush off and do the next piece of busy work.

In the first of the two above, I blame myself. In the second, I largely blame the structures and the culture of my workplace (and most workplaces?) that conspire with my personal need to be busy, and to prove myself, leading to a privileging of quantity over quality in productivity. I seem to spend an increasing amount of time filling in forms and doing other clerical work. These pressures also modify (distort?) my definition of productivity.

I say	In reality
I'm disappointed when students don't do recommended readings.	I don't reward their reading with marks.

Despite my comments earlier about avoiding buzz groups, I want my students to *engage* in their learning. I get frustrated with the student who will not play the game. And yet, it is a game I also resist. Even though I would like to be brave, I yearn for my learning to be smooth and angst-free. I want to observe and experience it from a safe distance, rather than being enmeshed, ensnared, or embroiled in it.

Maybe Big Brother was right, maybe ignorance *is* strength.

I can't believe I just said that.

I'm a teacher.

RESOLUTIONS?

In my resolutions remain I irresolute?

Personal musing

A risk with resolving issues such as those above is oversimplifying them, or running away from the challenges. The slough of despond becomes a slough of indifference – or of defeat. Still, the questions above demand some at least tentative responses. Speaking of resolutions, I hereby resolve to identify and examine the paradoxes (or are they oxymorons?) in my teaching, particularly with regard to unrealistic expectations, or inconsistencies in what I expect of myself and of my students and my employer, and perhaps some inconsistencies in what they expect of me.

The above dichotomies are not necessarily examples of hypocrisy, but may rather be creative tensions. Am I being overambitious in expecting profound (however construed) Asia learning experiences to be occurring in classrooms of younger children? Is it unrealistic to expect that the learning/teaching experiences in primary or infants schools will constitute some sort of Zen experience or, for that matter, an experience of Zen? And yet I believe that the child who holds up four fingers and declares "I am this many today" is a mathematician, and the child who protests "it's not fair" is a social scientist. Such children do not need to satisfy some arbitrarily fashioned criterion of sophistication in their understanding to distinguish themselves as scholars of Asian studies, as if there were some sort of priesthood and laity in the matter. In any case, I need to tread carefully here; there may be a sophistication that is not immediately evident in my observation of the understanding, learning, and teaching taking place. The puddle may be deeper than it appears at first glance.

Perhaps midway along the creative tension–hypocrisy continuum is the need for reflection and the pressure to be productive. Each can justify its place. Nevertheless, I utter this cry for help in an attempt to challenge and change the cultures and structures that drive us as teachers to be constantly productive (however defined), at the expense of apposite time, energy, and value being set aside for reflection. Time off is beneficial to me in that it refreshes me. It is also beneficial to my employer in that no matter what I am doing, you cannot stop me from learning. Didn't somebody once say that all the world's a classroom?

On the other hand, some of the dichotomies are perhaps more hypocritical. Marks and grades are the legal tender of the university. We exchange them for time, labour, and intellectual product. If students are not given any reward for reading, I cannot blame them for "digging for gold" elsewhere. This is especially pertinent given my own readiness to capitulate to the demands related to a demonstrable productivity.

This brings me back to my original question. How do I know my teaching is getting better? My immediate answer is: "helping students to meet the assigned outcomes". But who determines the quality of the outcomes, and how? Is it only when I feel my teaching is getting worse that it is improving? More realistically, perhaps, it is only when I feel I am getting worse at my teaching that I am in a position to improve.

Possibly a better question than how do I know I am getting better is why should I want to be getting better as a teacher. The reasons are many.

I want to impress my students. It is more than just creating an impression, however. Students are increasingly seeing themselves as clients, and justifiably so. It is not uncommon during class for me to remind myself that I am the only one in here who is being paid for my pains. All the students are paying for this privilege. Do I represent value for money? As mentioned above, this is part of what drives me to avoid buzz group activities. Students expect me to have the answers. As an educator in education, I have, arguably, a heavy burden to bear. I recall the harshness with which I adjudged some of my Education lecturers as an undergraduate, thinking, as they threatened or cajoled a recalcitrant video player, that if we were a grade 8 class, there would be a riot happening by now. Am I seen by my students as a refugee from the (real) classroom? Am I one?

I have to concede that the teaching I do is, in many respects, less problematic than that which my students do in their schools. This is because of the nature of my students, who have to demonstrate predetermined levels of English language and learning performance, in order to be admitted. And they are adults. Not only does this change the levels of maturity they display but it also relieves me of much of the accountability I would have if I were teaching children. My students have exercised choice in enrolling in this course. Compulsory enrolment on the part of students, such as is the case in schools, changes the teacher's metaphorical status from one of tour guide to that of spruiker. For reasons such as those above, and others, the culture of behavioural expectations in my classes is quite different to that of many school classrooms.

I want to impress my employer. My employer expects me to know the answers, or at least a reasonable number of them. Knowledge is also the legal tender in which we deal as staff. We exchange it for promotion, esteem, and sometimes pay rises.

I need to satisfy myself. There are reasons of self-esteem/ego. I expect myself to have the answers. I trust it does not begin and end here, however. In any case, the facilitation of good learning for my students will eventually render me redundant, and that is as it should be.

How Might I Work at Getting Better?

If my students equate good education with enjoyment when they teach, it is only natural that they see this as an important part of quality *learning*, in particular their own learning. If my argument that enjoyment is not the best, or even a good, measure of educational quality, the logical consequence of this is for me to discourage them from adjudicating my teaching in this way. That is, to refrain from evaluating my teaching on its capacity to generate enjoyable experiences on their part. This is a bold call. My students might prefer to call it a cop-out. Or have the students been right all along? Is enjoyment a more important contributor to quality learning than I have been willing to concede? Naturally, this does not displace a sound understanding of the learning that is happening and how it happens. On the other hand, though, I am coming from a position of greater strength if I discourage students from being too *un*critical of my teaching if or when they find it enjoyable. This also serves as a model for them not to trust too implicitly the quality of their own teaching in the light of student interest and enthusiasm, with little other evidence.

I need to be creative in finding ways to reward my students for reading. Similarly, my employer needs to find ways to reward me for reading. Maybe we could all start the day with a "drop everything and read" session?

Perhaps my "tour guide" metaphor of my teaching is of more use than I had realized. While I cannot be bicultural in the sense that I cannot be in more than one port or one resort at one time, I can share my experiences, and generate horizon-broadening experiences for my students, while encouraging them to find and transcend their own horizons, in their learning and in their living.

I need to take my students more into my confidence, in identifying and deconstructing the rules of the game. This is good not only for my relationship and collegiality with my students but also for their own development, and mine, as educators. Taking students into my confidence in this manner is not without its complexities. I raised earlier the issue of assuming that I am "ahead of" my students in terms of my understanding of education. Without wishing to sound condescending, are my pre-service students ready to make sense of the pedagogical condition from where I see it? Moreover, and perhaps another sign of where they are conceptually, I suspect my students are not so interested in my existential, neurotic writings in response to pedagogical vicissitudes. Some, at least, are saying: "show me the answers". If I say in response to their requests, "let's deconstruct why you want answers", will violence ensue? The reality, in any case, is that teaching does not consist of prepackaged, microwaveable solutions, and I am doing the students a disservice if I prevent them from confronting this reality earlier rather than later.

Perhaps that is the way forward that I have been failing – or refusing – to see all along; that education does not consist of instant microwaveable solutions. If this is the case for my students' learning, why should I expect it to be different for my own? It is in this that my students and I are as one. It is arguably in my uncertainties that I have the most to offer my students. Or, when I am weak, then am I strong, as St Paul wrote. Maybe Big Brother was right, maybe (admission of) weakness *is* strength. I hate Big Brother.

McNiff (1995) poses the question: "Why am I the way I am?" It is ironic that in intercultural education such as studies of Asia, I regularly ask why others are the way they are, arguably to the marginalization of McNiff's reflexive question. I had felt it was sufficient for me to ask myself how my students saw the world and the classroom from their perspectives, just as I asked them to do with regard to people with different world views and experiences than their own.

It has been instructive to explore how my preoccupation with knowledge and with a demonstrable fulfilment of duty conspires at so many levels to drive my teaching, and to drive me. I adopted an approach of ascribing less-than-favourable motives for my methods and assumptions in teaching. More broadly, I asked "what am I missing here?" in terms of cause, effect, motives, etc. Normally such a methodological explanation might be provided earlier in the chapter, but to call it a (premeditated) methodology would be to overstate it. Rather, it is the direction that events assumed. In any case, good narratives do not divulge too much information too early. But this process has more in common with a serial or soap opera than a story. The next episode will be written quite differently, as the apparence, priority, and resolution of questions – my interrogative (or is it intrarogative?) landscape – changes.

Where to from Here? Keepin' It Real

Asking myself what I am missing, and what are my motives, has the potential to generate a great deal of personally and professionally satisfying narrative. But am I just a player in my story, or its author? Both, I guess, to varying degrees. I am at once the puppet and the puppeteer, a character and the playwright. It is too tempting to see myself as a passive player in a script written by another hand. It provides me with too many excuses to declare that it is not my fault. This could easily become a new game whose rules I learn to resist or to appropriate to my own ends. Similarly, as the author, I have free rein to daydream the narrative towards any outcome that I predetermine. In terms of the constraints I apply to myself and to my students, I need to "relinquish control to gain influence" (Senese, 2002, p. 51), and to candidly grapple with what this means for me.

It is my hope that the processes outlined above may be helpful for teachers in various contexts, particularly perhaps those involved in teacher education and leadership. I had little preconception that this process would lead me where it has, but it has been that which took me by surprise that has contributed the most to my understanding. I have not resolved or even addressed all my aforementioned dilemmas. That is yet to come, I hope. I trust that I have not treated too peripherally the advice of my student informants. On the contrary, their suggestions have directed me to reflect more deeply on my teaching than I would have imagined. The benefit for me will be the extent to which I allow these reflections to transform my practice (Brandenberg, 2004). At this point, the ghost of Ophelia calls to me:

Do not . . .

> Show me the steep and thorny way to heaven,
> Whiles, like a puff'd and reckless libertine,
>   Himself the path of dalliance treads,
>   And recks not his own rede.

Hamlet, I. iii. 50–53

I need to heed my own counsel – even though treading the path of dalliance like a puffed and reckless libertine sounds like much more fun. I need to continue in my efforts to "make changes and seek evidence that the changes did indeed represent improvement" (Russell, 2002, p. 4).

The Coda: What of the GCTSA?

I hope to outline in more detail the implications of the study for the GCTSA in a forthcoming paper, (Pacific-Asian Education Journal, accepted) and then to fill in some more forms. I hope to live happily thereafter.

ACKNOWLEDGEMENTS

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Chapter 9

Learning about Learning and Teaching: "You don't learn in there, you play"

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INTRODUCTION

An apparently simple statement from a student participant in research that I was conducting more than 10 years ago has led me on a long, unexpected path of investigation and of personal learning that has had a profound effect on my tertiary teaching. I had not seriously considered the impact that views or perceptions of learning might have on attitudes, expectations, and consequent success in learning. In this chapter I will trace my path of investigation and self-reflection about perceptions of learning and the effects of articulating personal learning. This path has involved changes in my research emphases, but more importantly it has changed my approach to my own teaching and the pedagogy I share with my teacher education students for their own learning and future teaching. This chapter traces my developing realization of the need to confront my own teacher education practice to incorporate my new learning about schoolchildren's and student teachers' own perceptions of learning. Interestingly, it has been my observation of students' learning in informal settings that has broken me out of the traditional mould of thinking about teaching and learning in classrooms.

EARLY INSIGHTS

As my Ph.D. research proceeded into teachers' facilitation of learning in informal settings, I became increasingly fascinated by teachers' and students' descriptions of what was and was not learning, and under what circumstances students declared that they were or were not learning. Many preconceptions about the environment and the activities involved in learning emerged.

Through initial observations and interviews with children and teachers in a museum setting, a dichotomy between personal meanings of *learning* and *enjoyment* was revealed. Both teachers and students had clear ideas of when and where students were learning and when they were enjoying themselves

or "just having fun". The implication was that they were only enjoying them-
selves when they were "playing" and that playing takes place independently
from learning. While teachers did not say this overtly, their comments in
interviews and comments to their students clearly indicated such an implicit
view, despite considerable emphasis in educational studies highlighting the
value of learning through play (e.g., Brooke, 1998). There was a strong feel-
ing that learning was related to school activities and in particular it involved
reading and writing. Interviews with students following a question from me
about what they had learnt in a museum gallery that contained many inter-
active displays brought the response: "You don't learn in there, you play."
When the teacher was also asked what she thought the students learnt in this
space, her response was: "Do you mean the play space?" In fact, I had
observed that the teacher did not go with her students into this gallery but
left them with a parent helper.

Primary and secondary school students' views were also very revealing
when we discussed the use of worksheets on museum excursions. Several
groups of students told me that they did not like worksheets but added, how-
ever, that "they wouldn't learn if they didn't have them". One insightful
teenager told me in contrast that he did not like worksheets because the
information "went in through the eyes and out through the pen".

The implications of these views started me thinking about the role that
I and all teachers play in shaping students' attitudes to learning, and in turn
the impact of attitudes to learning on learning outcomes. I returned to my
findings and reading to further investigate these ideas.

ENJOYING LEARNING

My research involved the development of a format for conducting learning
units that included excursions based on a constructivist paradigm (Driver &
Oldham, 1986) using a Learners' Questions approach (Osborne & Freyberg,
1985). The students were given the opportunity to determine their own learn-
ing during the visit, within a framework set by the teacher. They chose the
specific areas they would investigate for themselves and if or how they
would make a record of their learning. A framework for excursions called
School Museum Integrated Learning Experiences for Students (SMILES)
(Griffin, 1998) encapsulated these ideas. Following this experience, many
students commented on how much they appreciated the opportunity to choose
what they were viewing and learning. The students said they enjoyed having
their own questions to answer and being able to follow personal interests. The
comments indicated that these students enjoyed learning when they had
some input into the selection of what and how they were learning. The

students repeatedly told me that they liked their excursion because they were learning *and* having fun. I was captivated by these declarations considering that they were responding to a very open question about the differences between this excursion and earlier ones. Unlike the earlier interviews all the students talked about their learning.

There is ambivalence in the literature regarding the relationship between learning and enjoyment in various learning settings. Dierking (1997) has found in her research that family groups declare that they come to museums to enjoy themselves by learning and socializing. Falk et al. (1998) also found that family groups often indicated that they were visiting both for educational and entertainment reasons. Jensen (1995) found that children prefer visiting museums with their families rather than with their school class, because they find it a more enjoyable experience with their families, as they have more freedom and choice in the things they see and do.

Looking more broadly, theoretical fields that further informed my growing understanding of the nature and circumstances of learning included constructivist approaches to learning, teaching, and assessment of learning (Driver & Oldham, 1986; Duckworth, 1992); learning communities (Lave, 1991; Lave & Wenger, 1991) and experiential learning (Boud et al., 1993); and the rapidly expanding area of research into learning in informal settings (e.g., Falk & Dierking, 2000; Hein, 1998). Further, Lucas (1991), Csikszentmihalyi and Hermanson (1995), Paris (1997), and others have looked at relationships between motivation, enjoyment and interest, and learning, which also have a bearing on people's views of learning in different settings.

PERCEPTIONS OF LEARNING

In my experience and my reading of teacher education literature I have come across little recognition of the impact of the learners' own perceptions of learning on their attitudes and approaches to the learning experiences that are provided for them by a teacher. The challenge that arose for me was therefore: How do I as a teacher, along with other teachers, create environments where the learners do not see a dichotomy between learning and enjoyment or between learning and play? The impact of people of all ages recognizing that they enjoy learning experiences seemed to be critical. People have opportunities to learn from a wide range of experiences within and beyond the formal classroom. Increasingly people are being offered wider, more flexible choices of learner-centred opportunities such as free-choice learning, multimedia and Internet interfaces, contract learning, distance learning, and workplace learning. If people hold strong beliefs and values about the nature of learning itself and about different learning

settings, influenced largely through their formal schooling, their openness to lifelong learning through less formal settings may be impeded. If school (or university) learning is seen as being imposed and students feel they have little say in what or how they learn, there are considerable implications for teacher education practice, starting with my own.

I therefore became fascinated in the perceptions of learning held by young people at different ages and in different settings. I wondered how this might impact on school-based learning and on my own teacher education practice.

The development of methods to explore these perceptions became a challenge in itself. Perceptions are difficult to uncover and cannot be obtained directly. This research required a method for uncovering information that the participants may have never previously articulated or even considered. Several approaches were used, but all were based on the use of photographs or drawings as stimulus. In the first trials students were asked to sort photographs into categories of learning, enjoyment, or both, and then explain why they had chosen the categories. In later trials a range of photos was spread before the participants, they were asked in turn to choose photos in which they felt the people were learning, not learning, enjoying, or not enjoying, and again asked to explain their choices. The photographs included people doing a variety of activities in a variety of settings – at school, at home, at work, outdoors, with family, in a museum or library, in a group conducting an activity such as playing sport, or in an orchestra. Kaplan and Howes (2004) used student photographs to discuss their impressions of their learning environment. By reacting to their images the students were freer to present their own thoughts and associations than if they had been interviewed. They also commented on the rarity of actually asking students their opinions. This was another realization that I had come to – so rarely do we include the main players (the students) in discussions about teaching and learning.

Data were gathered from school-age students and university teacher education students. An interpretive analysis of the data analogous with a grounded theory approach was used to uncover the range of perceptions of learning expressed in the data (Dierking & Griffin, 2001; Griffin, 2001). Only the overall picture of the results will be presented here.

The first study involved fourth-year general primary teacher education students and Grad Dip Ed secondary science teacher education students (who had completed a science degree). They were asked to sort photographs and place them on a mat in a circle marked learning, a circle marked enjoyment, or the intersection between these overlapping circles. While my initial intention was to look for the range of variation in perceptions of individuals, this process revealed an interesting difference between the fourth-year

primary teaching students and the science graduates on the first day of their education studies. The primary teacher education students placed many more photographs in the intersection between learning and enjoyment than did the secondary students. The secondary teacher education students put more photographs into the single categories of learning or enjoyment. It is interesting to speculate whether the different backgrounds of 3 years of education study versus 3 years of science study had any impact on this different pattern.

These findings suggested to me that the exercise may prove to be a useful pre and post-self-reflection tool for students on their own perceptions of learning, and their own articulation of the nature of learning and subsequently teaching, which I will discuss further below.

From interviews following the sorting, the criteria that were used by participants to sort the photographs included:

1. Enjoyment:
   - smiling, having fun
   - being with family
   - recreation
   - hands-on
   - playing
2. Learning:
   - working together
   - with a person smarter than you
   - teaching, instructor, teacher
   - pens, book and pen
   - reading, looking, seeing
   - you can learn without enjoyment, e.g., training, not running around
   - remembering
   - serious
   - not much fun, boring
3. Enjoyment and learning:
   - choice – they would be enjoying learning if they had choice in what they were doing
   - personal interaction
   - whether the learning was seen as useful
   - level of engagement

There are several aspects of these results that have impacted on my understandings, expectations, and practices in teacher education. While I had noted for several years that the secondary science education students found it harder to accept learner-centred approaches to teaching than the primary

teacher trainees, these results gave an insight into possible reasons behind this. By emphasizing the difference between learning and enjoyment and by choosing very traditional school-based elements to place in the learning category (see list above) these students were showing a very teacher-oriented, didactic perception of learning. On the other hand, the primary education students, by placing more emphasis on the combination of learning and enjoyment in which student choice, engagement, and involvement are emphasized, show a clearer orientation to learner-centred approaches to teaching – those that had most often been emphasized in their previous 3 years of university. How to help my students to recognize and perhaps change their own perceptions of learning was however a dilemma. I considered that by looking at schoolchildren's perceptions of learning, a way forward could be found to informing my teacher education practice.

In the second trial, with school students, a set of 22 photographs were spread randomly on a table in front of individual children (aged 4–14) and they were asked to select a few photographs in which they felt the people were learning. They were asked to put themselves in the photograph and tell me what was happening. They were then asked to select other photographs and do the same. They were also asked to select photographs in which they thought the people were not learning and those in which they felt the people were enjoying themselves or not enjoying themselves.

The photographs depicted children and adults in five environments:

- At home
- Outdoors
- In a museum
- In a school classroom (doing a range of activities)
- In the school playground

Interesting perceptions were revealed by looking at patterns in the children's responses, and at the reasons they gave for their categorizations.

Learning "How to . . . "

Almost all the children described what was happening in the photographs that they had chosen to represent learning, as "learning how . . ." or "learning to . . .". Only one child described "learning about . . .". In some cases if the child could no't think what was being learnt, he or she considered there was no learning taking place. The use of these words suggested to me that learning had to have an immediate outcome – to learn how to play soccer, to learn to read but not the ongoing process of learning about a topic, e.g., learning about trees.

Learning Has a Definite End

Another, but related, strong perception that came through was that learning to do something had a definite end point, and no further learning occurred after this. A number of the children put photographs in the "not learning" category because they felt that the people in the photograph already knew how to . . . paddle a canoe, play basketball, read, etc. For example:

> "the Mum's reading – the Mum might not be learning, she might know the words in the book. The girl might just be listening or looking at the pictures."
>
> (M7, age 7) (not learning)

> "[They're] playing basketball – looks like they know how to throw."
>
> (M6, age 10) (not learning)

> "[I think this is not learning because] they are playing sport – unless they're practicing sport – then they would be learning,"
>
> (M13, age 9) (not learning)

Learning Involves School or Schoolwork

A few students tended to put the photographs in the "learning" or "not learning" category according to whether or not they were at school and/or doing schoolwork:

> "They are doing something on the computer [at home] – listening to music, not doing schoolwork, just listening to music."
>
> (M6, age 10) (not learning)

> "They're in school, quiet, listening to the teacher."
>
> (M2, age 5) (learning)

> "[This is not learning] because everyone's having fun, and they don't have any books or studying or doing anything that includes learning. They are playing and relaxing."
>
> (M12, age 9) (photo in school playground) (not learning)

Learning is Active and Involves Things You Like

There was a strong feeling that learning was enjoyable if it was active, and some children even considered that they were not learning if they were not active, e.g., "just listening" or "just watching".

Some children considered that they did not learn when doing activities that they did not like:

> "He's colouring and that doesn't look fun – I don't like that – you have to colour in all the colouring stuff." (M14, age 4) (not learning)

Child M15 put photograph 9 in the learning category "because I like plants and stuff like that" and photograph 14 in the learning category "because he's reading and learning about things that are in the book – I like reading".

Age Variation

There was a distinct difference between the descriptions of the younger participants (aged 4–7) and the older children (aged 8–14). All of the younger group described learning as learning how or learning to, and had considerable difficulty in describing if or why they were enjoying themselves. The older children all talked about enjoying learning when they were actively involved and were doing something they liked. This was evident whether they were in or out of school – they were clear that they could learn or not learn in a class setting – it depended on the classroom environment.

All but two of the younger children chose photographs from only two learning environments (e.g., school and home or school and outside). All but two of the older children chose learning photographs from at least four different environment groups, suggesting an increase with age of recognition that learning takes place in many situations.

There were a number of interesting implications for me as a teacher educator from these findings. I wonder if the first finding that younger children see learning as something that has an end and once you can do something there is no more learning may emerge from the language and structure of classroom learning. In school, teaching is done in pieces: we start and finish a topic, and once it is done it is rarely revisited. Teachers also often use the term "to learn" rather than "learn about", e.g., "Today we are going to learn to . . .". This implies that there is an end to it and once we know "to" do something then we have finished. I wonder if this is what is behind the common statement heard from adults: "Oh I can't do that – I didn't learn to do it in school." In my teacher education classes I now spend more time talking about "learning about . . ." and more importantly emphasizing that there is always more to learn about any topic, endeavouring to better help my students to be lifelong learners and in turn to encourage the students to do the same with their classes. And tests (if we have to have them at all) should be about "what we have learnt *so far*"!

The school students seemed to recognize increasingly with age that learning can take place in many environments. There was, however, a hierarchy placed on various activities. The word "just" was used in a derogatory way, e.g., "just listening to music" or "just playing". Again I wondered about the extent to which "teacher talk" influences these views.

Looking at the results of these two trials there is a general tendency to place learning and enjoyment as closely allied if the circumstances are appropriate. This applied across all age groups and was particularly evident if there was the feeling that the people had some choice in what they were doing. These results reflect my findings when the children were given some choice in their learning on their SMILES museum visits. On the other hand, learning and play were quite distinctly separated. While I did not ask any of the participants specifically about play, in the second trial there was a clear distinction made between learning and "just playing". When the activity was characterized as "play", there would apparently be no learning. Again this reflected the findings in my earlier study. This leads to consideration of how people characterize an activity as "just" playing. It also suggests a different value placed on enjoyment and play. Learning can be enjoyable and play is also enjoyable, but play and learning seem to be distinct.

There is a dilemma here. There has been a considerable amount written about play as a component of learning and it is well recognized as being an important component for young children. When and why does it stop being so? Studies on play and learning reflect constructivist, experiential, and/or cooperative approaches to learning. These studies are mainly focused on why children play and how to use that playfulness in learning (Boyer, 1998; Court, 1993; Hall, 1995; Harkins, 2000; Stone, 1996; Zavarzadeh, 1994). Theories include the pedagogy of pleasure (Zavarzadeh, 1994), serious play (Wasserman, 1992), and style of play (Lieberman, 1977).

Doris Bergen (1994) calls play "a medium for learning and development" (p.190). She emphasizes that play is accepted as part of learning for young children, but less so as they get older. "Play has been undervalued as a curricular tool by educators and parents because society has defined the goals of learning, especially school learning, very narrowly" (p.191). In 1977, Lieberman found that teachers in general did not consider that play was a component of serious school learning. My results suggest that little has changed.

Can play be a component of learning at all ages? Wasserman (1992) describes serious play as being "possibly the primary vehicle through which serious learning can occur". This is supported by early work of Bruner (1971), whose experiments on play revealed that play promotes cognitive development more substantially than direct instruction. In many formal situations, however, "playing around" is denigrated because it is not seen as working on assigned tasks. Torrance, working with gifted children in classes observed: "They enjoy learning, and this looks to teachers like play, rather than work" (Torrance, 1961 in Wasserman, 1992, p. 22).

It would appear, then, that we as teachers may be providing a misservice to students by not articulating the value of "play" as a learning tool. So my challenge was: How can I as a teacher educator encourage my students to value play as part of learning and not to inadvertently use words in their classrooms that imply the opposite? I increasingly use the word "play" in my university classes and overtly talk about getting the students to learn through their own play – be it playing with objects or playing with ideas.

My next experiences provided me with further clues to the importance of overtly articulating the learning process.

A NEW SET OF REVELATIONS

In 2002 I had the opportunity to work in Copenhagen, Denmark, for 2 months with colleagues who are also interested in learning both in schools and in informal settings. I had visited the Danish University of Education previously and given some talks to academics and teachers about my SMILES programme. One of the teachers who attended my talk took up the idea and used it with his grade 5 class (average age 12) in a Learning Unit that included a visit to the Experimentarium – a science centre in Copenhagen. My Danish colleague, Helene Sorensen, took me to visit this class and I was able to see the student presentations at the end of their Learning Unit.

At the beginning of their Learning Unit the students formed groups, each with a different general topic that they investigated for about a week using the Internet and books. They went to the Experimentarium with these specific topic aspects in mind. They had looked up the Experimentarium on the Web and found exhibits that were relevant to their topic. For a further 2 weeks the students did further research and worked out group presentations on their topics, including practical demonstrations.

On the day I visited I saw four of the groups give their presentations. They took about 40 minutes each. This included the presentation itself in which they all used some form of demonstration (some had several), and either overhead transparencies or diagrams on the board to explain the principles they were talking about. In many of the students' presentations they used ideas from the interactives or static exhibits at the Experimentarium. Although some referred to notes, they all talked to the class, they did not read.

At the end of each presentation the class members were asked for questions, and there were always four or five or more questions. The class was then asked to comment on the presentation itself (i.e., parts they could or could not understand, ways they could have made it clearer, etc.). The teacher also made comments on this, and in particular highlighted the difference between learning and helping others to learn (e.g., by making

explanations and demonstrations clear, using diagrams and demonstrations, and helping the learners to learn).

This part was handled very maturely by everyone. Many people in the class had comments to make but they were constructively critical and they were listened to carefully by the presenters, sometimes with replies but not always, and there appeared to be little defensiveness.

Although I do not speak Danish, it was not difficult to follow the students' presentations as it was familiar science and they used many diagrams, demonstrations, and other aids. My colleague translated key questions and answers that I could not understand.

I was amazed at the attention paid to the learning process itself, not just the content in each presentation. I spoke to my colleague about this and she told me that the teacher had been putting a lot of emphasis on the children's thinking about learning through giving the students a lot of responsibility for their own learning, talking specifically about learning and how they each prefer to learn. He was spending considerable time individually with the students talking about their own learning processes as they went about their learning in class and out of class.

This experience led to two new pathways for me. Firstly, I wanted to see if these students had similar or different perceptions of learning to those I had discovered among the Australian students I had been talking to. Secondly, I became intrigued by the impact of teachers and students specifically articulating the learning process.

I decided to try my picture selection strategy with these children. This was not an easy task due to the language barrier. We also asked the students to draw themselves learning and write a sentence about where and how they liked to learn. Another Danish colleague, Annemarie Muller Anderson, had been using this technique in her research about students' views of environmental issues; and Barbara Piscitelli, working at Queensland University of Technology and the Queensland Art Gallery had used this technique with young children and had earlier encouraged me to try it for my research (Piscitelli & Anderson, 2001). This technique removed the language barrier, freed the students to come up with their own ideas rather than fitting into the constraints of the photographs I had selected, and the sentences could be translated at leisure.

As well as asking the class whose presentations I had watched (I shall call these Helene's research class), I also went to some classes that Annemarie was working with in a regular school classroom and in a nature centre. These students were also asked to draw themselves learning and write a sentence about where and how they liked to learn.

The difference between the drawings of Helene's research class and Annemarie's research class was stark. Even the children who were sitting in

a forest invariably drew themselves at desks with a teacher at the blackboard. If they did draw themselves in the forest, they were sitting in a circle with the teacher standing and talking to them. The students in Helene's research class rarely included the teacher in the drawing. They did, however, draw themselves at the blackboard, teaching other children, and many drew themselves learning in a wide variety of settings – at home, walking outside, with friends. One student wrote on her paper: "When I go running in the morning – that's when I think about things." While the students in Annemarie's research classes may have been using stereotypes that might have been unpacked with further discussion, the interesting point is that the students in Helene's research class did not have these stereotypes to begin with.

On my return to Sydney I continued using the "draw yourself learning" technique with some classes of similar age children in Sydney schools but most particularly with my teacher education students. The results were very revealing and informative for my own teaching. The Sydney school classes revealed similar perceptions to Annemarie's research classes. The primary teacher education students, however, show a wide range of views about learning and learning environments.

Commonly presented ideas in the primary teacher education students' drawings and sentences, in descending order of frequency, are:

How they like to learn:

- using visuals/picture or diagrams
- reading/books/library
- talking/discussion
- hands-on/concrete/activity
- listening/hearing
- writing
- practical/models

Where & why they like to learn:

- with friends, sharing with others
- when I am interested
- when it is useful
- in lots of places/ways
- somewhere comfortable (this varied from own room to outside, etc. but the comfort element was prominent)
- eating(!)
- a range of places/resources
- doing not sitting
- with music

Interestingly, many of these ideas incorporate elements of choice, comfort, relaxation, or enjoyment. My original concern about the separation of learning and enjoyment seems to be removed when the learning process is being managed by the learner. There are many implications here for classroom learning at university or school level, which have impacted on my own teaching as outlined below.

PUTTING MY LEARNING INTO PRACTICE – AND STILL LEARNING

Shulman and Shulman (2004) theorize a model for teacher learning involving Vision, Motivation, Understanding, Practice, Reflection, and Community, which together form a community of learning, based in particular on the ability to reflect on, and learn from, their own experiences. My experiences suggest that this could be taken to include reflection on the learning processes – one's own as a teacher but also to help the students to reflect on their own learning processes.

As a result of my experiences with this research I have made deliberate changes to my own pedagogy in my teacher education classes. I now start every one of my semester classes with discussions about how they as students prefer to learn (using the drawing exercise as a stimulus). I have found that this immediately starts discussions and revelations. The change from the blank (even frightened) faces when I ask them to draw themselves learning to the buzzing conversations when they discuss their drawings in a group 5 minutes later is astonishing. These self-reflections are then used to move into discussions about the relevance and value of articulating the learning process with the children in their future classes. Increasingly, I am including references to their and my learning processes as we move through the subject, for example by highlighting questions they ask and encouraging them to seek answers, by asking them where or how they developed their ideas, or by articulating their arguments for a particular position.

I have found that this recognition of the learning process is also making it easier to help teacher education students to plan their teaching and learning sequences for their school students. Like many other teacher educators I have struggled to get students to understand why we write learning outcomes and then relate the lesson strategies to meeting these outcomes. By articulating the learning processes that they themselves find useful, such as when the learning is interesting or enjoyable, when it is purposeful, when they can share ideas with others, and when they can choose the strategies they prefer, the students are able to consider why they are teaching a particular topic,

how it is useful for the students, and how they can provide students with varieties of appropriate ways to learn. Further, by asking the students to really think about what is important for the children to learn – what are the big ideas, and not the little details – and articulating why it is important for the children to learn about it, they can choose and design learning units that have a very clear learning purpose, have relevance to the children, and subsequently are enjoyable for the children and for them as teachers. The comments from students (even in fourth year), that this is the first time they had ever really thought about these aspects but can see how important they are, is surprising but rewarding for me.

So in my teacher education classes I am trying to spend considerable time unpacking and articulating and questioning the students' own learning processes, for example by asking questions about what they are doing when they ask questions, and by giving the students choice wherever possible in how and what they want to learn (within certain parameters of course). I attempt to use and emphasize care with language, ensuring that there is not a feeling of coming to "the end" of a topic as if there is no more to learn about it.

Finally, I try to include plenty of "play" using that word in my classes. My view of play is that it is about exploring, trying out new ideas but in a safe environment. Students often giggle quietly when I tell them we are going to "play"; it is not a word that is often used in this serious business of education. I am finding now, though, that the students are talking about, and asking for, more time to "play". They are decreasingly asking me to "just tell them the answers". I have investigated their perceptions through written pieces and drawings at the end of the subject, and am finding that they are increasingly talking about learning about learning and about learning rather than teaching. However, there are still dilemmas: To what extent am I impacting on my students' perceptions of learning in the long term? How do I know that they are telling me what they believe and not what they think I want them to tell me? How do I know that they will really consider these ideas when they are teaching? After all, I do teach them science and technology education, I am not their educational psychology lecturer! The feedback that I have received from the primary teacher education students is positive and encouraging. Unfortunately, I have had little opportunity to work in the same way with secondary teacher education students as timetabling and staffing circumstances over the past couple of years have meant that I have only been teaching primary teacher education students. However, I did have the opportunity for 2 years to introduce a full strand into the secondary science teaching programme that concentrated solely on learning and the learning process. Working with students to uncover their own teaching and learning experiences as students in school and other settings, unpacking aspects of the

teaching/learning environments that students "enjoyed", and relating these to the literature about ways in which we learn has led to revelations and some sense that there are "other ways" of approaching and even of "managing" a class, as the secondary students are so concerned about. Throughout this strand, as with the primary students, the processes of learning, personal learning approaches, and articulation of learning were emphasized. I look forward to further opportunities to develop together with my students better emphasis and uncovering of the learning processes in the classroom.

My journey described here started with my learning about learning in settings such as museums which led me to investigate and think much more deeply about learning processes per se and how I can better facilitate learning in my classes and in turn show by example how my students can do the same. A major key to this has been to learn to listen to the students, that students and teachers (and others) are partners in the learning process. I have spent considerable time in this chapter talking about my investigations of students' views of learning. This is because it is the students, both in school and at university, who can provide the greatest insights into ways in which we as teachers and teacher educators can provide the best opportunities for them to learn. And I have learnt this through the wonderful experiences and insights that I have gained through both school and tertiary students. I now see that my job as a teacher is to empower the students to drive their own learning through personal articulation, reflection, and considered choice. My emphasis is now on guiding my teacher education students to consider learning ahead of teaching.

ACKNOWLEDGEMENTS

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Chapter 10

Challenges, Dilemmas and Future Directions in Teaching about Teaching

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INTRODUCTION

This section of the book introduces a number of interesting issues that emerge in different ways through the different chapters but combine to form an agenda most appropriate to the work of teaching *and* learning about teaching. Throughout these chapters issues about the nature of self and the manner in which an exploration of self impacts understandings of practice are clear. Similarly, the content of each study also demonstrates a diversity of individual understandings of, and approaches to, that which comprises the work of teacher education. In addition to this are the challenges and dilemmas inherent in teaching which, in themselves, generate an invitation for ongoing examination and are indicative of different beginning points pertinent to a consideration of the nature of self-study.

This review chapter is designed to bring out the issues inherent in the preceding chapters so that they might be considered in ways that build on the diversity of understandings and experiences offered by the authors. Thus, this chapter begins by considering how self-study might be conceptualized in relation to these authors' work. This will set the scene for a discussion of the manner in which their studies might be interrogated, questioned, and understood in light of understandings of self-study and its impact on teaching and learning about teaching. In so doing, this chapter demonstrates the value of adopting a big picture perspective on the work of teacher education so that the bringing together of the various accounts (under the themes that have been distilled from the chapters) creates a coherent and meaningful whole for those wishing to better understand the possibilities for self-study of teaching and teacher education practices.

UNDERSTANDING SELF

In thinking about the nature of self in the chapters that comprise Part II of this book, it is interesting to consider the views and practices of these

authors in relation to the traditional self-study literature. In order to do so, consider how Tidwell (below) came to understand her view of self and how that exploration shaped the nature of her approach to teaching about teaching and became an important starting point for her involvement in self-study.

> I began to use qualitative research design and methods. These methods intrigued me, but at the same time, I felt a stronger alliance with quantitative research design that focused on statistical significance over the patterns and dynamics described in qualitative research. . . . [Then] I worked with professors and other doctoral research assistants who had very different views of research and very different experiences that led them to their studies . . . they challenged me. They talked of reflection and the voice within the teacher. They talked of validating experience through the experience itself. . . . As I began my work as an assistant professor, I found that my experiences as a research assistant with qualitative approaches seemed a better match for the kinds of questions I posed as I began my own research agenda. As a teacher, I was more interested in how students were able to think about their practice as they work in field experiences in the schools. I was interested in encouraging meaningful discussions among students in order to connect their actions with their beliefs.
>
> (Tidwell, 2004, pp. 73–74)

Tidwell's changing views about, and underlying questions of, research inevitably impacted on not only how she did her research but also how that research related to her professional identity, needs, and concerns. What she described was a process of coming to understand her professional self and, in so doing, she began to reshape the priorities and concerns that influenced the way in which she worked and what she sought to achieve through her work.

Tidwell's journey is indicative of many who begin to look into teaching about teaching in new ways through self-study. However, the journey is one which requires careful attention because, "tipping too far toward the self side produces solipsism . . . tipping too far the other way turns self-study into traditional research" (Bullough & Pinnegar, 2001, p. 15); finding the balance is therefore an integral part of coming to know oneself and the manner in which a quest for a better alignment of beliefs and practices might be initiated.

As the chapters in Part II demonstrate, a range of concerns are readily apparent as each author describes how they came to their particular study. Not surprisingly then, the nature of their individual concerns (whether they recognized them as such or not) impacted on the manner in which they approached their studies and the manner in which understandings of self began to be recognized and, in some cases, responded to.

Recognizing and responding to concerns is one way of thinking about purpose in teaching about teaching, and how it is played out in the different chapters offers an immediate reminder of the way in which the self impacts on not only the research but also the researcher. For example, consider the Concerns-based Adoption Model (CBAM) (Hall & Loucks, 1977), and what

it highlights in relation to innovation and change. CBAM distinguishes between early low-level *self concerns* characterized by a movement from a lack of concern or interest about the innovation to an emerging interest that leads to questions about how using the innovation might affect the user. Moving on from self concerns and into *task concerns* is characterized by a focus on managing the situation and the work involved in so doing. Then, *impact concerns* emerge whereby concerns related to consequences (how is my use affecting my learners?) may be recognized through concerns about collaboration (how can I relate what I am doing to what others are doing?) culminating in concerns about refocusing (what ideas do I have to make this work better?).

As CBAM makes clear, at each stage, the nature of concerns influences that which is being examined and offers insights into why it is being examined. So, for the studies that comprise Part II, reading each through a "CBAM lens" suggests that each author came to their work with different levels of concern, and/or illustrated different shifts in concerns through their studies. Using a concerns-based lens also highlights how the purpose underlying each study, despite the apparent level of concern that might have shaped it, was nonetheless based on a strong focus on issues rooted in the relationship between teaching and learning. Thus, being concerned about teaching, it seems reasonable to assert created a questioning perspective different to that of a distanced, objective, uninvolved observer, and therein lies a possible catalyst for understanding the nature of self and the manner in which it may be seen to influence the research conducted.

Consider, for example, the work of Buchanan. He offers insights into his perspective of self when he asks "what *am* I doing here?" and extends this further by linking his thinking about his current practice with memories of his own time as a student teacher. In so doing, a clear questioning about practice emerges whereby the teacher's and learners' perspectives need to be recognized, valued, and appropriately responded to. In this case, the learner self and the teacher self may well be confronted by conflicting and contradictory messages in many ways, but such messages appear central to much of his work in the chapter.

In terms of concerns, then, Buchanan initially appears to be driven by issues associated with the impact of his work on his students and, as his study unfolds, these concerns develop as he refocuses the purpose of his study to better understand the relationship between his practice and his students' learning through that practice. The self that emerges in this study is one characterized by reflection and reconsideration, a teacher educator beginning to "unpack" the complex nature of teaching and learning about teaching.

Stephenson is concerned to address the different traditions and practices of special education teaching, and her self emerges through confronting

"either or" views of practice (e.g., a behaviourist paradigm embedded in quantitative evidence vs. a constructivist paradigm embedded in qualitative evidence), in part perhaps, through a recognition of her own shift in understanding practice as gentle movements along a continuum – as opposed to rapid swings from one extreme in practice to another. Her concerns appear to be strongly task-based as she recognizes a "problem" with the manner in which special education is taught and so strives to address this problem. The self that emerges in this study is one of certainty and control, a teacher educator with a content issue that needed to be addressed.

A different self again is apparent in the work of Griffin, a self that emerges through reconsidering the results of a study into perceptions of learning. As opposed to Buchanan and Stephenson, Griffin appears to have embarked on a more circuitous route to arrive at a point whereby the importance of "unpacking students' learning" as a way of "enhancing learning" gradually became apparent to her as being equally important for her own teacher education practices as it was for her students of teaching: that which she was advocating for her students began to be considered as important to her own practice. Her concerns, although based in the study of others, may well be characterized as concerns about the impact of these understandings on the learning of others – then perhaps on her own learning. The self that emerges in this study is one of an inquirer as the learning from one situation (initial research project) began to be abstracted into her teacher education context.

Finally, but different again, was Aubusson. Through the use of analogies he came to see that important aspects of pedagogy that he previously had not fully apprehended came to be better understood when seriously reviewed in light of his own practice. The purpose of his study may initially have been to teach about the use of analogies, but as it evolved, the purpose reshaped that which was happening as his refocusing concerns led to new understandings of not only what was happening but also how those events impacted on his practice. The self that emerged through this study was one of a teacher educator beginning to see the real possibilities that self-study might offer in terms of reconceptualizing that which comprised his teaching and learning about teaching.

So as a group of studies, one way of viewing these authors' developing understandings of teacher education practices is enmeshed in their teacher educator self (as portrayed at that time through that particular study). As each self in these chapters illustrates, the nature of the concern(s) that appear to have initiated the studies, and/or developed and changed through the project, influenced not only what was researched and why but the results also had a bearing on the authors' thinking about their own practice.

As CBAM makes clear, until concerns about self and task are addressed, concerns about consequences and review are unlikely to surface sufficiently to drive deeper understandings of an innovation. In a similar vein, then, what self-study is and how it might influence approaches to teacher education practices must vary from teacher educator to teacher educator depending on that which is under consideration at that time, and those concerns will be central to developing views of teaching about teaching. Compounding this point further, self-study may also be viewed as comprising two concurrent foci: that self-study is concerned not just with teaching about teaching but also with researching teaching about teaching; the self is therefore central to both processes as the concerns that are most immediate will impact on projects accordingly. And, as Tidwell made clear at the outset of this section, managing both sets of concerns is inevitably linked to one's views of self as teacher and researcher.

THE "OTHER CONTENT" OF TEACHING ABOUT TEACHING

An interesting aspect of these studies of teacher education practices is related to the content that comprises each case of teaching about teaching. At a certain level the content (subject content) could be described for each as: Buchanan – teaching about teaching; Stephenson – the teaching of special education; Griffin – learning about learning; and Aubusson – teaching through the use of analogies. However, when considered from a self-study perspective, a different content quickly surfaces: the content that might be described as the knowledge of one's own practice.

Buchanan poses the question "Is my teaching a bridge or a barrier?" and this question, if seriously pursued by teacher educators, is indeed a strong point of entry into the world of self-study. Much of the literature on teachers' professional knowledge demonstrates how tacit such knowledge is and, further to this, there is little to suggest that teacher educators' knowledge of their own practice is any more explicit (Calderhead, 1988; Carter, 1990; Clandinin & Connelly, 1995; Cochran-Smith & Lytle, 1999, 2004; Elbaz, 1991; Munby et al., 2001). Hence, what it is that teacher educators see in their own practice offers insights into what might be described as the content of teacher education.

At one level, it is clear that the content of special education or learning about learning, or indeed the use of analogies, is important; however, at another, it is crucial that the manner in which that teaching is conducted does more than simply offer that content to students of teaching.

As Dinkelman et al. (2001) made clear, there is an important shift in how practice needs to be conceptualized when one moves from being a classroom teacher to being a teacher educator. A new imperative arises whereby that

which is being taught (subject content) needs to be thoughtfully constructed pedagogically; otherwise the hypocrisy of extolling the virtues of constructivism through a "teaching as telling, showing, guided practice approach" (Myers, 2002) inevitably prevails and potentially undermines the very point of the message in the first place. Just as Shulman (1986, 1987) described pedagogical content knowledge as that special amalgam of content and pedagogy that expert teachers display, so too it can be argued that teaching about teaching is a form of teacher educators' pedagogical content knowledge – subject content is taught in ways that are impacted by understandings of appropriate pedagogy to enhance student learning. In the case of teacher education, not only must the content be taught but it also needs to be taught in ways commensurate with the intent of the teaching purpose itself. Nicol (1997) offers insights into how one might respond to this situation:

> I attempt to construct and model a pedagogy of inquiry which parallels the pedagogy of mathematics instruction. . . . I want my prospective teachers to be investigating genuine pedagogical problems through which they might develop reasoned arguments about the problems and dilemmas of practice.
>
> (pp. 97–98)

> I would like prospective teachers to become researchers of their own practice. This means I need to think more about teaching researching, that is, I need to think more about the ways in which I might help prospective teachers research their practice. Researching my own practice is one way in which I might convey to students what the process might entail and what might be learned from engaging in the practice of researching.
>
> (p. 112)

Self-study can create the conditions through which this shift in understanding might be facilitated (when one becomes a teacher educator), but it should not be assumed that the shift is automatic or painless. Buchanan hints at this shift in thinking through the dichotomies he describes when comparing what he "says" and what he "does", e.g., taking academic risks is good/I only embrace intellectual risks in highly controlled circumstances; I don't believe the quality of my teaching corresponds to student opinion/I'm desperate for student affirmation. As Buchanan demonstrates, teaching is indeed problematic.

Students of teaching need to see, feel, and experience teaching as problematic in order to better traverse the very difficulties, dilemmas, problems, issues, and concerns with which they are confronted in learning about teaching. If their teacher educators do not teach in ways that make this content available to them, it seems unavoidable that a "best" or "correct" way of teaching will stand out as a major subtext on teacher education practices. Berry (2004) makes this point abundantly clear when she describes the tensions teacher educators experience in teaching about teaching. Through analysis of her biology method classes, she illustrates how teaching about

teaching assumes a different content through a meta-level of practice that emerges through involvement in self-study that, at first glance, does not appear so starkly when thinking only about teaching biology as curriculum content to students of teaching.

It may well be that this "other content" of teacher education (sparse in the mainstream teacher education literature but increasingly apparent in the self-study literature) is exactly what Aubusson was confronted by in making his reflections on practice public. As his chapter suggests, it is not sufficient in teacher education to present teaching as tips and tricks. There is a need for teacher educators to unpack their own practice in order to help students of teaching see into that which is so infrequently made available to them – the pedagogical reasoning, decision-making, problems, dilemmas, and choices that are the foundations for informed practice. Thus, recognizing that teaching is problematic and then being able to use it as a site for inquiry into teaching about teaching is risky business but it is an important aspect of the content of teacher education.

Teacher education should not (purposely or otherwise) portray teaching as simple or mechanistic. These chapters create interesting questions about the manner in which the authors' reflective descriptions of their teacher education practices could create real possibilities for students of teaching to see genuinely into the teaching that they experience. They also establish possibilities for powerful learning about teaching agendas that may develop as a result of the existing studies. For example, how might Griffin help her students of teaching access her pedagogical reasoning when attempting to teach about the need for students to learn about learning, or to pursue one of her own questions: "To what extent am I impacting on my students' perception of learning?" These, and many similar questions, create intriguing teaching about teaching possibilities if pursued through a self-study approach so that teacher educators' learning about the teaching of teaching might be enhanced. It is through this "other content" that the skills, knowledge, ability, and practice of teacher educators are really brought to the fore and how, through an articulation of teacher educators' professional knowledge of practice, greater valuing of the work of teacher education might be encouraged (both within the academy and the teaching profession).

INVITING CRITIQUE

Implicit in these chapters is an underlying question about how teacher educators might find out what their students of teaching learn from the teaching experiences created for them and how they might garner honest and genuine critique of their teacher education practices. Griffin explicitly states as much

when she asks: "How do I know that they [students of teaching] are telling me what they believe and not what they think I want them to tell me?"

The self-study literature offers strong examples of how such questions might be answered. For example, Hoban (1997) developed a powerful approach to gathering critical feedback on his own teaching through helping his students of teaching learn about their own learning. By embedding this approach in his teaching about teaching it became integral to his science method teaching and his students' learning about teaching.

> There is also another spin-off to using this teaching strategy – you are getting a weekly evaluation of not only *what* you are teaching but also *how* you are teaching. This is risky business; you are exposing yourself to criticism from your own students. But how can you expect trainee teachers to take seriously your recommendations about being a reflective teacher when you do not do it yourself? . . . This process not only informs the learners about their learning and the teacher about teaching, but can create a forum for encouraging debate concerning ideas about a real teaching-learning context – from their own methods class! But this teaching strategy depends on developing a level of trust within the class; you will know that this has been established when pre-service teachers are prepared to discuss their negative as well as their positive learning experiences in your course. Furthermore, many pre-service teachers commented throughout the course that seeking their views about my teaching demonstrated that I valued their opinion and that I was "practicing what I was preaching". I think it is important that we, as teacher educators, model procedures to establish a dialogue between teachers and students to engage in ongoing discussions about the quality of teaching and learning.
>
> (Hoban, 1997, p. 147)

Modelling, reflection, and inviting critique of one's own practice are all issues that should drive the manner in which teaching about teaching is conceptualized so that students of teaching are able to see that which they are being encouraged to do in their own teaching is central to their teacher educators' practice. As the self-study literature makes clear, there are no recipes that guarantee that students of teaching will offer their honest views of their learning in teacher education classes to their teacher educators. However, there are numerous examples of ways in which teacher educators might pursue such information in ways that can shape their teaching about teaching and enhance their students' learning about teaching. Perhaps embarking on the task is a first step in confronting what Buchanan described as "prepackaged microwaveable solutions", but no doubt that choosing to do so requires a decision to "confront this reality earlier rather than later", and to do so using one's own practice as a context for inquiry should be encouraged in teaching about teaching.

The opportunities for learning about teacher education practices that are possible through adopting a self-study methodology need to be moderated as per Bullough and Pinnegar's (2001) caution about the depth of involvement of the individual self (the caution related to solipsism is most pertinent here

as "self–study" does need to be moderated somewhat). It is not difficult to see in Aubusson's chapter that he was confronted by this issue and that the learning that resulted was important in shaping his understanding of teaching about teaching. Obviously, the "Grandpa Simpson syndrome" response from one of his students (Jo) highlighted for him that he was receiving honest critique of his practice and, although in one respect that may have been painful, it was also helpful and productive in drawing serious attention to his practice. As a result, he came to better understand what aspects of his reflections to make public for his students and found that his pedagogical purposes became much clearer (the tacit became explicit) so that his intentions and his practices could be much more closely aligned. Consequently, his understanding of his own teaching was challenged in productive ways as his teaching about analogies moved from being another "teaching trick" into an experience through which his teaching became a site for genuine inquiry into practice.

What this all highlights, then, is the importance of teacher education practices being conceptualized as much more than performance or the delivery of "good teaching". Self-study helps clarify the value in confronting the oft-overlooked chasm between the rhetoric and reality of teaching about teaching. However, what is learnt from such studies needs to extend beyond the individual. There is a need for the knowledge of practice to be shared in ways that progress the work of teacher education in meaningful ways.

SHARING THE KNOWLEDGE OF PRACTICE

These chapters are examples of the way in which the knowledge of practice might be documented and shared with others. Stephenson, for example, was concerned about the way in which special education might be taught to general education students and so, in one sense, her chapter is one way of sharing her expertise of this specialist field so that it might be informative to other teacher educators. However, viewed through a self-study lens, it seems that there is much more expertise that is not explicitly shared that would indeed be valuable to others; the same applies to each of the other chapters.

How the knowledge of practice might be shared with others then calls into question not only *what* that knowledge might be but also *how* it might be portrayed. Each of the chapters in Part II offers different forms of portrayal. No doubt they will appeal in different ways to different readers as they offer a diversity of writing styles and approaches to articulating the knowledge of practice. It is this issue about articulation, though, that is central to sharing the knowledge of practice.

Throughout the self-study literature there are strong examples of various aspects of the knowledge of practice that are examined in great detail in order

to highlight for others *how* what is learnt about teaching might *impact* teacher education practices more generally. The *International Handbook of Self-study of Teaching and Teacher Education Practices* (Loughran et al., 2004) offers access and analysis of much of this work, but one study in particular that offers interesting insights into the development of the knowledge of practice through self-study is that of Schuck and Segal (2002).

Their research actually encapsulates many of the issues that have been raised throughout this chapter. It therefore highlights what might be learnt through self-study. In collaborating, the perspectives and practices of their individual and collective selves became important avenues for creating new possibilities for learning as teacher educators. In examining the content (mathematics and science) of their particular fields through self-study, they came to see differently not only that content but also the "other content" of teacher education, especially so in relation to how teacher education practices at university did (or did not) reflect the reality of such practices and expectations in schools. Further to this, they were concerned to find ways of gaining honest feedback on their teaching because they were conscious that "beginning teachers might not want to be completely frank in conversation with us about any perceived shortcomings of our subjects" (p. 92).

Why I introduce this particular work is because their examination of their practice offers new knowledge of teaching about teaching through one important element of self-study that is not apparent in any of the chapters in this part. Therefore, it creates possibilities for advancing the knowledge of practice in ways that others might learn from. It was through their collaboration in practice, in research, and in writing that their knowledge of teaching about teaching was challenged, reshaped, and enhanced.

From the chapters in Part II, Buchanan and Aubusson in particular draw attention to the importance of reflection and, as Schön (1983) explained, a crucial element of reflection is the ability to frame and reframe situations. Without reframing, rationalizing practice may masquerade as reflection on practice (Loughran, 2002). However, what Schuck and Segal (2002) demonstrated was how important collaboration is in catalyzing reframing in ways that dramatically diminish the likelihood of such rationalization. Hence, the knowledge of practice that they introduce to the field is not only about the value of having a critical friend but also about how such "critical friendship" needs to be understood if alternative perspectives on situations are to be genuinely apprehended.

Bringing these views to bear on the chapters in this part then makes it immediately apparent that working alone demands more of an individual teacher educator than might be the case when working with a trusted other, as reframing situations is less likely when working alone than when working collaboratively. If Buchanan had been working with a critical friend, one

wonders what questions of his practice might have been posed that would have offered alternative views of his pedagogy. How might he have responded to his own questions if they had actually been posed by someone else? Alternatively, what if Buchanan's questions had been asked of Aubusson, Stephenson, or Griffin? The point is that a crucial aspect of self-study that has been important in shaping what teacher educators have come to see in their own practice is through the manner in which they have learnt through collaboration: collaboration with others and collaboration through learning from the literature.

Individual teacher educators' knowledge of practice has little impact on the field if it is not shared, critiqued, and developed within the community of teacher educators. Therefore, these chapters need to be seen as an invitation to collaboration so that these authors' developing knowledge of practice might similarly be critiqued and developed as a result of their textual sharing. Maybe, as a result of this project, the individuals might find ways to work together to raise the very questions of each other that they have begun to articulate for themselves. Maybe then they will be in a position to recognize and respond to their existing frames about their own practice as a consequence of being challenged by the framing of others. If that were the case, no doubt the subsequent studies would make a valuable contribution to the ongoing work of academia, as they would further extend knowledge about the teaching and learning of teacher education, and genuinely impact teacher education practices of others.

CONCLUSION

From the work that comprises Part II it is clear that each author has grappled with dilemmas in their practice that, in many ways, reinforce the notion that the work of teaching about teaching is problematic. Yet, the difficulty for all is that although good teaching about teaching may well increase the level of uncertainty inherent in practice, in reality it is rarely made apparent for students of teaching. Thus, the more the problems and dilemmas associated with teaching about teaching are articulated, portrayed, and examined in teacher education, the more likely it is that teaching itself will be better understood and valued within both the academy and the teaching profession.

The challenge is for teacher educators to purposefully examine their teaching about teaching in ways that might positively impact the learning of their students and, in so doing, build on the knowledge of practice that is so crucial to shaping the practices inherent in strengthening the relationship between teaching and learning. The expectation that teacher educators might openly confront the dilemmas and challenges of teaching about teaching is

an important agenda in the development of learning about teaching about teaching. It is a future direction that must be grasped and responded to, and it requires teacher education practices to move beyond the individual. Thus, in seeking to develop collaborative approaches to learning about teaching, teacher education as a field may be enhanced, and that has important implications in relation to the nature of teaching and learning in schools.

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Part III

Processes of Self-study of Teacher Education Practice: Ways of Seeing Ourselves

Chapter 11

My Professional Self: Two books, a person and my bedside table

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INTRODUCTION

In this chapter I examine how my life-world, which is composed of my professional and personal selves, is historically constructed, ever-changing, interactive, and dynamic. I explore the ways in which I have understood my roles as facilitator and participant in practitioner enquiry in the context of engagement with professional communities of practice and also consider some of the issues and dilemmas that have arisen. I illuminate and reflexively examine a specific issue in relation to the problematics of being judgemental through a case study of student voice in school improvement in a particularly challenging and troubling context.

Turning to myself, in particular, I propose that at one and the same time, my professional self and my personal self are both distinguishable and indistinguishable. I can describe these selves separately, succinctly, and with reasonable accuracy, but I know each one infuses the other. A self-study of my work as a practitioner-research facilitator and participant demands that I acknowledge how each self influences and informs the other. In making explicit the interaction between my professional and personal selves, it is my desire that I uncover, in some small way, the formation of a teacher educator who, towards the end of an academic career, is continuing to reflect on matters of identity and practice.

How then do I see myself as an academic practitioner engaged in facilitating and participating in critical enquiry that avoids being celebratory, cathartic, and confessional (Pillow, 2003). I begin to answer this question by drawing upon an ingenious device used by a radio programme to commence a conversation with its guests – a conversation intended to reveal insights into their ways of understanding themselves.

TWO BOOKS AND A PERSON

A local radio station, in its late night broadcast, regularly interviews a range of participants regarding two books and a person that have influenced them in becoming who they are. You, the reader may say, "surely self understanding rests upon more than such flimsy props?" and of course this is so. However, the very act of selection requires the making of the tacit more explicit, more tangible, and more contestable. So what books and which person, out of the many, would I select?

While on study leave at the Centre for Applied Research in Education (CARE) at the University of East Anglia in the early 1980s, I had the privilege of working alongside Professor Jean Rudduck who was organizing the archives of the late Lawrence Stenhouse. Among his memoranda were several references to *The History Primer* (Hexter, 1972). Stenhouse found this work a powerful critique of what he saw to be a spurious claim on the part of social scientists to a form of detached rationality. On finding the book I was unable to stop reading it and I return to it to this day. I was captured from the outset by the book's structure. It commenced with a "non-chapter". More than a prologue, this section of the book is a reader's organizer that explains how and why the book is titled as it is. The non-chapter acts to seduce the reader by its seemingly accessible and transparent language. You want to read on, because you think you understand, only later to be stopped in your tracks time and again by the complexity of the argument. For me, the engagement with a rich and multilayered text, one that challenges and confronts one's beliefs and practices, is a text to which one wishes to return. In Hexter's own phrasing, it is what makes writing about practice, in this case doing history, so easy and so hard.

But textual seduction is not a sufficient reason to include this book as being one that is both powerful and influential on my development as an academic practitioner. Most importantly, it was Hexter's idea of "the second record" (pp. 104–144) that I found so intriguing, just as it had captured the imagination of Stenhouse. For Hexter the second record is "indefinite in scope, and much of it personal, individual, ephemeral and not publicly accessible" (p. 104). The second record is that which the historian, or for that matter any practitioner, brings to the practice that comes from his or her life experience. It is omnipresent. Thus, Hexter's various attempts to render the past intelligible come not only from his scholarship and enquiries but also from those things that he has encountered on his life's journey.

> Once one recognises that a very, very large part of each man's [sic] second
> record consists of the knowledge of himself and of others that he uses to steer
> himself through the daily dilemmas and difficulties of living, to question

> whether in his struggle with the record of the past a historian should use knowledge so relevant to understanding human conduct and so regularly tried in the crucible of experience becomes almost impertinent.
>
> (Hexter, 1972, p. 125)

Hexter's argument is not *whether* the second record should be drawn upon, but *how*, and *how best* it might be utilized. Thirty years on, these remain questions for the social practitioner; although today there may be a greater willingness to admit the second record, take, for example, Thomson's (2004) words:

> Some say that all research is autobiographical. The person of the researcher saturates enquiry; from the formulation of the problem, the designation and production of the data, the analysis of the words, numbers and/or images, to the crafting of the final text.
>
> (p. 44)

I want here to pause in order to provide a practical example of a second record that will serve to demonstrate one of the many ways in which it affects and influences my own professional practice. I have chosen to list the books (both fiction and non-fiction) that currently are on my bedside table and provide beneath each one the ways in which it is impacting upon my thinking and deliberations:

- Terry Eagleton's *After Theory*

This was a Christmas gift from my son. Its language is bold and provocative. It proposes that we have already gone beyond the frivolities and hedonism of postmodernism and that we must now more seriously engage with love, evil, death, morality, metaphysics, religion, and revolution. It is particularly apposite in today's troubled world and asks us to "burrow through complex swathes of self-deception" (p. 137). It has assisted me in reconnecting with my modernist roots.

- David Marr & Marian Wilkinson's *Dark Victory*

At the time of writing this chapter Australia has just completed a federal election. *Dark Victory*, a most troubling work, traces the campaign against boat people fleeing such places as Afghanistan and Iraq in leaky and unseaworthy vessels. It commences with the saga of the *Tampa* and concludes with the sinking of the SIEV X and the since discredited tales of throwing children overboard. I borrowed this book from our local library because I wanted to understand better how it is that "evidence" can be so distorted and why we need to treat the term with such caution. I am puzzled by its lack of impact upon the political discussions that swirled around the election. In terms of my professional self, it confirmed my concerns about the unproblematized treatment of the phrase "evidence-based practice" by so many

government authorities when looking to make decisions about what counts as good practice. All too often there seems to be an inclination to search for "best practice" on the grounds of irrefutable evidence – a chimera if ever there was one.

- Robert Dessaix's *Night Letters* (1997)

When reading this book I hear the mellifluous voice of the author. A frequent contributor to Australian broadcasting, Robert Dessaix has a distinctive voice and a gift for rendering the most prosaic, poetic. It acts as constant reminder that the text, the writer, and the reader are indivisible. It brings to the fore the ongoing understanding that when engaged in educational enquiry, my own history and value system are inextricably linked into the what, how, and why of my investigations.

- Ian Rankin's *A Question of Blood* (2003)

Yes, I like crime fiction. I like to lose myself in circumstances I am never likely to find myself in. At the same time, I particularly choose writers such as Rankin because they write of places that I know, places that I can return to in my head and have my "safe" adventures.

Each of these books, then, is currently informing my second record, which is a mix of many things including elements of my domestic life such as my daughter's struggle with concepts of history and reconciliation in writing her master's thesis, or my husband's concerns as a community activist forever engaging with government in relation to local environmental problems such as airport noise, waste transfer facilities, and traffic emissions. As I read drafts of my daughter's thesis or newsletters prepared by my partner, or engage in dinner conversation with them, I am meeting new ideas and concepts that cannot fail to influence and affect me.

I return to a second influential book from the past. The other book that I cite as having profoundly influenced me is Colin Turnbull's *The Mountain People* (1973). I was introduced to this text by my brother. He too wanted to interrupt my previously held beliefs about scientific rationality. Turnbull's study of the Ik, unlike any other of its kind, is brutal, harrowing, and pessimistic. He finds that he cannot escape being judgemental. As the careful recorder of Ik life, Turnbull follows the anthropological code but in the end confesses to a loathing of the people and their way of life. It is not a pleasant book to read; indeed many would wish to dismiss it as some dreadful form of outmoded imperialism. What is significant, for me, is that it is an example of the inescapability of the emotions of the researcher. Turnbull's account is more an account of his own despair than of the desperate conditions of the people he was studying.

Finally, to the person. So many from whom to choose, but as I examine my own public voice, I find the person to whom I most regularly return is the late Lawrence Stenhouse. In a recent chapter on critical practitioner enquiry (Groundwater-Smith & Dadds, 2004, pp. 240–241), I wrote that Stenhouse's minimal definition of research is that it is systematic self-critical enquiry, based upon a stable and deep curiosity (1981). He has also written of research as systematic enquiry made public (Stenhouse, 1979). Stenhouse argues that curiosity is wonderfully dangerous because it leads to social change. It proposes heresy and threatens faith. It gives a better-informed context for action than blind faith would lead us to. In contemporary terms, such research is evidence-based enquiry.

Stenhouse believes the researcher is never free of his or her values; he places a greater emphasis upon *interests* and the ways in which researcher interests can be made transparent. The researcher is interested in the phenomenon being examined, not only in terms of the curiosity but also in terms of perceived advantages and disadvantages that may arise from the work. For Stenhouse, research work is moral work. No one can claim theoretical innocence.

Transparency lies behind Stenhouse's concern with publication. Research that remains private cannot be scrutinized and critiqued. Unfortunately, much that is made public is not made available. Stenhouse (1981) suggests that "perhaps too much research is published to the world, too little to the village" (p. 17). For him the local collegiate group, dedicated to action, is the first audience for practitioner research.

As an academic practitioner who both facilitates and participates in practitioner enquiry, this brief exercise of deciding upon two books and a person has revealed to me some fundamental concerns about my practice, as indeed have those other revelations about bedside reading and family interests. How then is my practice influenced by my second record? How do I deal with matters of judgement? How can I argue that evidence-based practice is moral work beyond mere technical-rational decision-making? Before addressing these questions more directly I think it it would be helpful to outline the context in which I currently operate.

FACILITATING AND PARTICIPATING IN PRACTITIONER ENQUIRY

Since leaving a full time academic appointment I have had the great pleasure and privilege to work as a consultant researcher and facilitator of practitioner enquiry with individual schools, employing authorities, and teacher education programmes in a number of Australian states and territories. A consistent thread weaving through the various consultancies and honorary

appointments has been a concern to enhance understandings of what consti-
tutes practitioner enquiry and how we might engage young people in schools
more directly in investigating their lives within them. For young people do
not merely "attend" school, they live out a considerable part of their lives
within them, including not only their academic lives but their social lives
also. Schools and their practices are agents in shaping how young people see
and understand themselves.

Where does one draw the line between facilitating and participating in
practitioner enquiry? In reflecting upon my academic work I find that the
boundaries between the two are not always readily identifiable. In considering
a large national Australian programme, Innovative Links Between Schools and
Universities for Teacher Professional Development (Groundwater-Smith,
1998), I wrote about the project as an action research – based professional
development project initiated as a key component of the National Professional
Development Program. Teachers involved in the project worked in partnership
with academic associates from 14 universities to use collaborative action
research to implement programmes of school reform aimed at improving
teaching competencies and learning outcomes for all students. Specifically
they were expected to:

- use action research to implement programmes of school reform;
- engage in professional discourse and critical reflection;
- engage in professional reading and writing;
- engage in reciprocal learning about teaching, learning, and educational
  reform; and
- translate learning into improved teaching and learning outcomes for
  students.

I argued that the role of facilitator was to assist the practitioners in surfacing
issues through the collection, analysis, and interpretation of evidence. The
intimation was that the facilitator did not actively engage in these actions
himself or herself, but maintained a more removed stance providing advice
and resources. In effect, such neutrality is not possible. As McTaggart (2002)
maintains, this position would reduce the role to one of "process consultant"
acting as technical adviser denying the social responsibility to participate in
the change itself. In more recent years, I have found myself more substan-
tially and less ambiguously engaged. In effect, my professional self is under-
going a transformation, partly, I suspect, as a result of being less bound and
constrained by the regularities of university life. (While engaged in the
Innovative Links Project, I was still a full-time member of an academic staff).
As I have indicated, since then I have held a number of honorary positions,

including directing the Centre for Practitioner Research at the University of Sydney. At the same time I have developed a consultancy based upon educational research and teacher professional learning. While mindful of engaging in ethical professional practice, I have not found myself constrained by the regulatory frameworks of the University or the specific expectations of what "counts" as educational research (see Yates, 2004).) This change is best represented in my work with the Coalition of Knowledge Building Schools (Groundwater-Smith & Mockler, 2002a, b).

Early in 2001, in New South Wales, Sydney, teachers from a small number of schools three from the government sector and three from independent schools sat together and discussed the possible formation of a Coalition of Knowledge Building Schools. They saw themselves contributing to the ongoing improvement of the work of their schools through the systematic and public collection and discussion of evidence regarding teaching and learning within the lived life of the school. They shared a view that evidence was best considered in the forensic rather than adversarial environment (see Groundwater-Smith & Dadds, 2004 for a further discussion of this distinction); i.e., that it should be constructed and examined in ways that illuminate understanding rather than as a means of proving a particular case.

The Coalition believes that by embedding enquiry practices into the daily work of the schools it is possible to evolve an authentic workplace learning culture. The members recognize that professional learning is not an exclusively individualistic enterprise, but that learning and growth can take place at the organizational or corporate level. In effect, the Coalition is a community of practice (Wenger, 1998). The notable feature regarding this work is not only the detail of what was done and the ways in which it was accomplished but also the ways in which it enables the teachers to reflect together. Much of the previous work on teacher thinking has focused upon reflection as an individual act, rather than a collegial communicative exercise.

The formation of the Coalition has been a dialogic exercise, which has engaged the school-based practitioners with each other and with critical friends in the academic community, including myself. Kemmis (2000) speaks of connecting the life-worlds of educational research. Academic researchers, albeit in an honorary capacity in my case, and practitioner researchers working in the school environment operate in different realms with different mores and rewards; some have characterized these as parallel universes. Nonetheless, as I am coming to see more clearly, the problems and processes on one side are interconnected with problems and processes on the other. Real dialogue between each of us can contribute to a more inclusive critique of educational practices as well as informed, well-judged actions.

Ebbutt (2002) makes a distinction between schools engaged in: (1) no culture of research; (2) emergent research culture; (3) established research culture; and (4) established-embedded research culture. Of the nine schools now in the Coalition, four would be in the second category, three in the third, and two in the fourth. This mix makes for very generative interaction between the schools as they share and discuss their various enquiries.

What is of particular note is that the Coalition did not form in response to external initiatives such as a funded programme or university partnership, but because the schools themselves had an expressed desire to work in a particular way. Indeed, they now look outward to support professional learning further afield. Five of the member schools worked with me and the audience research unit of the Australian Museum to investigate what assists and impedes learning in that museum (Groundwater-Smith & Kelly, 2003).

This, then, is a very different context than that outlined in relation to the Innovative Links Project. It is now the case that I work alongside my school-based colleagues as, together, we design studies, gather data, and make sense of the evidence. Indeed, in a number of situations school students themselves are involved not only as informants but also as active participants in the enquiry processes (Needham & Groundwater-Smith, 2003). It is one such study, where student voice has been paramount, that has served to highlight for me some of the difficulties that are faced when the need to know and understand is confronted by the need to protect, perhaps even self-censor (Tickle, 2001).

ON BEING UNSETTLED

As a result of a large funded study (not cited here in an effort to protect the anonymity of the school), I was invited back to work with a school who could see clear benefits in involving their students in an investigation of what might be done in order to assist them in "learning to do school". The school has also recently become a member of the Coalition.

Schools exist to educate their students, but it is a curious thing that as the "consequential stakeholders" (a phrase that has long been used by the Queensland Board of Teacher Registration) with respect to the many decisions that go into the organization of schools, curriculum, and assessment practices, students are rarely consulted about what happens in their classrooms, in the playground, and more generally in the ways in which the purposes of schooling are discussed. As Crane (2001) indicates in her portrayal of the Students as Researchers project at Sharnbrook Upper School and Community College, UK:

> Not only can the students come to school to learn; but they can and indeed must be an integral part of the school's own learning. Schools cannot learn how to become better places for learning without asking the students.
>
> (p. 54).

The case study upon which I draw demonstrates that students can both participate in enquiry processes and be reflective about their own lives and the place of school in them. This study not only illustrates the power of student voice but also gives insight into the social attitudes and practices that are part of the lives of young boys in a predominantly Arabic community that was and remains under great stress. The study had two components: the first of these was where young students assisted in developing key questions, trained as conductors of focus group investigations, and assisted in analysis and interpretation of the data; the second component, on which I will more fully report, rested upon individual interviews with senior students regarding the ways in which they understood their families and their community contributed to their learning and their judgements and concerns about the conditions for learning within their school.

The second phase of the study followed my observations of the Grade 11 Studies Skills Programme. I was particularly unsettled by the angry and disruptive behaviour of a number of boys. I found it difficult not to judge them as "ingrates" who failed to appreciate the work that had gone into preparing a programme designed to assist them in being ready for the tests and examinations required by the State. In some ways I was experiencing that sense of anger and alienation about which Colin Turnbull wrote. A number of issues were raised with the school principal, the deputy principal, and the head of English. In this sense, I was acting not only as a facilitator of the enquiry but also as an interested, indeed judgemental participant, for the disruptive behaviour of a number of boys greatly concerned me, as it did the teachers. Among the agreed issues were:

(1) The need to connect learning to students' experiences in and out of school and to their goals and aspirations.
(2) The challenges faced by senior students undertaking high stakes assessment when they often do not have the vocabulary for deep engagement with their learning.
(3) The pedagogic requirement for teachers and students to be explicit in teaching and learning strategies.
(4) The necessity to motivate students by drawing attention to the practical implications of the skills of paying attention and dealing positively with distractions.

In discussing these issues I expressed that students had difficulty in fully appreciating what it is to "do school" in the context of a statewide curriculum framework where their achievements and outcomes would be compared to those of other young people of their age and stage in learning. I believed that there was a lack of congruence between experiences in the home and community and those in the school. This was not taken to be a negative judgement of home and community, but rather that the fit was problematic.

As a result of the discussion with the senior management of the school it was thought fruitful to take the concept of "student voice" and extend it to the senior end of the school, in particular grade 11. It was agreed that individual interviews would be conducted with a random sample of one-third of the grade 11 student cohort as they began their grade 12. Some time was spent with key members of staff considering how best to shape the interview in ways that would be engaging for the students.

Prior to the interviews taking place, each student was given the opportunity to sign an informed consent form, which had been explained to him or her. One student decided to withdraw from the interview without sanction or penalty. He returned later requesting an opportunity to undertake the interview. Each interview commenced with an orientation to its purpose, which was to gain students' perceptions of how school works for them against the background of living in their families and in the community. As a method of discussing the home context, students were asked: "If you were to take five photographs of your family, what would you photograph and why?"

This chapter does not have the scope to present the results of this study. Its design has been detailed to illustrate that my role went beyond facilitation as I became involved in the study as a participant in the discourse regarding the educational needs and provisions for boys in a volatile and troubling context. I was certainly not a disinterested participant. On the one hand, I understood the constraints placed upon the school and the boys by State policies developed around a competitive academic curriculum that seemed quite unsuited to a number of the boys' needs. On the other hand, I was concerned that students themselves placed impediments in the way of those of their peers who did wish to engage with that curriculum.

As an outcome of the study and at the request of the school principal, I prepared a discussion paper, and it is to some particular features of that paper that I now wish to turn, in that I became aware of how unsettling the discussion would be in the context of a school environment that acts to test the patience and goodwill of all of the stakeholders: students, teachers, and parents alike. I was mindful of the teachers, who would be the principal audience to the paper, having to deal with many of its matters on a day-to-day

practical basis, and that its contents should aim to stimulate some new discussion on old and enduring issues.

In the paper I argued that there is a need for the students and their teachers to understand not only their multiple ethnic cultures but also their youth culture and how and why their daily interactions are affected by their differing cultural practices. As Hickey & Fitzclarence (2000), in their study of adolescent male culture, and Keddie (2003), in her study of younger boys' friendship groups, have indicated, peer culture is a potent force in shaping boys' understandings of themselves and of others. They point to boys' powerful desire for self-legitimation and belonging as central to their construction of their masculine identity.

Importantly, I argued in the paper that it must be acknowledged that students' identity formation is not identical; it should not be imagined that they are an undifferentiated group (Moya, 2002, pp. 136–174). Some play sport, or music; others like art or to tinker. Each has their own biographical history.

Hechter and Okamoto (2001) see that urbanization and the increased crowding of cities is bringing groups into closer and closer contact. They argue that this makes ethnic coexistence, particularly between adolescents, a paramount concern. Therefore, it is essential that connecting learning to students' experiences must first of all recognize not only the diversity of those experiences but also that they are, in the main, positive and valuable ones. As Thomson (2002) has pointed out in her powerful and extended study of schools operating in difficult circumstances, students from varying backgrounds carry (metaphorically) very different things in their school bags and this impacts upon their success within the school system:

> The children who are most often successful are those who already possess, by virtue of who they are and where they come from, some of the cultural capital that counts for school success. Through the game of schooling they acquire more. They are able to do this because they are "at home" with both the ways in which schools operate and with the kinds of knowledge the cultural capital involved. They are at ease in the place called school – it is their place.
>
> (p. 5)

I indicated, in the discussion paper, that it is important and realistic to recognize that while the students have considerable cultural currency, it is not necessarily in the coinage that is validated by the school curriculum or the high stakes assessment at the conclusion to the senior years. A significant purpose for schools such as the one covered in this case study has been to provide its students with the proper rates of exchange in order that they can participate fully in the mainstream culture.

This brings me to return to what I have found to be so unsettling. In the paper I concluded that nearly 30 years ago Paul Willis, in his study of working class "lads" in England, wrote:

> The difficult thing to explain about how middle class kids get middle class jobs is why others let them. The difficult thing to explain about how working class kids get working class jobs is why they let themselves.
>
> (Willis, 1977, p. 1)

Since then he has noticed that

> [a]lthough the social and political landscape has changed there continues to be very hard and persistent elements of resistant culture in schools. Despite their sometimes anti-social nature and the undoubted difficulties they produce for classroom teachers, these cultures continue to pose in living form, crucial and collective questions from the point of view of the working class: What is "progress" for? What can I/we expect from the sacrifice of hard work and obedience in school?
>
> (Willis, 2003, p. 396.)

I pointed out that the boys, whose voices have been central to the case study, face a fundamental dilemma; they simultaneously resist and seek for conditions that will allow them to engage more effectively with their learning. School for many of them and their families is akin to "a new land". In his reflections, through the disciplinary lens of ecology, Flannery has written:

> The issue of cultural maladaption is a critical one for these people (inhabitants of new lands). In many instances their maladapted cultures are dramatically incompatible with the environment they find themselves in, and it may take a very long time for them to adjust.
>
> (Flannery, 1994, p. 389)

Flannery goes on to propose that one survival strategy has been to survive in the present at the expense of the future. An argument could be made on the basis of observations of classroom confrontation that the students in this challenging school are effectively consuming their futures. This claim is clearly judgemental. Have I stepped beyond the boundaries that are reasonable to expect of my professional self? Has my personal self, which wishes to see schools as calm, creative havens where young people can substantially engage in productive learning (McFadden & Munns, 2002), been so affronted that I would prefer to judge the students rather than the circumstances that have created such residualized schools and such apparently irrelevant curricula in the first place? Has my own second record that is based upon a biography of academic success too readily influenced a belief that such success should be the aspiration of all students? As McNamee (2001) has observed:

> There are ranges of everyday circumstances in which we come to know things we surely wish we did not. The phrase "when wisdom wakens woe" is felicitous in precisely these circumstances. One thing is certain, though: our researcher cannot "un-know" matters. There is a sense in which our researcher must wish she had not come to hold such knowledge. It weighs her down. But how to characterise the accompanying emotional state: that is a philosophical and not merely psychological challenge.
>
> (p. 433)

Neither I nor the teachers with whom I worked can "unknow" either our own experiences or the values that have infused them and resulted from them. But what we can do is make those values more explicit and transparent, such that they too can be challenged. We need to explore those values in light of our professional and personal histories as Hexter did in his evocation of the second record. We need to understand why it is that we feel hostile to those very young people whose lives we seek to improve. These things we can best do when we follow Stenhouse's direction to make public our reflections.

CONCLUSION

In this chapter I have raised what I see to be some critical issues regarding the ways in which practitioner enquiry interacts with professional identity for all who participate, but most particularly in relation to my own formation. I have argued that there is an ongoing imperative that, as a professional community, we constantly interrogate our beliefs and values if we are to engage in careerlong professional learning. Each of us needs to develop ways to make our second record explicit by revealing something of our life histories, scrutinizing the ways in which they influence our professional lives, and doing so in a public, rather than private, form.

As I reflect upon my experiences I have come to appreciate that our professional identities are more fragile than I had imagined. During a professional career we need from time to time to stop and reflect upon some large and troubling questions – questions that will certainly lead us to return to some fundamental social issues associated with the very purposes of schooling. Facilitating practitioner enquiry, in general, and the case study that I have cited, in particular, serve to surface some of those questions. Among them are:

- Why do we, as teachers and teacher educators, unintentionally conspire with government policies that valorize the competitive academic curriculum; compel reluctant learners to attend schools that do not meet their needs; assess learning achievement within normative and normalizing frameworks; and, create marketplaces for schools that inevitably lead to residualization?

- Are we consciously aware of our own values and beliefs and the ways in which these infuse our ideological stance with respect to schools and their purposes?
- Do we question the distribution of power in the schools, in which and with which we work, and the consequences that this distribution has upon the ways in which we might act, grow, and develop?
- Can we permit ourselves a right to be angry about the circumstances that we face from time to time, and, if so, can we channel that anger into productive practices and policies?

When I began to write this chapter, I was not entirely comfortable with revealing so much of myself and wondered of what consequence it would be to those who read it with an interest in teacher professional learning and development. Even now, many drafts later, I do not know the nature of its impact, but I do know that I have learned something about myself and the way in which my professional identity is constructed.

For me, facilitating and participating in practitioner enquiry certainly has the effect of being the stone in the shoe. It is often more than a little uncomfortable, but in the end immensely liberating. For all of us, as those who are engaged in professional learning, acknowledging and understanding our second record and its impact upon what and how we engage in our practice is a matter with which we need to be deeply and vitally concerned.

Izaak Walton (1653) wrote in *The Compleat Angler or The Contemplative Man's Recreation*: "Angling may be said to be so like mathematics that it can never be fully learnt." Just as one can always learn more about fishing, or indeed mathematics, so too one continually learns about oneself.

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Chapter 12

Self-Study, Teacher-Researcher, and Action Research: Three Sides of a Coin?

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INTRODUCTION

We began a teacher-researcher action research project expecting it to be complicated and challenging, but inherently useful in its contribution to improving practice and student learning in a secondary school grade 8 science class. To enhance the quality of the research, features of action research recommended in a review of the literature were built into the research plan (Burns, 1994; Carr & Kemmis, 1986; Denzin & Lincoln, 2000; Glesne & Peshkin, 1991; Silberberg, 2002; Tobin, 1999; Wood, 1988). We adopted a traditional action research approach and thought it sat unambiguously within a self-study-of-teacher-researcher methodological framework, like a set of Russian dolls. How naive! We deluded ourselves that in teacher research the roles of teacher and researcher were complementary, indeed synergistic, for the research project. The reality was that we learnt at least as much about doing research per se, about ourselves, and about the roles we played in the research as we did about the research topic, writing in science.

This chapter focuses on the research process and the match and mismatch among the methodologies employed. It is organized according to the chronology of selected, relevant phases of the research: choosing a research methodology, conducting the research, and reflection on the process. First, we briefly outline why we chose a teacher-researcher action research methodology – notably this was established a priori; second, we explain how we came to consider the research self-study – an emphasis and need that became progressively more explicit. The self-study continued ad hoc, long after the initial research finished with Robyn's completed thesis, as we met periodically to discuss and reflect on our relationship in the research process. Then, key

events illustrating the clash between researcher and teacher roles are outlined as are the varied emphases of the methodologies that informed the research design. The influence of different perspectives of teacher-researcher (Robyn) and researcher-collaborator (Peter) are recounted to inform our need to take into account more fully the teachers' emotional gestalts involved in action research. Finally, we ask whether our self-study, teacher research, and action research are complementary or antagonistic modes of inquiry. This is an important methodological issue because the approaches are exactly those that are employed to develop understandings of practice and they are often viewed as compatible.

Selecting a Methodology

We wanted a research process that allowed Robyn to investigate and improve her practice as part of her day-to-day teaching. Teacher research seemed a likely methodological framework. Cochran-Smith and Lytle (1993) proposed "teacher-researcher", based on action research and reflective practice, describing it as "systematic, intentional inquiry by teachers" (p. 5). They argued that it locates teachers as generators of knowledge about their profession. It is largely driven by the teacher's personal goals (Johnson, 1993; Loughran, 2002) as teacher-researchers are often more interested in finding solutions to issues in their own classrooms and show bias that reflects the teacher's own theories and experiences (Bissex, 1987; Mitchell, 2002). Robyn's study is typical of teacher research, being concerned with bringing about changes in her classroom (Belanger, 1992; Cochran-Smith & Lytle, 1999; Copper, 1990; Stenhouse, 1975). In this case, concerns about students' limited progress in science led to many issues that crystallized into questions on student writing and the opportunities for improvement.

Action research appealed to us because it offered a systematic method to inform and improve practice. Corey (1949, 1953) predicted the benefits of action research. His hypothesis was that schoolteachers could make better-informed decisions and implement more effective practices when the research was part of the normal process of teaching. He defined this inquiry as "the process by which practitioners attempt to study their problems scientifically in order to guide, correct and evaluate their decisions and actions" (p. 6). A variety of forms of action research have evolved but all adopt a methodically iterative approach, typically: (1) problem identification; (2) planning; (3) action; and (4) evaluation of the action by reflection. In a cyclic process, the insights gained in one action cycle provide the impetus for the planning for a subsequent cycle in which the action is modified (Holter & Schwartz-Barcott, 1993; Kemmis & McTaggart, 1988; McKernan, 1991;

Zuber-Skerrit, 1992). For Robyn, the most important aspect of action research was its responsiveness to the problems that she and her students perceived (after Schön, 1983) because action research is strengthened, not weakened, by focusing on the participants' needs as they emerge in the practical situation (Hanrahan, 1998). By following the four steps of the action research cycle, the researcher is required to focus carefully on the identified problem and to systematically evaluate the situation, plan and activate an intervention to respond to the identified problem, and then evaluate that intervention. In this way, Robyn's study set out to contribute to "practical wisdom" (Korthagen, 2001, p. 22) about teaching. In this study, the attempted changes in classroom practice were sometimes not successful and often yielded ambiguous outcomes but, as Northfield et al. (1997) suggested, "these failures . . . led to valuable insights" (p. 7), including insights into the interactions among self-study, action research, and teacher research methodologies.

MIXED METHODS

The interface between self-study and action research is progressively being clarified. Self-study may take many forms (see, e.g., Loughran et al., 2004) other than action research but it is less clear whether traditional action research constitutes self-study. In the context of teacher education self-study, Feldman et al., (2004) conclude that action research can be characterized as "a vehicle for systematic critical inquiry into one's self. In a sense we are saying that action research provides the methods for self-study" (p. 974). This view develops initially from Zeichner and Noffke's analysis of practitioner research (2001). According to their analysis, five forms of participatory inquiry can be identified, of which three are relevant to this chapter: teacher-researcher, self-study, and action research. Within action research, two forms can be delineated (Feldman et al., 2004):

(1) Traditional action research (in teaching), which is characterized by identification of a problem a priori, followed by development and testing of practices to solve the problem.
(2) Emancipatory action research, which also deals with practice and problems but seeks to understand the complex social contexts, nature constraints, and restraints that operate in the social setting.

Interestingly, Feldman et al., locate discussion of emancipatory action research within a teacher-researcher classification (p. 945), and imply that traditional action research, with its technical focus on solutions to practical problems, is passé and has been consigned (appropriately) to pre-service

teacher education. In contrast, Kemmis and McTaggert (2000) identify six forms of action research, which suggest that the research reported here is best classified as classroom action research because the teacher (Robyn) set about to improve practice in her own class in series of action – reflection cycles. Notably, they argue that all participatory action research should be emancipatory, helping people to release themselves "from the constraints embedded in the social media" (p. 598). In this chapter, we draw on our experience of a research project that could be described as that of a teacher research self-study using a traditional action research method. The salient feature that locates it as traditional action research is that the aim was not to change the system or social milieu in which Robyn and her students operated, but rather to assist students to better succeed within the existing system.

The study reported here was a year-long teacher research project. It involved the collaboration of Robyn (a science teacher who became the teacher-researcher) with Peter (her doctoral supervisor) and Gail (a special education teacher at the same school as Robyn), which set out to improve writing in science of a grade 8 science class. That writing in science was a problem for the grade 8 class and other junior secondary classes had been established through surveys of students and interviews with staff. Robyn proposed that a prolonged engagement with a grade 8 science class would lead to a better understanding of how students view and use their writing to demonstrate their knowledge of scientific concepts. This information would then be used to develop teaching strategies that could improve these students' written expression of their knowledge. These strategies could then be tested and become more widely used to alleviate the problem with writing in science. The grade 8 class was a graded class consisting of the lowest achieving students in science.

Although not initially conceived as self-study, we gradually came to view it thus. A traditional action research method, including a technocratic emphasis, formed a basis for the design of this study. It examined the effectiveness of teaching practices, as entities. Perceptions of, and evidence about, student achievement (in class tasks, homework, and tests that coincided with Robyn's use of various teaching strategies) were key measures of effectiveness. This is consistent with traditional action research as described by Feldman et al. and delineated from self-study. However, the method depended on, and demanded, detailed reflection on Robyn's reasoning for each action and the implications of these actions for her and her students. Our personal and professional natures, characteristics, views, biases, etc. – the self (of Robyn as teacher-researcher and Peter as collaborator-supervisor) – were quintessential to the research design and conduct. Robyn provided an "insider" perspective

(Allan, 1991; Glesne & Peshkin, 1991) by being fully involved as, and with, the participants about whom the information was being collected and for whom the outcomes were a benefit. She was central to determining practice, interpreting it, and making judgements about the extent to which the practice was successful. Furthermore, we realized that the study was consistent with LaBoskey's (2004) four characteristics of self-study methodology.

The research was *self-initiated* by the teacher, Robyn, due to her long-held suspicion that many students' underachievement in science was affected by their inability to express their understanding of science in writing. LaBoskey argues that self-study may be multifocused but one focus should be self. This research was multifocused on Robyn's deliberations that informed her practice, improvements sought, as well as how and why she sought to achieve it. She also sought to understand and influence students' achievement, students' views of teaching and learning at school, and other teachers' views at her school about teaching and learning. Her motivation was a desire to *improve* student writing by improving her teaching practice. She wanted to better *understand* a school system, its values, and practices, particularly those that influenced the school experience of her low-achieving students, though she had doubts about her opportunity to have an impact on that system beyond her class. Robyn decided that she had limited capacity to change the entrenched school social and educative system. She therefore set out to empower her students to succeed within the existing system. The method was *self-focused* as it was characterized by cycles of critical reflection that examined the decisions she made and why she made them. However, the research was not limited to self, being also focused on student achievement, and on aspects of the school system – such as assessment practices. The research was *interactive*. There was collaboration with a university academic and a schoolteaching colleague in the research design, data analysis, and reporting. The method was mixed drawing on varied data sources including teacher diary, field notes, discussions, interviews, artefacts of student work samples, and short surveys. The *validation* was *exemplar-based* in that the reporting detailed the context, and provided rich descriptions of episodes of practice, reflection, and analysis.

Thus, we came to view the methodology as self-study, teacher research action research, and saw these as entirely compatible. However, it is precisely because we attempted to marry a traditional action research model with characteristics of a self-study that some difficulties were manifested in the process. These related primarily to the influence of collaborators, different emphases of the mixed methodology, and the constraints experienced by a teacher attempting to find time to be both teacher and researcher. These will be discussed below, but first the data gathering and analysis in Robyn's

research is briefly considered. This provides a context for the analysis of critical events that inform us about our roles of teacher-researcher and supervisor-collaborator in an action research project. The emphasis is on the aspects of the research process rather than outcomes related to practices of learning.

GATHERING AND EXAMINING EVIDENCE

The demands on the teacher in collecting and interpreting the data are important to our discussion and so these processes are now briefly outlined. Data were collected from the student participants as student work samples including concept maps, homework activities, classroom tests, questionnaires, and interviews; from teachers through questionnaires and interviews; and from diary notes and journal entries recorded by the teacher-researcher. The data were processed in four main steps that had been adapted from Kumar's (1996) method of data processing. After the data were collected they were read and loosely placed in categories that were progressively revealed through the data review process. The editing process allowed separation of unusable data such as non-serious efforts, incomplete, or blank questionnaires. This was followed by coding of the data, from which summaries were developed. These summaries contained a brief outline of the data, possible theme headings, and quotations that would likely be incorporated into the thesis at a later date. During the analysis step, the data were read superficially in the first instance to gain a holistic view. This was followed by several deeper readings where "like" material was physically grouped and emerging themes identified and refined. The final step was to assess the match or mismatch with the literature. There were frequent meetings with Gail (a special needs teacher and collaborator in the school) and Peter (doctoral supervisor) where discussions and debates led to clarification of data analyses and findings from the data.

Data were usually collected, sorted, coded, and given a preliminary analysis on the day of collection. Because the study was addressing issues in a real classroom setting, new action in the classroom sometimes needed to be taken less than 24 hours after data collection. This time constraint was to have a major bearing on the research process and the relationship between Robyn-as-teacher and Robyn-as-researcher. The teacher role emphasized action, required quick responses to student needs and school demands, as well as rapport with students including a strong emotional investment in the teaching process, with a desire for student and teacher success. By contrast, the researcher role required a distanced analysis of data and reviews of

relevant literature to inform actions – a long time frame. So it was that the "teacher" outpaced the "researcher".

INTERPRETING THE EVIDENCE – DIFFERENCES OF OPINION

In the literature it is suggested that action research would be enhanced by having other teachers in the school with whom the teacher-researcher could collaborate (Kemmis & McTaggert, 1988, 2000). However, there was little interest in Robyn's research among the other science teachers at her school, as they did not view literacy education as a necessary component of their teaching. Only a special needs teacher (Gail) at the school, who knew and worked with many students in Robyn's grade 8 class and shared her interest in improving students' writing, was keen to collaborate with Robyn. This provided someone within the school, knowledgeable of the context, as a critical friend with whom to share reflections, data analysis, and interpretations. Here it is important to note that Gail had considerable expertise in assisting students with their learning needs but limited knowledge of the science the students were learning. Knowing the students in Robyn's classes well, she too had a strong desire to see the intervention succeed. By contrast, the external collaborator (Peter) had no knowledge of the students prior to the study but extensive knowledge of the relevant science. His emotional ties were with Robyn and he held a desire for Robyn to experience fruitful research. The different perspectives of Robyn, Gail, and Peter combined with the different time frames to complicate the research process with alternative interpretations.

This conflict was most evident in the differences between the initial and final findings at the end of an action cycle in which the grade 8 students focused on writing responses to short-answer questions. The students were introduced to a modelling activity in which they assessed a series of answers to one question in terms of how many marks each answer would gain. Each answer was more complex, longer in length, and used more scientific terminology than the preceding answer, thus suggesting that each subsequent answer was better than the previous one. The students were then provided with a series of alternate questions and asked to provide answers. These answers were then assessed one-on-one with the teacher. An indication was provided on how the answers scored numerically, and the discussion that followed focused on how the answer could be improved.

Gail and Robyn both analysed the students' writing soon after the lesson. Both recognized that students increased the frequency with which they used scientific terms. The students were particularly enthusiastic during the activity and, in every case, the students seemed to improve their answers. That is,

their writing became increasingly more technical and incorporated more specific terminology that related to the question. Robyn finally saw that the students had demonstrated that they were capable of learning scientific concepts and responding to questions through writing extended answers. This became a turning point in the research. After trying a variety of strategies over some months, which had not yielded improvements in student outcomes, the modelling strategy had yielded success. Robyn rang Peter and reported the outcome and he too was delighted with the turn of events. Robyn moved on to refine the modelling strategy for the next lesson and to try it with other classes. She arranged to meet with Peter in a few weeks to discuss the results and plan the next stage of the research.

At the meeting, Peter read many of the students' written answers that had been analysed by Gail and Robyn and said bluntly that the "improved" answers did not make sense. He argued that the students' first answers, according to his analysis, showed better scientific understandings than the revised, "improved", longer answers. Both Robyn and Peter felt uncomfortable with their meeting: Peter, in part, because he had been insensitive to the significance and potential impact of his alternative interpretation of the data; Robyn because she felt her assessment of the achievements made in the class had been misguided and because her well-planned research actions, which had already been put into practice, had been called into question.

The issue was not resolved at the meeting but Robyn decided to review the data. During Robyn's later review of the students' answers (when adopting her role as researcher), more conflicting evidence unfolded. Robyn saw that for almost every student, as their answers got longer and included more scientific terms, the answers tended to get worse rather than better. That is, their first answer, though only using common "everyday" language, was more scientifically correct and demonstrated knowledge of the concepts being tested. The scientific understanding was lost under the confusion and nonsense of scientific terms sequenced into sentences that made no sense and no longer addressed the question being asked.

In summary, Robyn felt misguided by initial reflections and interpretations of the data (as well as emotional highs and lows) about what action to take. Initially, she had felt elated by the apparent success of the intervention, a success that had been illusive and difficult to attain. Later she explained that she felt "stupid" and "disappointed" for not having seen the obvious flaws in the students' representations of their understanding. Robyn "knew" that students had responded positively to this task and had recounted how they now understood how to answer science questions, and to them this supplied the reasons as to why they had been so unsuccessful in past tests when they thought that they had understood the concepts being tested.

At the time the research was conducted, it seemed to us that Robyn had been so swept up in the students' excitement with the task and the belief that they were finally answering questions to the best of their abilities that Robyn, the teacher, failed to notice the steady decline in the clarity of what they had written. Robyn-as-teacher had fallen into the subjectivity trap of teacher research. *During the data analysis phase*, time had allowed for some objectivity to be gained and Robyn-as-researcher realized that the teaching strategy used had resulted in an educational contradiction: students had satisfied the teacher's requirement for using more scientific terms, but their written expression no longer clearly demonstrated their knowledge and understanding of the concept. *When first writing up the study*, we argued that the time Robyn had to analyse data and reflect on action was short because each lesson was followed closely by another. She did not have the luxury of taking a week or weeks to decide what to do next and, therefore, haste and the lack of the perspective that would be offered by time away from the event could mislead actions taken as a result of erroneous data interpretation. The students' initial responses during the modelling activity were due to Robyn-as-teacher finding students doing what she thought she wanted them to do. Hindsight and later deeper reflection by Robyn-as-researcher confirmed that what the teacher saw as desirable and achieved was perceived by Robyn-as-researcher as superficial.

However, *12 months after writing up* the research, other influences seem significant. Beyond the inherent problem of time, both time available to research and timely collaborative analysis of data, there was a fundamental difference in what Robyn, the teacher and researcher, brought to the data and what Peter, the collaborator and researcher, brought to the data. Each had good points but both were flawed. Robyn knew each student very well. She knew their likes and dislikes, what they did on the weekend, and wanted to help each student to improve. Her knowledge allowed her insights into her teaching that were as subtle as a child's smile, a glint of interest, or a homework task attempted where none had been done before. Each bit of data was interwoven with herself and a person in her class. To detach the data from the person was to make impossible her insights into students' progress. The data could never be impersonal, inanimate entities. A test score was not just a test score but Tom's score – Tom, who had trouble reading, seemed bright, loved skateboarding, and was keen to do well to please his parents. By contrast, Peter had not visited the class and knew none of the students. Robyn captured the difference most accurately when she pointed out: "I see them as my students, you just see data." Peter sought to be, and was, distant from the class, which lent objectivity to data interpretation. This interpretation was important to the progress of the study. At the same time, its strength

was also its weakness because he could never see the improvement in student learning evident in the tacit, intangible interactions between Robyn and her class. That is, the "evidence" often was difficult to nail down and share. Herein lies a paradox. To really understand what was happening in the class, the researcher (teacher) needs to know the context and people of the class well. Knowing them brings complex entailments, including emotional attachments and desires, which decrease objectivity.

While it was not our intention, we both gradually privileged the seemingly "harder" data of student written records and test scores over Robyn's "softer", albeit more emotional, reflections informed by up to 18 months of interaction with her students. In this episode, the traditional rational-technical action research approach placed an emphasis on measures of improved learning and de-emphasized the Robyn-as-teacher's perceptions. The opportunity to explore the self of Robyn, who had a great deal to offer in understanding what was happening in the class, was missed. Specifically, the hard evidence of students' writing was subjected to deeper scrutiny, whereas the insights implicit in Robyn's arguably emotional response were set aside.

IMPLICATIONS

Time

The findings from this study confirm Mitchell's (2002) suggestion that teacher research is often messy and logically non-linear, with the outcomes of the research not always immediately obvious, but taking some time to unfold (p. 252). He gave two reasons for this: the complex nature of the projects, and the fact that the data and responses to them must be collected, collated, and reviewed on top of the teacher's normal teaching duties. Finding the time to collect data and to write in journals while performing normal teaching duties is recognized as one of the persistent trials of teacher research (Baird & Northfield, 1992; Baumann, 1996). Mitchell (2002) countered this, however, by suggesting that data are "deeper and richer" (p. 252) because the teacher is always present. The discrepancies that existed in this study, between the initial reflection on practice and data and later deeper analysis of these practices and data, have implications for both teachers and teacher-researchers. The process of this study illustrates that there is a need for the teacher-researcher to have time for reflection about the teaching practices before making decisions about actions to be taken. Yet the very need to proceed with, and plan, teaching may prevent extensive timely reflection and prevent the teacher from deliberately allowing

time to pass to distance himself or herself from teaching events. It is as if the teaching process races on while the research process plods along, falling ever further behind.

COLLABORATION AND SUPPORT

There was a lack of interest among science teachers at Robyn's school in her research and, although there was a willingness to participate as data sources, there was no one willing to collaborate in the research. This is perhaps not unusual. The work of a teacher who is researching can easily be construed by colleagues as an unnecessary burden on already overworked teachers or be threatening to them in terms of challenging firmly entrenched teaching theories and practices (Mitchell, 2002). This threat could be overcome by having more than one teacher from the research site as part of the research team, and this is seen as essential by some experts (e.g., Kemmis & McTaggert, 1988). The research process in this study has also confirmed that such research can be difficult and isolating for a lone teacher (Mitchell, 2002). Experience at this research site reflects what has been experienced by others (Cohen & Manion, 1989; Osler & Flack, 2002) in that colleagues showed a range of reactions: some did not value the research, others chose not to find the time to become involved, and a few were openly antagonistic or critical of the effort being "wasted" on research when "science teachers were busy enough just doing our jobs".

As in this instance, there are times when a teacher-researcher is investigating a problem that lies on the periphery of his or her domain and is, not surprisingly, beyond the interest of colleagues with whom he or she works. What Gail and Peter bought to this study was expertise in areas that augmented Robyn's and informed the study. Gail's expertise in language and learning difficulties directed the level and tone of the activities planned and broadened the analysis of the students' writing by adding a view from outside the world of science. Peter's experience in science teaching and educational research prompted deeper analysis of evidence related to science learning and a rigorous research design. However, these contributions were not always timed optimally to influence the actions taken in the action research cycles.

CONCLUSION

It would be erroneous to suggest that all researchers in the three fields considered in this chapter agree on the defining theoretical features of their research methodology. Yet, all agree on their benefits. One of the many

benefits of teachers researching their own practices is that the teacher has a sense of ownership and control of the research because what is being researched occurs in that teacher's own classroom (Lytle & Cochran-Smith, 1992). There is no doubt that the "insider" view (Allan, 1991) provided by Robyn as teacher-researcher was appropriate and beneficial to Robyn, her students, and knowledge production (see Gregson, 2003). The process was largely driven by Robyn's goal to help her students, which is typical, according to Loughran (2002) and Johnson (1993), and the findings had immediate impact on Robyn's practices. Some of the limitations of this method, suggested in the literature as "messiness of the findings" and colleague "disinterest" (Cohen & Manion, 1989; Mitchell, 2002), came to fruition in this study. However, action research provided the scaffold to systematically trial practices to improve student writing, and to reflect and analyse the effects of the practices.

There are different goals and theoretical positions that underpin self-study, action research, and a teacher-researcher (Feldman et al., 2004). We took a pragmatic approach in Robyn's study. It was based on the view that a mixed method drawing on all three related traditions, provided a rich way to study interventions, and built evidence for and about change. In Robyn's study, recognizing that each method has a different emphasis is important to ensure a balanced study that does not privilege one over the other. In our traditional action research, teacher reasoning was critical but there was an emphasis on action, the teaching practices, and the outcomes that result. As self-study, the emphasis lay in understanding the nature of the teacher(s), why and how she influences or is influenced by a system (e.g., social system, school, or class). As teacher-researcher, the emphasis was on using and building evidence from her own experience to inform an iterative attempt to solve a teaching-learning problem of significance to Robyn using varied strategies and techniques. This chapter raises the question as to whether a traditional action research method is compatible with self-study for a teacher-researcher? Our pragmatic view is that they are compatible but have different emphases. They are complementary providing, among other things, rich evidence to inform and interpret action as well to improve the lot of teachers and students. If mixed, they require diligence to ensure that one is not privileged inappropriately over another. Like most researchers in the fields, we found that collaboration played an important role in the research process but collaborators need to be aware of their own as well as each others' strengths and weaknesses.

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Chapter 13

Evaluating and Enhancing My Teaching: What Counts as Evidence?

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INTRODUCTION

My privilege and my challenge is to be a teacher educator with special responsibilities for teaching prospective primary schoolteachers how to become effective and enthusiastic teachers of mathematics. I have taught and researched in this area for over 18 years and it still continues to be a challenge. This chapter will explore the reasons for this challenge and also discuss how I came to use self-study of my practice as the process to guide my teaching and enhance it. I will discuss the way I use self-study to examine my practice, and describe the valuable insights afforded by self-study that have not been previously available to me through other means of evaluation. I will also discuss the characteristics of self-study that both make it appropriate and at the same time problematic as a process to evaluate my teaching.

Throughout my life as a teacher educator, I have found it important to share my approaches and activities with fellow academics. Consequently, I have written many papers about the interventions and projects I have conducted. This chapter includes an overview of many of these approaches as I consider how my self-study has developed and influenced my teaching. References for the papers, in which these approaches are discussed, are provided throughout the chapter.

THE CONTEXT – TEACHING PROSPECTIVE PRIMARY SCHOOLTEACHERS

It is well documented that prospective primary schoolteachers traditionally come to their teacher education courses with poor conceptual understandings of the principles of mathematics, negative attitudes both about their mathematical learning experiences at school and their ability to do mathematics,

and beliefs about the nature of mathematics that limit their interest in mathematics and often lower their self-esteem (Ball, 1990; Foss & Kleinsasser, 1996; Hobden, 2001; Smith & Lowrie, 2001).

All these characteristics are certainly true of the majority of my student teachers. Indeed, the problem has not diminished as the university admission criteria for our teacher education courses become more and more demanding. Students still appear to experience difficulties with mathematical content, and have negative attitudes and rigid beliefs about mathematics that appear to be barriers to their ability to embrace different approaches to learning from the transmissive and instrumental ways with which they often learnt in the past, and different views of mathematics that encompass excitement, challenge, and creativity rather than rules, procedures, and inaccessibility.

I have always been an enthusiastic and passionate believer that anyone can do mathematics, and that it is my duty as teacher educator to disrupt the beliefs that the students hold and to help them develop new approaches to teaching and learning mathematics. I also feel, and have always felt, that the content of mathematics in our programme is within the reach of all our students and that my challenge is to support all students in their learning journeys.

To ensure that I am giving my student teachers a valuable experience while they are in my classes, it is essential to evaluate my practice. For many years I did this through the administration of subject evaluation surveys, developed centrally in the university and typically given out at the end of each semester. The next section discusses the value of these evaluations and what I learnt from them.

SUPPORTING MY STUDENTS – EVALUATING MY TEACHING

My methods of teaching for the first 8 years of my career as teacher educator were based on my beliefs that if I were sufficiently dedicated, patient, and clear in my explanations, I would be able to help students understand the concepts of mathematics and the methods of teaching that were effective in primary schools. I did not question my beliefs as to what methods were effective in primary schools, but believed that I was modelling those methods in my classes. Teaching mathematics was unproblematic for me – support and clarity were important features of my teaching. I had taught this way previously in secondary school and had received comments from parents and students to indicate that they appreciated my ways of teaching. So there was no need to question my methods when I started teaching in the teacher education programme. I explained concepts clearly, told student teachers how to teach topics in the primary classroom, and gave them useful resources, games, and other devices to support learning. My students would affirm my way of teaching

with positive comments about my classes. They seemed to manage the assessment tasks and achieve the outcomes I wanted. At the end of each semester students completed the anonymous student evaluation forms, which were centrally processed. Results were returned to me and were consistently excellent. I was rated as a very good teacher year after year.

So I was being affirmed in my role as teacher educator and did not spend much time in reflective practice as I felt that I was doing a good job. Perhaps a slightly jarring note was being provided by watching student teachers on practicum teaching children in ways that often indicated a lack of knowledge of how to inspire, or extend, children. Sometimes students seemed flummoxed by the content they were teaching. Sometimes they did not notice those children who were marginalized in the mathematics classroom. But they took their notes in my classes, indicated that I explained clearly, and seemed very pleased with the way I taught. Together we shared a view that teaching was not complex. As long as you explained clearly and were supportive of your students, all worked well. I was, as Russell has discussed, "teaching about teaching through the authority of position" (Russell, 1994). And, of course, the student evaluations, clearly viewed by the university as the most appropriate way to judge my teaching, reinforced my views that I was doing a great job.

DISRUPTING MY OWN BELIEFS – STARTING ON THE JOURNEY OF SELF-STUDY

Secure in the knowledge that I was doing a good job, I continued to teach as described above. My head of school persuaded me to start a doctorate and when I told her that I did not want to do research, but preferred to dedicate myself to my teaching, she suggested that I do a doctorate on an issue concerning my student teachers. My passion, she felt, would sustain me through a long and intensive research programme. So started my self-study, almost without my knowing it. The literature about self-study talks about how a sense of dissatisfaction with one's existing practice can lead to a questioning of our assertions and start us on the self-study process (Loughran, 2002). Not so in my case. I felt no dissatisfaction with my teaching and saw no need to question my assumptions about my teaching – I had objective evidence that I was doing a good job and had no need to change. My self-study arose subversively.

Given that I was under pressure to engage in doctoral studies, I decided to research some aspects of my work with my student teachers. I started off by researching student teachers' understanding of fractions. But as I collected data, I kept thinking about the beliefs that the participating students held

which were often acting as barriers to their understanding. After 18 months of working on this study, I changed my thesis topic to one on understanding my students' beliefs about mathematics education. I read literature about student teacher and teacher beliefs about mathematics teaching and learning. I developed an innovative method to allow students to identify the main issues about mathematics education that they saw, and asked them to interview each other about these issues. I surveyed the whole student cohort studying the first mathematics education subject, and then interviewed a group of those respondents to probe their attitudes and beliefs further.

I discovered some disconcerting facts. Although my teaching had been so "good", my students had not changed their attitudes or views about mathematics in any way. They still saw mathematics as an unforgiving subject, to be learnt by rote, with drill and algorithms as its fundamental characteristics. They still believed that they were not "mathematics people" and would not be able to do mathematics. They still disliked doing mathematics and were not looking forward to teaching mathematics. They were convinced that mathematics was important and that if they were supportive of their students, they would be able to help them. But their beliefs about the primacy of mathematics only added to the stress they felt when they thought about teaching it (Schuck, 2002).

It was at this point, immersed in the analysis of my data, that my questioning of my long and deeply held assertions occurred. It seems that at this point, without having had the intention to engage in self-study, I now started to do so. The following questions arose for me: How do I know if I am doing a good job in my teaching? What counts as evidence for this? And arising from these questions, the most pressing question of all: What am I actually trying to achieve in my teaching?

I find it interesting now, on thinking back to those first years as a teacher educator, that these questions did not arise for me then, and that I allowed myself to be lulled into a sense of satisfaction with my teaching, seduced by the knowledge that my students were content with my teaching, that they could respond to assessment items in ways that I wanted them to, and that the best way to evaluate my worth was through a generalized survey by the university.

ASKING THE BIG QUESTIONS

Barnes (1998) suggests that the most important task for teacher educators, concerned with improving the practice of teacher education, is the "reframing" or changing of understandings of what teaching is about. Consequently, to initiate this process of reframing, I would suggest that self-study of teacher education practices should always start with some fundamental questions that a teacher educator needs to ask. These are the "big" questions (almost the

existential questions) that concern our practice as teacher educators. I indicate above how not asking these questions led to a false sense that I was preparing my students for the world of teaching in the most effective way.

I suggest that the first question we need to ask in any self-study is the one I come to in my deliberations above: What am I actually trying to achieve in my teaching? While this is a seemingly obvious question, the answer is not always self-evident. Reflection and critical analysis of our practices may help us see that the answers are not as expected. Certainly this was the case with my self-study of my practice. This question was critical to my changing my teaching methods. Once I realized that I wanted more than satisfied students, I could start thinking carefully about my role as a teacher educator, and about my role as a mathematics educator. Given the special challenges that mathematics educators encounter in their teaching of pre-service primary education students, we might well desire different outcomes from other teacher educators, or we may find the process of achieving common outcomes harder for this particular area of teacher education. My desired outcomes for my teaching are manifold: I want students to develop conceptual understandings they formerly did not have; I want them to be aware of how their attitudes and beliefs may impede their teaching of mathematics; I want them to like doing and teaching mathematics; I want them to be confident mathematics teachers; and I want them to be inspiring classroom teachers who break the cycle of negativity surrounding much of mathematics learning in school.

So having embarked on an examination of the purposes of my teaching, I had to ask the next important question in self-study: How do I achieve these outcomes? The first approach I used was the one discussed above, developed in my doctoral studies. I cast the student teachers as researchers and got them to research the issues concerning mathematics teaching and learning that they felt were particularly relevant to their future careers as primary schoolteachers. In this way, I was helping my students to become aware of "the powerful forces that occur outside formal school situations which influence their notions of teaching and learning" (Badali, 2004, p. 32). I asked them to write about what they had found through this process and was encouraged by the fact that they were coming to an understanding of their beliefs and attitudes and the impact these would have on their teaching (Schuck, 1997). However, on reflecting on my practice, I realized that I wanted more than that awareness from my students, I wanted them to be able to change those beliefs.

I developed another intervention, which I used in the successor subject to the above one. I created an opportunity for our first-year students to interact online with mathematics educators from all over the world. I took statements that had been made by students participating in my doctoral research and used those as discussion points. Examples of these statements were: "I'd

describe maths as the calculation of certain things to do with numbers, and the use of certain formulas and methods, simplifying, counting and subtracting and things like that" (student interview); and "The best way to teach maths is by giving clear explanations followed by extensive drill and practice". The teacher educators from other countries contributed responses to these statements, which were placed online on a university discussion board. Students were asked to read these responses, read other papers on the subject, and then engage in debate about these statements with each other. To evaluate the success of this intervention, we gave students a survey at the beginning and at the end of the semester. The survey used a Likert Scale and asked students to indicate their agreement with a number of statements about the nature of mathematics and mathematics teaching. On analysis of the results, we found a statistical trend suggesting change in attitudes and beliefs (Foley & Schuck, 1998; Schuck & Foley, 1999). So I was achieving my aims of helping students in making their beliefs explicit and possibly changing them. I also appeared to be achieving the aim of raising awareness of how negative attitudes would be detrimental to students' teaching.

This process led to my next question: What do I count as evidence that I am succeeding in my teaching? Yes, I had statistical evidence that I was making a difference in terms of beliefs and attitudes. But was I making a difference on the other fronts I had identified? I asked students to keep a journal through the semester and to submit that journal to me at the end of the semester, not to be graded, but as a requirement of the subject. (Students do not tend to prioritize reflection without some kind of external requirement to do so.) I read the journals to gain insights into those aspects of my teaching and the students' learning that were not being captured by the surveys. Again I was disconcerted by my findings. As well as confirming that their attitudes and beliefs were becoming explicit to them, and were being analysed for their implications for the students' teaching, students indicated that they believed that they did not need to understand mathematical content themselves. If they did not understand a particular concept, they suggested, they would be more able to empathize with their students and thus make for better teachers. They supported this claim by giving examples of teachers they had had, who knew the mathematics and got impatient with them when they struggled. More importantly, they wrote that they would have the ability to provide their students with fun – something many of them had not experienced in their classrooms as school students.

These responses acted as a challenge to my thinking and approaches. While wanting students to be aware that negative attitudes to mathematics would influence their future students' views of mathematics, and while applauding their desire to ensure that their students would enjoy mathematics

and see it as fun, I was concerned about the lack of conceptual understanding that many students had, and worried that our classes seemed to be confirming their views that fun was a satisfactory substitute for learning and an end in itself (Schuck, 1999).

Back to the drawing board. My self-study to this point had achieved some things, but not dealt with others. I revisited the question of what counts as evidence, and reflected again on what I wanted to achieve. An important question that now arose was: "How do I know if my desired outcomes for my teaching are the most appropriate ones for helping my students become effective teachers?" When I further considered this, I realized that my most important desired outcome for the students might well be at odds with the outcomes the students desired for themselves. I needed to conduct research on the validity and appropriateness of my aims. It seemed logical, therefore, to gather evidence of how appropriate my goals were, by investigating my graduates' teaching experiences.

COLLECTING EVIDENCE ON MY TEACHING FROM MY GRADUATES

For this aspect of my self-study of my practices, I needed to work with my graduates as they taught in primary schools. I invited a colleague who was similarly engaged in working with teacher education students in the area of science teaching to join with me in a study of our graduates. We were both concerned about what happened when our students graduated, and so agreed to collaborate on a research project to investigate this. We also served as critical friends to each other. Our belief was that, by seeing how our graduates implemented their mathematics and science teaching, we would find out what sort of a job we were doing as teacher educators. Our graduates were acting as critical friends to us, providing us with much needed information about how adequately we were preparing them for their careers as teachers of mathematics and science in primary schools (Schuck & Segal, 2002).

We set up a process in which we asked for volunteers to be in the project. We got 11 offers to participate, 7 from newly appointed teachers and 4 from associate teachers (teachers completing internships during their last year of the teacher education course) on an induction programme. We initially asked participants to keep journals and to record any critical incidents that had occurred during their teaching of mathematics or science. However, we found that maintaining the journals added pressure to the already overwhelming workload that our graduates were experiencing and so we changed our method of data collection to weekly phone calls to each of them, in which they shared their stories and critical incidents of the week. It seemed that

teachers were indeed teaching mathematics, using participative approaches, understanding the underlying principles, and encouraging investigation, with the teacher facilitating rather than acting as the keeper of knowledge. However, a huge barrier to our graduates' teaching appeared to be one that we had not dealt with in our teacher education subjects in mathematics education. This was the barrier of the school context. Our graduates were constantly being prevented from teaching in the ways in which they wished to teach by constraints operating in the schools. For example, the executive at one school had decided that students should buy workbooks to support their mathematics lessons. Although the books were relatively cheap, their cost was seen as significant by many of the parents. Nevertheless, parents were happy to support the school by purchasing these books. Our graduate felt an obligation to the parents, therefore, to ensure that the books were used and completed by the year end. This meant that students had to work on a page from the book each day. As this page would take a significant amount of time to complete, the teacher did not have time to put into play any of her plans for investigative work that was motivating and conceptually sound. This led to much frustration on the part of the teacher, and made life as a teacher less satisfying for her as she felt she could not teach in the way she wanted.

I learnt much about my practice from her, and from other participants. Again questions were raised for me about my practice and my underlying assumptions. I had to ask myself another important question in my self-study: Is it fair for me to enthuse my students with a vision of teaching mathematics that is often impractical in the school context, and can set up tensions and dilemmas that newly appointed teachers have to handle? I want my students to be change agents on graduating; they simply want to fit into the school environment. These questions and others about the nature of being a beginning teacher have, in fact, set me on a different path in my teaching. As well as being involved with the mathematics education subjects, I now also teach subjects in mentoring beginning teachers and am currently doing my research in this area and the area of supporting beginning teachers. The project described above demonstrated clearly how much support beginning teachers require and how difficult adjusting to this new career can be. As a teacher educator, with an interest in how my students will teach after graduation, it is part of my responsibility to help ease the path forward for them after they have left us.

WHERE AM I NOW?

I see the major benefit of self-study is in asking important questions and looking at ways of answering them. However, I realize that, in fact, these questions will never all be asked, and that they will rarely be answered. As

I attempt to remove one limitation from my teaching, another arises. It is easy to miss those limitations if I restrict evaluations of my teaching to standardized, university-produced survey forms and statistical surveys.

If I challenge my students' beliefs and remove myself from centre stage, I run serious risks: I risk my students being disgruntled because they do not want the change I am offering them. I risk being viewed as a poor teacher by the management of my faculty and university, which views the surveys as objective and hence better ways of evaluating my teaching, and cannot understand why I no longer use them. I risk (for me, the most serious danger) feeling that I am not serving my students' interests well by requiring them to be change agents in a very reactionary environment.

Perhaps the major lesson I have learnt in my self-study and the major lesson I need to teach is that teaching is enormously complex, and that as I learn the answers to some of my questions about teaching, new questions arise. This again is a risky thing to declare. Our students are required to pay for their university degrees and a common response to teacher educators is: "I don't pay all that money to be told that you don't have the answers!"

Again, my questions rise to challenge me:

- What am I actually trying to achieve in my teaching?
- How do I achieve those outcomes?
- How do I know if I am doing a good job in my teaching?
- What counts as evidence for this?

And further

- Should I give the students what they want, or what I believe they need?
- How can I help students share my visions of mathematics teaching and learning (when I have had much more opportunity to think about, read about, and experience these ways of teaching)?

WHAT HAS SELF-STUDY TAUGHT ME?

By doing a self-study I have expanded my understanding of what is occurring as I teach my students. Researching my practice in a rigorous way, by carefully developing questions, designing a study to get answers to those questions, and then analysing the results, has certainly influenced my teaching. I believe that it has moved forward, but I cannot say by how much or how much further there is to go. I need to, and hopefully do, engage with my students in a serious way about my teaching and theirs. I know that the conversations about *my* teaching, while important to me, are not that interesting to them. They, quite understandably, are interested in improving *their* teaching.

Can I help them do this, if they do not completely understand where I am coming from? Another question . . .

SO WHAT DOES COUNT AS EVIDENCE?

Throughout my self-study of my practices, I have engaged in a search for evidence that my practice is achieving the outcomes discussed above. However, some of the evidence is more compelling than other evidence. While it is seductive to organize my teaching so that I get good evaluations on the university surveys, I recognize that these evaluations can be misleading. In acknowledging that learning in new ways can create dissonance (both for students and for myself), I have to recognize that student satisfaction is not necessarily evidence that I am teaching effectively. Listening to student voice in other contexts, such as in their reflective journals, or their reports on their teaching after graduation, provide more valid evidence of my efficacy as a teacher educator. The process of self-study has highlighted the importance of gaining evidence through listening to what students tell me about their experiences with, and their beliefs about, mathematics education, and to interrogate my practices as a result of considering whether my aims for my teaching and their learning match with their stories. If I have learnt anything along this journey, it is that I need to gather evidence in authentic ways, not from "objective" surveys but by observing, listening to, and working closely with, my students and graduate teachers.

CONCLUSIONS – WHAT DOES RESEARCHING ONE'S PRACTICE CONTRIBUTE TO TEACHER EDUCATION?

Would I urge others to use self-study to enhance their practice? Yes, I certainly would. Self-study has given me far greater insight into what I am doing, and what I am achieving. But it has also made teaching and my practice more problematic for me, and made teaching a riskier business. This arguably is the benefit of self-study: making my practice problematic has led to scrutiny and improvement. Researching my practice has reminded me of the complexity of teaching and learning. It has encouraged me to reject simplistic indicators of success in teaching, as their flaws and deficiencies became apparent in my study. Self-study has helped me to develop authentic indicators of success and encouraged me to rethink my goals for supporting my students. While this has often been challenging and uncomfortable, Berry and Loughran (2002) suggest that "an uncomfortable learning experience can be a constructive learning experience". This has certainly been true

for me – my challenge now is to convince others who operate in a paradigm that finds standarized, simplistic, but readily comparable measures of achievement more attractive. Indeed, one of the challenges for self-study is to establish its creditability among educators and to make people realize that ambiguity is not a weakness in itself.

The above programme of self-study is one that was useful to me, and I suggest it would be useful to others engaged in the process of enhancing their teaching and their students' learning. I believe that the iterative and evolving nature of this self-study provides a powerful way of exploring the dynamic and complex nature of teaching and learning. It acknowledges that new challenges will always arise in our teaching and that we need ways of resolving these. Studying my practice in this way has led to improvements in that practice, and accepting that these improvements are incomplete ensures that I continue to work to enhance it.

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Chapter 14

I Wrote a Novel about My Teaching Life – So What?

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INTRODUCTION

Okay, so this is the introduction, where I tell you that this chapter will focus on the way I used the (what do I mean by "the", I really mean "my") auto-biographical novel in research about my own teaching practice as a primary school music teacher. Advantages and disadvantages of using the novel as a central component in this research will be discussed, with particular focus on research design, analysis of the text (novel!), and the use of fictionalization in the novel. Finally, I look to what McMahon (2000) describes as other artistic accounts of teaching, namely research about male teacher attrition presented as a short story.

CHAPTER 14
I enter the school grounds. Park. Then head to the Administration block. A woman behind a desk looks up at me. "New teacher?" she asks.
  I nod.
  "I'm Cheryl," she says. "The registrar."
  "Nice to meet you," I say.
  "You'll be wanting to see Lewis. The principal."
  "Sure," I say.
  "Straight through," she says, pointing to a nearby door.
  I walk into Lewis's office. Wall-to-wall mess. Books and papers. A huge desk. Cluttered. And behind the desk a cluttered-looking man. Beard. Hair that looks unbrushable. And clothes that look like they've come out of an Op shop [Opportunity shop that sells mainly cheap second-hand clothing].
  This should have scared me, but somehow it soothed me.
  "I'm your new music teacher," I say.
  "Nice to meet you," he says, rising from his chair and shaking my hand. "We weren't even sure if we were going to get a music teacher. Not a lot of people want to come to Rowel. I know I didn't. I said I'd rather remain a deputy

principal in Brampton than become a principal out here. But I'm here now. They said I only had to do two years before I could go back to Brampton as a principal. But I've been here three years now." He shakes his head. "Anyway, you're here and I'm here, so we'd better make the most of a lousy situation. I'm a big supporter of music, you know. Any problems, just yell. I'm here to help."

We talk a bit more about the school and the job. Then he shows me my classroom and tells me there's a staff meeting in fifteen minutes time.

I make my way to the staffroom for this meeting. People are sitting around. Half are middle-aged or older and talk to each other. Old-timers at the school. The other half are young and new to the school. Like me, they stand around awkwardly, waiting for the arrival of Lewis and the commencement of the meeting.

Lewis walks in. So does another guy: Paul, the deputy principal.

Introduction time. All the new teachers have to say their names and say a bit about themselves.

Lewis talks a bit about the school – administrative things like uniforms and siren times and what the kids are supposed to do at lunchtime and where the detention room is.

Just as he's about to finish up, a guy about my age comes into the staffroom. "Sorry I'm late, Lewis," he says laconically. "Traffic from Brampton was terrible."

A teacher next to me shakes her head. An old-timer. "He's hopeless," she says to me.

"He's a teacher?" I ask.

"Yes. Gary's his name. He goes back to Brampton every weekend. Drives back here on a Monday morning. He leaves Brampton at four a.m. and gets here at nine. I don't know why he does it."

Lewis finishes talking. Hands over to Paul, the deputy principal, to say a few things. Then the bell rings. School is in. It's 8.55.

Not having a permanent class like the general classroom teachers, I don't start teaching until 10.30. So I stay back in the staffroom and make myself a cup of coffee. I notice a couple of teachers with classes aren't in any rush to get to their kids. They linger around drinking coffee. One of them comes up to me: a middle-aged man in knee-high white socks and a mint-green short-sleeved shirt and matching tan shorts. He doesn't introduce himself. Just starts on about how I should get out of teaching while I can.

I look at him. Red puffy face from way too much booze. Resigned and miserable. Could this be the result of being a teacher?

I nod at his words and quickly leave. Go to my room. Read up about school policy on this, that, and the other. Get my stuff unpacked. Set up for the first lesson of the day.

And then I wait for 10.30. Teaching time.

Dear Mr de Vries
Thank you for submitting your manuscript *Teaching Life* to our publishing house. Although engaging and well written, we will not be able to publish it as we feel the working life of a teacher would not have widespread appeal amongst the general reading public. We wish you all the best in placing your work with another publisher.

Sincerely . . .

That was the first rejection letter for my autobiographical novel, about my teaching career to date, largely written during the 6 weeks of school holidays at the end of a teaching year. I had had a few friends read the manuscript. Non-teachers who came out with reactions like: "Wow, I never knew it was like that. This is an eye-opener. You've got to get this published." I had been (in my opinion) gut-wrenchingly honest in portraying my life as a teacher, warts and all. No sugar-coated Hollywood treatments here. No, this is what it was like for me, an Australian primary school music teacher, my experiences at teachers' college, teaching in rural communities, teaching in a "hard" outer-urban setting, teaching in a "good" middle-class suburban setting.

I had recently finished a master's in Education and had been toying with the idea of enrolling in a Ph.D. programme. A major dissertation. Research. But what would I research? What kind of question would I want to answer? I was a practising teacher. If I were going to do something like a Ph.D., it would need to be something that I could use, something that would be relevant to me. But would this be "research"?

To me research was a process of "finding out", of doing something that others had not "found out" before. Which got me thinking about my novel. I had read a number of novels about teaching, but none were quite like mine. In writing, I had "found out" things about my teaching, and about broader issues relating to teaching. So what if . . . no, surely this novel had nothing to do with research . . . it was nothing like that. But what if others did read the novel, what if others could get something from it?

I went back to university, pitched my idea to a couple of lecturers. "Read," they advised me. Qualitative research literature. They gave me some names. Luminaries. I read and read. And read. Not all that inspired, I had to admit. I felt out of my depth. But then discovered Laurel Richardson, someone who talked of sociology texts being "deadening", with sociologists trying to "suppress (their own) life" in what they wrote (1992, p. 131). That is what I had been thinking; I could not hear the authors or researchers in their writing. They all wrote in the same way, with the same passive voice. I wanted to know more about *them*. I felt disconnected from what they were writing about. Yet here, all of a sudden, was Laurel Richardson, an academic who wrote poetry as research!

Then there was Max van Manen, a gentleman I nearly did not even read when I heard his work described as "hermeneutic phenomenology" on

multiple occasions. But I read him and was soon a convert. After all, this was somebody who advocated understanding social phenomenon (such as teaching) by gaining a greater understanding of lived experience (in my case, the everyday experience of being a teacher). Van Manen particularly liked the idea of the researcher examining his or her own lived experience, describing these experiences in detail (hello to my autobiographical novel), and interpreting or analysing this description.

And so it came to be – I had begun research in the form of my novel, this lived description. But that was not enough; no, I would need to analyse what I had written, extracting the overall thematic quality that would lead to a detailed understanding of my lived experience as a classroom music teacher (van Manen, 1990, p. 57).

THE RESEARCH JOURNEY

I read. Not all of it easy to digest. But out of all this reading I came up with a five-stage research design for the study:

(1) writing the autobiographical narrative;
(2) analysing the autobiographical narrative, drawing the essential themes from it;
(3) reflecting on these themes, and more specifically the "reality" of events and perceptions expressed in the autobiographical narrative that contributed to these themes;
(4) interviewing characters from the autobiographical narrative to reflect on the themes that emerged from the autobiographical narrative; and
(5) documenting the research literature on each theme to gain a greater insight into the themes and determine what my experiences contributed to this body of literature.

Each of the five stages involved analysis, including the initial writing of the autobiographical narrative, with decisions being made as to what to write next stemming from analysis of what had been previously written. The second stage of analysis was of critical importance because the themes that emerged determined the direction of analysis in subsequent stages. "A theme can be defined as a statement of meaning that (1) runs through all or most of the pertinent data, or (2) one in the minority that carries heavy emotional or factual input (Ely et al., 1991, p. 150). Van Manen (1990) describes a theme as the form of capturing the phenomenon that the author is trying to understand; a theme describes an aspect of the structure of lived experience (p. 87). Thematic analysis consisted of a constant rereading of the novel to draw themes out. This analysis of themes is what Ely et al. (1991) describe as the "sorting and lifting" of data (p. 206).

The third stage of the study centred around the questioning and probing of me. This involved the identification of both my subjectivity and the fictionalization that occurred in the autobiographical narrative. I was forcing myself to examine my emotions in depth to determine how they impacted on the themes that emerged from the autobiographical narrative.

The fourth stage of the project took a phenomenological approach in that the interviewing was not so much used to gather material, but rather to reflect with the interviewees about teaching and the events portrayed in the autobiographical narrative. These interviews brought multiple perspectives to aspects of my teaching career in the form of how others viewed me and the context in which we worked as teachers. They also added to what Lincoln and Guba (1985) describe as "credibility" in qualitative research, whereby I had these people reflect on what I had written, both in the novel and in my subsequent analysis of the novel.

Finally, in the fifth stage, the research literature associated with each emergent theme was documented and examined to determine how it impacted on my understanding of the theme, and specifically what my experiences contributed to existing literature.

Four themes emerged from analysis of the novel that addressed my lived experience as a music teacher:

(1) my life outside school impacted on my work as a teacher;
(2) my knowledge of "how to be a teacher" stemmed from pre-service training, teachers I observed at work, teachers and administrators I worked with, and in-service training;
(3) my philosophy of music education changed as I moved from school to school; and
(4) being a classroom primary school music teacher is very different from being a general classroom teacher.

Much of the novel is devoted to my life outside the classroom. When writing I did not intend linking this "outside" life with teaching. However, it became clear that a major theme – if not *the* major theme – was that my life outside school impacted on my work as a teacher, including my personal life, people I cohabited with, and the state of my love life. I began my teaching life in a negative way, with my father and a number of friends deriding the profession. As a result, I entered the profession with a cynical view of "the job", particularly when I initially shared accommodation with another teacher who disliked the job. The novel charts a gradual transformation to a more dedicated educator, influenced by the positive relationships made with others outside the classroom.

The second theme that emerged bridges the gap between general teaching experiences and specific music teaching experiences. My knowledge of

"how to be a teacher" is something that was gradually acquired, firstly through observation and contact with other teachers, and secondly through contact with others involved in the teaching profession (school administrators and lecturing staff at teachers' college).

The climate of each school I worked in impacted on the way I taught music and acted as a teacher. This third theme is, in part, an extension of the second, in that it too examines my acquired knowledge of how to be a teacher. My changing philosophy of music education was, as indicated in the previous theme, initially influenced by those from whom I learnt how to be a teacher.

This final theme explores aspects surrounding the difference between music and general classroom teachers, commencing with the music teacher being the only such teacher in a school (whereas there are a number of general classroom teachers in a school), being a resource teacher, differences in behaviour management and assessment, voice problems suffered by music teachers, the demand of extracurricular activities, and finally "looking good" to justify the existence of music in the school.

LOOKING BACK . . .

Using the novel as my chief source of data was the catalyst for, and the core of, the research I undertook. Writing the novel allowed me to critically reflect on my teaching practice, taking into account my personal life and professional development as a teacher. In this respect, the research was aligned to what Louie et al. (2003) identify as identity-oriented research within the self-study research movement. As with identity-oriented research, the examination of my lived experience as a music teacher was an introspective journey that focused on my awareness of self and development as a teacher, and was "an unguided, exploratory odyssey" (Louie et al., 2003, p. 153). However, I was examining my teaching in a primary school, whereas the majority of self-study research that is identity-oriented focuses on teacher educators in tertiary institutions.

Having analysed my lived experience in terms of the four themes, I was able to immediately apply the analysis to my teaching. For example, in the autobiographical narrative I questioned the relevance of teaching musical notation at a school with a predominantly Aboriginal and Samoan student population, where children from these cultural backgrounds learnt music through the aural and oral tradition, and not from notation. From this thought I referred to a commentary on the subject of musical notation by Reimer (1989), who argues against an emphasis on teaching musical notation in general music classrooms. Rather, he believes in a "functional music literacy", where "a person would be considered literate about music who understood a

great deal about the art of music – its history, its techniques, its many styles, its major practitioners, where to go to find good examples of it, how to make discerning judgements about it, how to respond to it appropriately and sensitively" (p. 176). This had immediate impact on my primary school classroom music teaching following the completion of my dissertation. I still had music writing (notation) activities, but if a child could not adequately read music I acknowledged that this did not mean the child could not perform, compose, and listen critically to music. Therefore, the analysis of my narrative in the context of other music education research impacted on my practice, and looked towards improvement in my future practice. In doing this, my research addressed one of the two purposes of conducting self-study research – my own professional development (Cole & Knowles, 1996).

But what can the autobiographical novel contribute to knowledge of how music educators work? It can allow the autobiographer-researcher insights into his or her own practice that hopefully will result in *better* practice. Informed decisions about music education, and education in a more general sense, can be made, resulting in a broader understanding of teaching practices. Cole and Knowles (1996) identify this as the other main purpose of conducting self-study research, albeit in terms of *teacher education* practices, rather than in the more general sphere of *teaching* practices.

As previously mentioned, the writing of the novel was only the first stage in the research process. Next was the analysis of themes from the narrative, using a phenomenological approach. The gradual distillation of the narrative into themes forced me, as the subject and researcher, to think about my practice as a music educator. I was so personally involved in the research that as the analysis occurred I could not help but reflect upon my practice as a music educator in the past and present. This is one of the advantages of being researcher and subject. I saw how I, as a music educator, had worked. It was through analysis that the way I had worked as a music educator became clear to me.

However, confirmation was needed about what I had written. This confirmation was achieved in the third and fourth stages of the research design, firstly through reflecting on events, and secondly through interviews with characters from the narrative. These stages were "reality" checks. Naturally, not everything was "verifiable". Therefore, the issue of validity in this research was problematic. In self-study research, collaboration is seen as a way to enhance validity (Loughran & Northfield, 1996; Louie et al., 2003). This will work if the researcher plans a self-study in advance. However, my study occurred retrospectively, thus making full collaboration impossible. The best I could achieve was interviewing characters from my teaching past. However, there were many episodes I documented in the novel that these people did not recall, as they had occurred years beforehand.

In the wider context of the study, the third and fourth stages of the design informed me more about each of the themes and the events that made up these themes. They forced me to think about the themes in greater depth, and expand upon what I had written to give a fuller account of each aspect of each theme. Being the subject and researcher allowed me to look beyond the "data" of the narrative to my own experiences, feelings, and opinions that did not appear in the novel, thus giving the fullest possible analysis of my lived teaching experience that an "outside" investigator would not have access to. This is a major advantage in being subject and researcher.

Apart from the issue of validity, the major disadvantage with the method used is, as Miles and Huberman (1994) warn of qualitative research, the implication of generalizability when little is warranted. When discussing implications resulting from the study, I stressed that one single case was studied. As a music teacher, my circumstances and what I have done are unique, with no other "case" being exactly the same. Throughout the research process the "so what?" issue plagued me, particularly as I was only reflecting on *my* own teaching. So who else would care? How could my experiences possibly say something about other teachers' experiences, and maybe even affect their teaching? I knew I had to find this out. But how? Eventually distil my Ph.D. into an academic journal article that 99.99% of teachers would never read or even hear about? No, I somehow had to connect with a wider teaching audience; I needed to present my experiences to an audience in a format that teachers like me could immediately engage in, something like, well, something like a novel. Like my novel. Or at least present parts of the novel, with commentary that reflected the stages of analysis that followed its writing. But could I present this novel, or even mere parts of it, when I had so blatantly fictionalized some of the events I had portrayed?

TOWARDS FICTION

From the moment I began analysing the novel it became apparent that in many instances I had "modified" reality – to put it nicely. I categorized these reality modifications in three ways: exaggeration, distortion, and fictionalization. Three similar words to describe a "changing" or "modification" of what I believed occurred in my life. Firstly, there is exaggeration, i.e., magnifying a particular incident, event, or character trait of a person, beyond reality. Distortion modifies reality a little further – distorting the "truth" of the matter. Further still along the continuum is what I have called fictionalization – essentially the "making up" of a situation or event or person. The third stage of the research design, reflecting on the themes, and more specifically the "reality" of events and perceptions in the autobiographical narrative

that contributed to these themes, dealt with establishing where these reality "blemishes" occurred and why.

During the analysis of the novel it became apparent that these modifications of truth highlighted important aspects of my lived experience. These devices were used in the narrative to *make a point*. In most cases, the use of these devices stressed essential aspects of the four themes drawn from the narrative. Therefore, I chose not to rewrite the narrative and erase these "untruths" when they were identified, but leave them in place, and instead identify them in analysis so that I was as upfront with the reader as possible.

Exaggeration was the most commonly used device. For instance, I wrote that Gary, with whom I shared a flat in my first year of teaching, challenged me to teach with no lessons planned.

Gary started challenging me to a little game. It was called let's-see-who-can-get-through-the-day-without-planning-a-single-thing.

Rule: no planning allowed for the day at school. You walk into your room and teach off the cuff. No resources ready. No idea about what you're going to do. You improvise.

At first it was difficult. But within a week I was in control. Sort of. I taught whatever I felt like teaching at that particular moment with whatever particular class I had. Who knows what we might do? A little recorder? Learn by rote some note names? Sing some songs? Or maybe listen to one of my CDs?

It livened things up. And occasionally something truly new and magnificent happened.

In reality, I was not as flippant when teaching in this unplanned, "off the cuff" manner. Also, only occasional lessons went unplanned – not entire days of teaching. Despite improvising in my teaching, I was still aware of the general learning outcomes for each year level and how these outcomes fitted into a sequential, developmental music programme. The exaggeration served to illustrate the negative influence that Gary had on my attitude to teaching.

An example of distorting the truth occurred in the portrayal of one of my lecturers at teachers' college. I painted him as an inept teacher in the classroom. Certainly he was portrayed as inept in a classroom vignette outlined in the novel, where his toupee was removed (by a gust of wind from a ceiling fan), but he was a more than satisfactory teacher in a number of other classroom situations not mentioned in the novel. I portrayed him as being so inept to highlight the commonly held pre-service teacher perception that lecturers at teachers' college were inadequate classroom teachers.

And so to outright fictionalization . . .

"No sir, if you want yourself a medical certificate to get you out of our little town it'll take more than that." He winked at me. And I started to get what he was on about. He was talking about getting out of this little country town on medical grounds. And he thought I was lying about the hay fever, using it to get a medical certificate that would state I shouldn't be living here!

"You really want out of here?" he said.

What could I say? Answer: nothing. I was speechless. Couldn't believe my luck. I hadn't thought in my wildest dreams that I could get out of the town at the end of the year. Everybody knew that once you were sent out west you had to serve three whole years before they let you back into the city. Unless you happened to chance upon a loophole in the system. Like this one.

I nodded to the good doctor.

"I can write you out a medical certificate that says living here is causing you health problems that can only be rectified if you're moved back to the city."

"You can just write that and they'll believe it?" I said in astonishment.

"You bet. A doctor's word is gospel."

"God . . ."

"That's me. You want me to write that little letter?"

I nod my head vigorously.

And so he writes. No details about my "condition" though. That's "confidential."

"Give this letter to your principal," advises the doctor.

"Thanks," I say in the happiest voice I've used in a long time.

"Pleasure," he says.

I stand up and head for the door.

"Teachers generally like to show their appreciation," he adds, "with a little something extra on top of the consultation fee."

I turn around. I knew there'd be a catch. It was too good to be true. "How could I do that?" I ask suspiciously.

"A couple of cartons of beer?" he suggests.

I smile. "They're yours," I say.

"Of course I could save you the hassle of buying them if you just gave me fifty bucks."

I get out my wallet and hand him the money.

No such corruption actually occurred. Rather, I was legitimately transferred to a city school because I suffered from allergies in the rural area in which I was teaching. In fictionalizing the event with the doctor, I demonstrated that in order to "get out" of an unwanted rural posting there was often a need

to lie and cheat the system. Many of the teachers I knew who "escaped" from a teaching position in a rural setting did so by manipulating the teacher transfer system in such a manner.

Throughout the analysis I indicated where these, and many other, variations of the truth occurred, thus being as honest with the reader as possible. It was apparent, when looking at these variations of the truth, that *what* they were highlighting were essential aspects that contributed to the four themes derived from the narrative.

I believe that if I were telling another person about my teaching experiences, or even just writing down my experiences in a diary format, these devices, so typical of novel writing, would not have been used to the same extent. The fact that they were used makes the autobiographical novel a somewhat unique way of approaching research. This mode of representation allowed me, as the writer-researcher, to "investigate the problematic rather than reduce it to a more manageable explanation of what occurs in the classroom" (McMahon, 2000, p. 138). Piirto (2002) goes further, believing that writing about teaching in the form of the fictional novel, short story, and poem has the potential to provide "the reader with new ways of seeing" (Piirto, 2002, p. 441). That is, this form of representing teaching "becomes more than observation" (p. 441), documentation, and data analysis. In using these new modes of representation to present self-studies there is also the potential to reach wider audiences – audiences that may not normally read the traditional outlets of academic research, such as scholarly journals and books. The use of fiction can be effective in highlighting core aspects of lived teaching experiences.

LOOKING FORWARD

Five years have passed since the completion of the Ph.D. I am now in academia. I have tried subsequently to publish the novel. Again, no luck. But whenever I lecture or present a seminar about a particular aspect of primary school music teaching, I go back to the novel and select a chapter to use at the beginning of a presentation. This invariably works to lure my audience in – particularly when I tell them this is my actual experience, this is what I have done, these are the mistakes I made. These vignettes situate material I subsequently present. Simply put, I think a move away from "academic-speak" draws people in. That is, by using what McMahon (2000) terms as artistic accounts of teaching, I have been able to lure audiences to engage in educational issues.

This has been the case with a recently written short story titled *Leaving Teaching*, which addresses the issue of male teacher attrition in primary schools, and specifically attrition of male music teachers. For this story I interviewed two male primary school music teachers who had recently left

the profession, specifically focusing on why they had left the profession. As I had recently entered academia and also left the primary school music classroom, I also drew on my own experiences.

In the story I combined the experiences of three male teachers who left the primary school classroom in the form of the one character, David. This decision was made because as a writer I felt that the multiple experiences would enhance the possibility of the story touching universal chords with readers involved in the teaching profession. Initially, we individually wrote down dilemmas that we, as male primary teachers – and specifically male primary teachers who teach music – faced, and which led to exiting the profession. Not surprisingly, a number of the issues we individually identified overlapped. However, there were still certain issues that were only identified by one or two of us. I wanted to "pack in" all of these issues so that the reader got as broad a picture as possible of issues effecting male teacher attrition.

I believed that in telling a *story* a wider audience of readers would engage with the subject matter than if the issue is "researched" and written up as an article in an academic journal. How many working teachers read such journals? How many school principals read such journals? How many politicians and education policymakers read such journals? And how many members of the community – the parents of children in our schools – read these journals? Simply put, academic journals have a very limited audience.

The story has been presented to a number of audiences to date, including a group of pre-service teachers and a group of practising teachers. With the pre-service group, problems that music teachers faced was the focus topic. Students were presented with three research articles from journals that addressed this topic, and the short story. I did not identify myself as the author of the story. Students were asked to summarize the articles and story, and critique them. In their summaries students used the story as the basis for their summaries, using it as a way to frame the research findings presented in the other articles. That is, the story drove their understanding of the issue. In a follow-up class discussion, students indicated that the story was "more real" to them and indicated they "could relate" to what was being presented. "It was easier to read", a student commented. And finally: "Plus it was less boring than the other ones [articles] we had to read."

I also presented a paper on male music teacher attrition to an audience predominantly consisting of practising teachers. This was essentially a summary of recent research findings. However, halfway through the presentation I sensed the audience was drifting away from me. I had intended to conclude the presentation with the first page of the short story. But that would be 10 minutes away. I decided to cut my losses and presented the entire story. From the moment the story began the audience appeared to brighten. There were murmurs and nods as the story unfolded, and occasional laughter.

Bob was not a fan of music. "It's a frills subject," he'd once told David. "Like art and dance and drama. They've got a place – the school concert at the end of the year, when we've finished with the real teaching."

It wasn't the most sensitive thing to say to David, considering the amount of music teaching he did in the school. Although he had a grade five class, he only taught them two days a week. The remaining three days he taught the rest of the school music; half an hour for each class. Meanwhile his grade five class was taught by two supply teachers on the three days he taught music. As much as David loved teaching music, he felt guilty about leaving his class in other hands for so long.

David moved to what his class called their "Music Space," a corner of the room that was carpeted, with musical instruments in boxes and posters of musicians and musical instruments on the walls.

"Okay," said David, "let's warm up with 'The Underwear Song'."

It was a class favourite – a novelty song, an easy one to sing, great for warming the voice up.

The class sang it once. Requests came to sing it again. David complied. But half way through the second rendition the folding door opened and in strode Bob. David stopped strumming the guitar, but his class kept singing until they reached the end of the song.

"Mister Williams, I am trying to teach next door. Could you please have the courtesy not to indulge in music at this point in time. According to your teaching timetable your class's music time is nine on a Wednesday morning. You may correct me if I'm wrong, but I do not think it is nine o'clock on a Wednesday morning."

David went red in the face. His voice caught in his throat. And before he could find it, Bob had left the room.

He looked at his class. Some waited for him to speak. Others were looking at the departing Bob. David was awash with embarrassment and humiliation. He briefly closed his eyes. When he opened them his embarrassment had turned to anger – at Bob's pettiness, at the heat, at the lack of support he got from the administration team in trying to teach music in the school and run his own class.

It was at that moment when David first contemplated throwing it all in.

Sample comments:

"There's a Bob in every school." "Yeah, they're a part of schools – unfortunately." "But they're often the teachers the boss gets along with, so trying to push music isn't always easy." "True." "So what do you do?"

The ultimate question. The kind of question you hope for when this kind of material-research is presented to an audience of practising teachers. And so a debate (albeit a brief one) on strategies to combat the "Bobs" began, so

that music would remain a vital part of primary schooling and music teachers would not think about leaving the profession.

In writing the short story, I adapted McMahon's (2000) criteria for judging an artistic account of teaching:

(1) Has an artistic mode of representation been used to capture the situation?
(2) Does the story have the capacity to elicit response? (e.g., is it aesthetic enough to warrant interpretation?)
(3) Does the writer's interrogation of the aesthetic rendering yield greater insights? (e.g., does the interpretation touch universal chords?) (p. 138)

I tried to answer these criteria when writing and rewriting. I asked the two ex-teachers whose biographies informed the story to assess it according to McMahon's criteria, and subsequently made modifications based on their assessments. In addition, I wanted to know if my representation was a *credible* representation of their experiences. For the most part they agreed it was. Some parts of the story were "tweaked" – particularly the dialogue between teachers.

In presenting the story to the pre-service and practising teacher audiences, I did get a response, one where what I was saying appeared to touch these more "universal chords" in other music teachers, teachers from a variety of schools with a variety of different experiences. Richardson (2000) writes of "our continuing task to create new criteria and new criteria for choosing criteria. I believe in holding all ethnography to high and difficult standards" (p. 254). She goes on to list five criteria she uses to assess artistic accounts of teaching: substantive contribution, aesthetic merit, reflexivity, impact, and expression of reality. From my experiences in writing artistic accounts of educational research, I see the last two as being the most challenging criteria. In terms of impact, Richardson asks: "Does the work affect me? Emotionally? Intellectually? Generate new questions? Move me to write? Move me to try new research practices? Move me to action?" (p. 254). It is this last question that I believe is the bottom line for justifying the presentation of research in an "alternative" way, in an artistic way. *Does it move me to action?* If a teacher reads a short story about teaching and can situate himself or herself in that story, begin to question his or her actions, and act on what they have read to improve their practice, then surely research is doing its job. Why would a story do this and not an article in a research journal? There could be any number of reasons – no access to the journal, no inclination to read the journal. Therefore, if an alternative form of presenting research can engage an educator, why not use it? This could be through readers' theatre (e.g., Adams et al., 1998), photography (e.g., Preskill, 1995), poetry (e.g., Richardson, 1997), or even dance (e.g., Coe & Strachan, 2002).

Such representation of educational research is still in its infancy, but it has such potential to engage educators in reflecting about their teaching and their teaching contexts. Dinkelman (2003) points to the necessity for educators to reflect on their own practice, indicating, as many others have, that self-study is an ideal form for reflection. For those teachers and teacher educators who might not be inclined to engage in a more traditional type of self-study, an artistic mode of self-study may provide just the type of outlet to entice educators to reflect about their practice, whether it be through photography, painting, poetry, or even music.

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Chapter 15

Using Diagrams as Reflective Tools to Represent the Dynamics of Classroom Interactions

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INTRODUCTION

Various tools and artefacts have been used to promote reflection, such as photographs, videos, interviews, postcards, and paintings. However, these artefacts and tools often present a static representation of teaching and do not capture the dynamics of classroom interactions. The purpose of this chapter is to elaborate how our student teachers engaged in self-study of their practice using diagrams as a reflective tool to explore dynamic teacher-learning interactions. Our pre-service teachers sketched diagrams to conceptualize the elements and relationships of classroom teaching before they went on their first practicum experiences. They revisited their diagrams after their practicum and modified them in light of their experiences. As a result of their reflections, the students added items to their diagrams, making them more dynamic. The diagrams became triggers for further reflection and discussions about practicum experiences.

TEACHER EDUCATION AND THE NEED FOR REFLECTION

One of the main goals of a teacher education programme should be to produce graduates who have a deep understanding of teaching and learning and who can use these insights in their future classroom practices (Darling-Hammond, 1995). To achieve this goal, pre-service teachers need to understand teaching and learning as a dynamic relationship that changes with different students and contexts. Dewey first identified this relationship over 90 years ago as "the process of learning and that of teaching go together, just as do buying and selling. No one can buy unless someone sells, and no one can teach unless someone else is learning" (Dewey, 1901, p. 5).

The structure of many teacher education programmes, however, militates against teaching and learning being studied as a relationship. Most programmes

divide the knowledge bases of education into independent subjects such as curriculum, educational psychology, evaluation, special education, sociology, and pedagogy. Each subject, therefore, attempts to deliver specialized formal knowledge in regard to a particular area. Furthermore, because these subjects are treated separately, they do not encourage pre-service teachers to think about how they interrelate. Schön (1983, 1987) called this approach "technical rationality" whereby university courses promote research-based theory as technical solutions to narrow educational problems. When research-based theory is directly applied in an action setting, there is little consideration of the complexity of classroom environments. This could include a consideration of the background of children, resources, curriculum, and general school context. Ben-Peretz (1995) concurred with this view stating that "the hidden curriculum of teacher education tends to communicate a fragmented view of knowledge, both in coursework and in field experiences. Moreover, knowledge is 'given' and unproblematic" (p. 546). Organizing a teacher education programme in this way is like providing pre-service teachers with pieces of a jigsaw puzzle, which they have to fit together by making their own connections between subjects (Korthagen & Kessels, 1999). It would therefore be worthwhile for pre-service teachers to reflect upon experiences in authentic classrooms to gain a better understanding of the complexity of classroom interactions.

Pre-service students have an opportunity to reflect upon teaching and learning as a relationship in every class they experience (Hoban, 1997, 1998). During their degree, pre-service students are exposed to a wide range of teaching strategies and content, as well as interacting with a variety of students. Biggs (1993) used a systems view to argue that every university class is a "set of interacting ecosystems" (p. 74) made up of students, teachers, teaching contexts, and curriculum. He stated that these components interact with each other in a type of equilibrium and he called each class an "ecosystem of the educational swamp" (1993, p. 74). If pre-service students are to engage in reflection within their teacher education classes, such reflection should include studying their own experiences as learners at university and how they respond to different teaching strategies being used. Although this idea was raised over 40 years ago by Sarason et al. (1962), it is a rare practice in teacher education programmes:

> The student in the process of becoming a teacher is not made acutely aware of how he is learning, that is, to utilize himself as a source of understanding of the nature of the learning process. . . . [O]ne of the major reasons so many teachers are dissatisfied with themselves in their work is that their training did not illuminate the nature of *their* learning process and how this relates to and affects the learning process of their pupils.
>
> (p. 118)

Reflection is a key procedure to encourage pre-service teachers to study and make meaning from their own learning experiences. Although reflection has been a popular practice in recent teacher education, it originated in the writings of John Dewey (1933) as a way of thinking about a problematic situation that needs to be resolved. "The function of reflective thought is, therefore, to transform a situation in which there is experienced obscurity, doubt, conflict, disturbance of some sort, into a situation that is clear, coherent, settled, harmonious" (pp. 100–101). More recently, Loughran and Northfield (1998) stated that "reflection is a personal process of thinking, refining, reframing and developing actions" (p. 15). Reflection by pre-service students can help them to deduce implications for their future role as teachers as they "systematically collect evidence from their practice, allowing them to rethink and potentially open themselves to new interpretations and to create different strategies for educating students" (Hamilton & Pinnegar, 1998, p. 1). Pre-service students also need to reflect upon their experiences as the first stage of conducting a self-study. However, personal reflection is only one part and "self-study takes these processes and makes them public, thus leading to another series of processes that need to reside outside the individual" (Hamilton & Pinnegar, 1998, p. 15).

In particular, practicum is a beneficial time to encourage reflection by pre-service teachers as they can form observations and interactions from within the classroom setting they are experiencing. Accordingly, individual pre-service teachers can develop an internal representation of objects (teachers, students), events, and the relationships that exist between them. These experiences and interpretations from the reality of the classroom experience can form a mental model that pre-service teachers may draw upon in subsequent reflections upon the practicum experience. The nature and quality of the ensuing reflection will depend upon the richness of the mental representations that these pre-service teachers have initially formed.

The chapter reports how our pre-service students represented their experiences of classroom interactions with diagrams as tools for reflection. In particular, students were asked to think about the dynamics of classroom teaching and to present their ideas in the form of a diagram before they went on their first practicum experience. After their 2-week practicum in schools the students were asked to review and revise their diagrams and to discuss insights into relationships between teaching and learning. It should be noted that the use of diagrams to promote reflection was conducted in small groups and was not an individual self-study per se. Using small groups allows participants an opportunity to discuss information and ideas based on their personal interpretation of the school

environment they have experienced. In sharing information and ideas in collaborative learning situations, they have the opportunity to create diagrams that integrate the range of experiences developed through the formation of individual mental models. However, it is possible that individuals could sketch their own diagrams and, as such, these could be used as a potential tool for self-study that will be explained at the end of this chapter.

USING TOOLS AND ARTEFACTS FOR REFLECTION

Reflective journals have been used extensively in many teacher education programmes. LaBoskey (1993) argued that four dimensions or aspects needed to be considered for reflection to be useful: (1) a purpose such as a problem or issue for motivation; (2) a context such as the task, timing, and location; (3) a procedure such as how reflection is taught and learned; and (4) a content such as the focus of reflection. Extending this framework, Ghaye and Lillyman (1997) contended that reflective journals could be used for a variety of purposes including data collection for documenting personal change, to evaluate aspects of practice, for critical thinking, to release feelings, and to develop observational skills. But in most cases the content of reflective journals by pre-service teachers is about *what* they learn in their university classes, not *how* they learn, *how* they are being taught, or *how* they interact with other students. This reflection is often supported by encouraging students to use a reflective tool, such as a journal, to assist in the processes of documenting and analysing experiences (Bain et al., 1999; Francis, 1995; LaBoskey, 1994; Richert, 1992; Wilson et al., 1995; Zeichner & Liston, 1987).

Other tools and artefacts have also been used as a catalyst for reflection and in particular for self-study. Mitchell and Weber (1999) used a variety of artefacts to promote reflection such as photographs (old and new), video footage of classroom teaching, draw-a-teacher activity, and teacher body essays. Weber and Mitchell (2004) discussed many of the tools and artefacts used in self-study claiming that the reflective nature of self-study makes art-based resources particularly useful for reflection. They have used different types of photography including slides, black-and-white photographs, colour photographs, as well as video documentary, which sometimes film only the teacher, only the students in response to the teacher, or the whole classroom context. Other artefacts used for reflection have been shop mannequins dressed in particular school clothing (Weber & Mitchell, 2004). Richards (1998) has also explored the use of self-portraits, which are like cartoons with descriptions of what it is like to be a teacher. In this

study, pre-service students drew diagrams to include multiple elements of classroom teaching that will be explained in the next section.

CONTEXT FOR REFLECTION

This chapter is based on a study of the reflections of a group of pre-service teacher education students who were undertaking a foundation subject, Introduction to Teaching and Learning, as a core component of either a Bachelor of Science Education or a Bachelor of Mathematics Education at the University of Wollongong, New South Wales, Australia. The 13-week subject was offered during the spring semester in the first year of the 4-year programme. There were two goals for the subject: (1) for students to study issues concerning lesson planning and classroom management; and (2) for students to use a reflective framework to study the relationships between teaching and learning during their individual practicum experiences. There were 28 students (13 females and 15 males) from both degrees in the subject and they had an uninterrupted 3-hour class, comprising a combination of lecture and tutorial, each week. Various teaching strategies were used throughout the subject to provide students with a range of teaching experiences to reflect upon, such as didactic lecturing, small group work, different types of questioning techniques, using technologies like the World Wide Web and CD-ROMS, hands-on activities, guided discovery, humour, small and large group discussions, role play, personal feedback, brainstorming, reading, modelling, reflection, and enthusiasm.

In one class meeting prior to participating in their 2-week practicum, the students were asked to form groups of four and to draw diagrams that represented the relationships between teaching and learning that they anticipated finding in a classroom setting. The students were shown an example drawn by students in a previous class and they developed diagrams based on a metaphor agreed to by their respective group members. Volunteers from each group then explained their initial ideas of the metaphor used in their diagrams to the class. At the completion of the class the diagrams were retained for later reflection. After their practicum experiences (5 separate days plus 1 week in schools) the students were asked to reform their initial groups, reflect upon their practicum experiences, and modify their diagrams if required. Volunteers from each group then outlined the changes to their original diagram to the class and answered any questions that were put to them. The conceptual explanations from the group representatives were audio-taped and the diagrams retained. The diagrams and reflective discussions from two of these groups are presented in the next section.

STUDENTS' DIAGRAMS AS A REFLECTIVE TOOL

Each group conceptualized a metaphor as the basis of their diagram to illustrate their understanding of the teaching and learning process as discussed during lectures and support tutorials. Individual group members had been allocated to either a Mathematics or a Science Department for their practicum experiences, and agreement needed to be reached on the use of an appropriate metaphor and the defining of the associated concepts and ideas. Two of these examples, *The Cake of Success* and *Seasons*, are presented here to illustrate how the use of this strategy can promote reflective thinking and encourage discussion about teaching experiences amongst the class members.

Example 1: The Cake of Success – Before 2-week Practicum

This group used the metaphor of baking a cake to represent the growth in student development. Within this conceptual framework group members discussed how the addition of various "ingredients" would promote this development before incorporating their ideas into their diagram. Figure 15.1 illustrates several aspects of the teaching and learning strategies discussed in class.
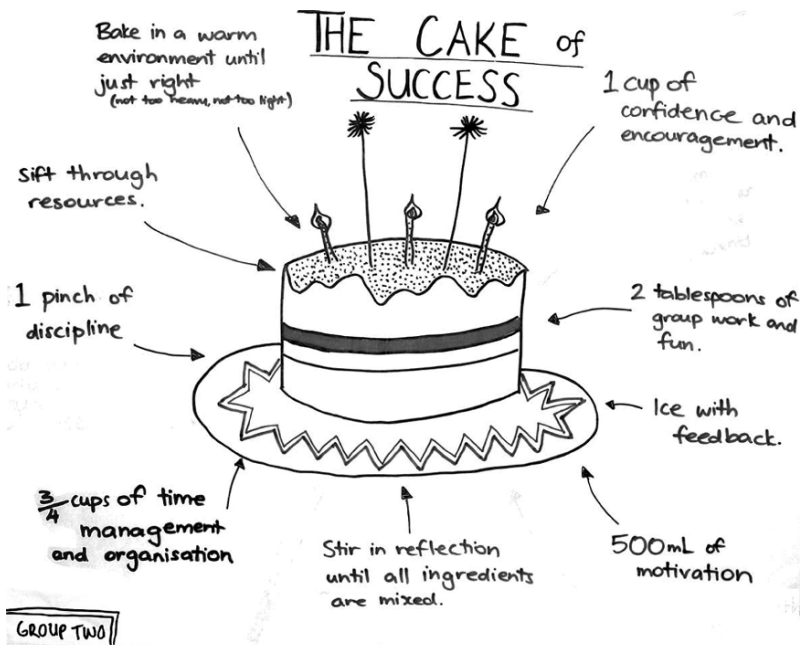
Figure 15.1. The cake of success: before practicum

The Cake of Success – After 2-week Practicum

On reassessing their diagram after the practicum experience the group members considered that their original concept was a close representation to what they had anticipated. However, on reviewing their personal experiences in schools, all felt that they had underestimated some critical aspects, which are noted in Figure 15.2. One member of the group explains:

Speaker 1

> I'm sure everyone remembers our cake . . . we made a couple of changes to it. . . . Originally we wanted a pinch of discipline in the cake, however, after doing our prac[ticum]we changed it to fifty-one pinches – we decided that you needed a bit more after being in the classroom to keep your kids under control. We also increased our time management. We added another step in making this cake which is to become familiar with the ingredients, the students, because once you get to know your students you can get to understand why they are not behaving so well and have a better idea [of] what's going on in their family and stuff like that.

Other members of the group explained further additions and alterations to the original diagram and the associated reasons for making these changes:
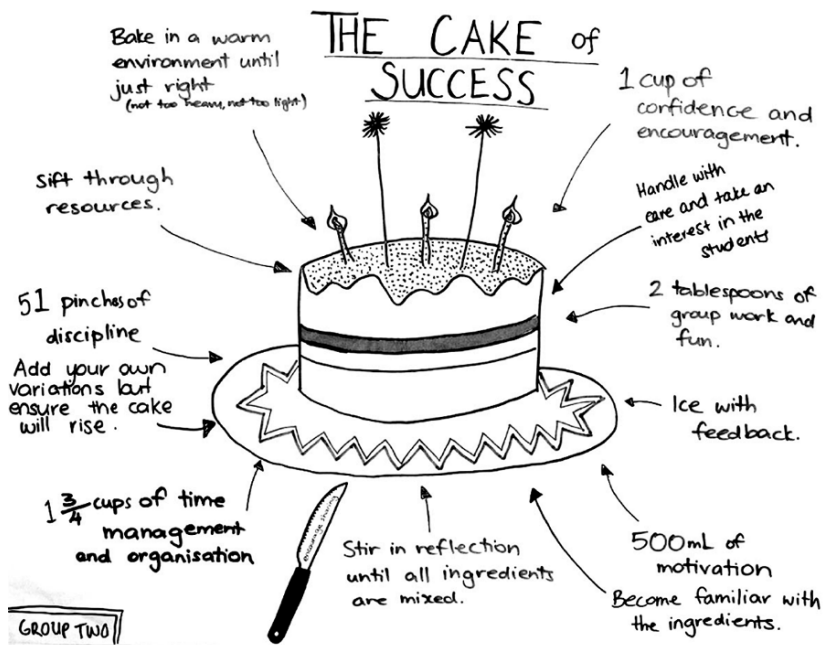
Figure 15.2. The cake of success: after practicum

Speaker 2

> We added a knife here, so [spontaneous laughter from class] . . . first of all to encourage sharing in the classroom . . . group work and things like that . . . and also, when you are cutting up the cake you get to see all the layers so it's part of the reflective process and you can analyse your teaching . . . dissect it all and have a look.

> Also we added an extra layer of cream because we thought if you add things, you needed to add things that complement the students, so we thought jam and cream complement each other . . .

> We added sprinkles because we thought not only does it look pretty but it reflected the creativity we try to encourage in the students . . . we thought it adds a bit of something interesting to the cake, the students . . . keeps them all excited and motivated in their Maths or Science.

> Also we said we wanted to handle the cake, or the students, with care . . . and take an interest in the students because if you're interested in them they are going to respond more positively to you.

Speaker 3

> We also said you needed to add your own variations . . . so maybe add some brown sugar instead of white just to keep it interesting because you need to hold everyone's interest . . . and you also need to test out different styles of teaching, for example, one day you might want to take a more aggressive approach and the next day you might try something passive to see if that's more effective for the students you have in your classroom.

> We also said that you need to make sure it (the cake) will rise so you need to make sure you keep who you are and your personal style of teaching the same because you don't want to change the person you have become just for your students . . . be yourself.

Using diagrams as a tool for reflective practice is one way for pre-service teachers to think about strategies and techniques that relate to their professional development as classroom teachers. Such reflections provide an opportunity for pre-service teachers to develop and reshape their individual beliefs and pedagogy in adapting to the classroom teaching and learning environment. In using this metaphor as a basis for their drawing, the students demonstrated a basic understanding of the theoretical aspects of teaching and learning that had been gained through a combination of previous background knowledge and from lectures and discussions in class.

In summary the changes in the student's thinking after practicum, as shown in the differences between Figure 15.1 and Figure 15.2, included adding "ingredients" such as "time management and organisation", "confidence and encouragement", "group work and fun", "motivation", and "discipline" before maximizing the learning environment by "baking in a warm environment until just right – not too heavy, not too light". This group appears to be indicating a focus that was more closely aligned with ideas

associated with teaching than that of student learning. In the group discussion, following their practicum experiences, the additions and alterations made to the original diagram continue to follow this pattern with increases in the amount of "time management" and "discipline" needed and additions of further "ingredients" to "ensure the cake will rise".

Example 2: Seasons – Before 2-week Practicum

The metaphor deduced by this group in the development of their drawing was based on growth of plants in a garden to represent student development and growth as shown in Figure 15.3. Within this conceptual framework, group members discussed and illustrated the link between the two ideas of development and growth. As one member of the group explained:

Speaker 1

> This diagram is about a garden and the way in which the different factors in the environment help to make the garden grow. So you have (like) the fertiliser and watering can, which is (like) classroom management and the fertiliser is (like) the knowledge and the sun is (like) the motivation . . . and to get these working together to help the flowers, which are our students, to grow.
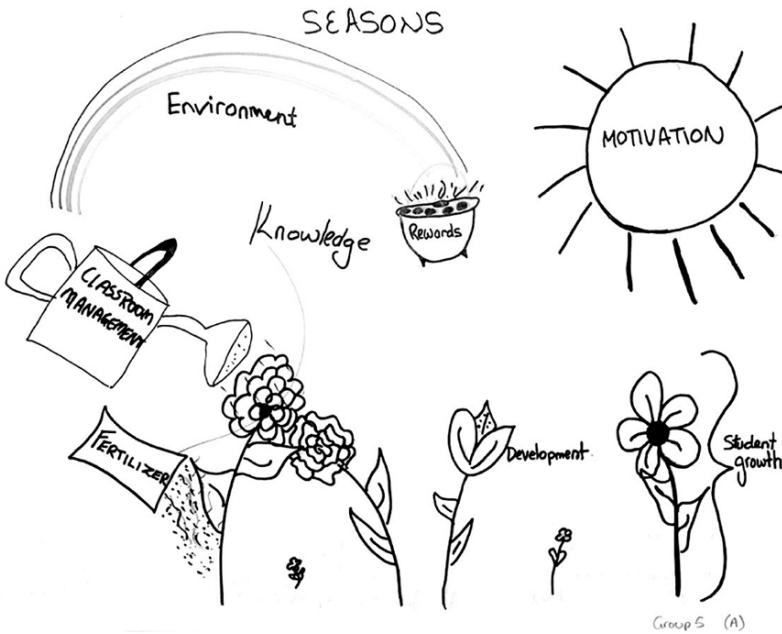
Figure 15.3. Seasons: before practicum

Seasons – After 2-week Practicum

Upon reflection after the practicum, members of this group decided to redraw their original concept to better represent the changes they had experienced from their practicum (Figure 15.4). As one of the group explained:

Speaker 2

> In this one we changed it around a bit and said that the whipper-snipper has to be the classroom management to stop the weeds growing and to cut down the noisy students down to size and stop disruptions. We turned around and said that the watering can is now the encouragement to get the seeds to grow and our sun is still motivation . . . so both of them work to get the students' growth happening.
>
> We also have seeds down the bottom, which are our lesson plans . . . but in our lesson plans we also have a caterpillar which causes disruptions for our seeds to grow, or our lesson plans to go ahead. We still have the fertilizer as the knowledge.
>
> We changed it (the diagram) and we put in another factor here which is the challenges (points to storm) . . . we have to face as we try to get the students to learn everything . . . so we put in the storm so that might cut into your classroom management because you have these big challenges coming into the classroom.
>
> We still have our pot of gold at the end of the rainbow, which had your goals . . . that's your rewards at the end of the storm . . . after everything has been done you have your classroom management . . . you have dealt with all the disruptions.
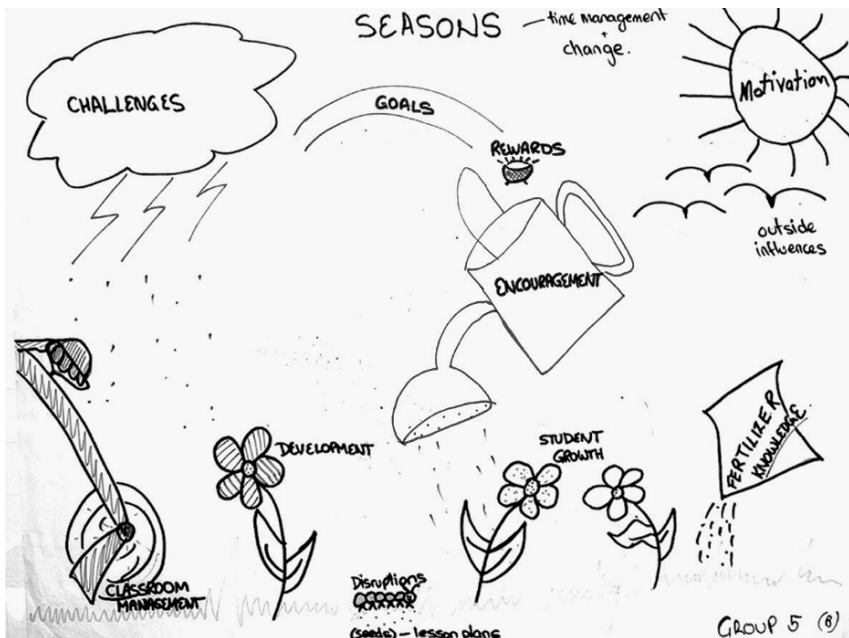
Figure 15.4. Seasons: after practicum

> We also have the birds which are our outside influences . . . at the end of that,
> when it's all over, you have the rainbow and the sun comes out again.

In discussing the interrelationships between teaching and learning, when constructing their initial diagram (Figure 15.3), this group also tended to focus more on the theoretical teaching strategies as reflected in their association with "classroom management" (watering can), "motivation" (sun), "fertilizer" (knowledge), and "the rainbow" (environment). Student growth was reflected through the development of the "flowers". Following their practicum experiences the group redeveloped their diagram to more closely align these experiences to practice. Their drawings illustrated more thought in relation to lesson planning and discipline and to the outside factors that impact upon the smooth running of classroom management. By redesigning their diagram (Figure 15.4) these students demonstrated a better appreciation of classroom practice and the interrelationship between teaching and learning.

DISCUSSION AND CONCLUSION

In any one year, teacher education students attend over 300 hours of formal class time at university and are exposed to a wide range of experiences across different subjects. Although pre-service students are often asked to reflect on their subjects, students usually document their reflections in a journal and the content of the reflection is often about what they are learning rather than analysing relationships between teaching and learning (Bain et al., 1999; Francis, 1995; LaBoskey, 1993, 1994; Richert, 1992). In particular, students rarely get the opportunity to reflect upon their own practicum experiences to gain a first-hand understanding of the relationship between teaching and learning and to represent them in diagrams. This chapter demonstrates that pre-service students can reflect on this relationship but it is helpful to use a diagram to guide them in this type of reflection. Moreover, it is important that trainee teachers are not simply passive recipients of formal theory at university, but think for themselves and engage in theorizing about their own experiences. Such awareness can support students in participating in reflective conversations about teaching and learning to enhance their individual self-learning.

  In this study, diagrams of classroom interactions were used as a tool for reflection. In both examples, the students in small groups drew diagrams before they went on practicum, taking into account elements about good teaching and learning in the classroom. However, both groups presented diagrams that were limited or contained in their view of teaching and learning; specifically the ideas presented represented strategies associated more with

teaching than with learning. This could be expected, as the members of the group were first-year pre-service teachers with limited exposure to the realities of classroom teaching. The *cake of success* mainly contained ideas related to teaching such as "confidence and encouragement", "reflection", "management and organization", but also had some elements related to the students such as "group work and fun" and "feedback". In addition, there were ideas related to the environment such as a "warm environment" and "resources". Interestingly, after practicum the students dramatically increased the amount of "discipline" and included "take an interest in students". A "knife" was also added in Figure 15.2 to cut the cake and "see all the layers so part of the reflective process and you can analyse your teaching . . . dissect it all and have a look". This last statement suggests that the student teacher was becoming aware of the complexity of teaching with many interrelated elements, which is a useful way to think about classroom practice.

The second example involved the students redrawing their diagram after their practicum experiences. Figure 15.4 highlighted that children in classes need classroom management and encouragement for productive work in classrooms. This diagram also notes the importance of setting goals for children in classrooms so that they have a "pot of gold at the end of the rainbow" together with challenges and motivation to reach that goal.

The changing description of these diagrams by both groups shows that reflecting upon the dynamics of a classroom environment gives students insights into the multiple factors that come into play in a classroom situation. Also an effective classroom environment is influenced by what both the teacher and students do, as represented in the diagrams. Importantly, this study shows that these diagrams are one way in which the rich experiences of a practicum situation can be represented. Also, using the diagrams before and after practicum provides a useful tool for reflection and discussion and a way of thinking about the dynamics of a classroom. Moreover, the use of diagrams provides pre-service students with a mental model for how to represent a classroom environment and gives students insights into what makes a successful lesson. Conversely, if a lesson is not successful, it could be related to the type of teaching, nature of the learner, type of group interaction, or a combination of all these influences.

As documented in this chapter, many artefacts have been used as tools to facilitate reflection in self-study including photographs, slides, video documentary, drama, and clothing (Weber & Mitchell, 2004). Although diagrams have also been used (Richards, 1999), they are mostly self-portraits describing what it is like to be a teacher. In this study, students have drawn diagrams to represent a classroom environment before and after their practicum experiences. Although this chapter does not represent an individual self-study, the

use of diagrams to represent the factors involved in classroom environments could well be used in this way. For this to occur, students would need to reflect upon their own experiences of classrooms and then sketch their own diagrams to represent these interactions. Students could then share the diagrams with others and make public these ideas for suggestions or feedback, which could be another component that makes self-study a form of research.

A final question remains: Is getting students to reflect about classrooms as a dynamic system transferable to later situations such as when they are teaching in a classroom? This transferability would mean that their thinking about teaching is not one-dimensional, considering only the content, teaching strategies, type of students, resources, or classroom management in isolation. Instead, reflecting upon teaching needs to be multidimensional, considering that many of these factors are present and interact dynamically. To address this question would involve interviewing students after they have finished the subject when they are teaching in classrooms. Nonetheless, the use of diagrams as reflective tools provides pre-service teachers with insights into the problematic nature of teaching because they become aware of the range of influences on classroom learning. Hence, one would hope that the diagrams proposed in this chapter would support students in better understanding Schön's (1983) metaphor of education as a "swamp" so that they gain an understanding of the complexity of teaching and learning by being able "to map the state of the swamp, and not just the anatomy of its alligators" (Biggs, 1993, p. 74).

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Chapter 16

The Fragile Strengths of Self-Study: Making Bold Claims and Clear Connections

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INTRODUCTION

Few would question that self-study has come into its own; it is well established as a viable field of educational research. Not only is there a substantive body of literature accumulated over more than a decade and summarized in a two-volume international handbook (Loughran et al., 2004) but the work is also continuing in a newly established journal on the topic, in the Self-Study of Teacher Education Practices Special Interest Group of the American Educational Research Association, and elsewhere. The strengths of the methodology of self-study and its potential contributions to our understanding of learning to teach are apparent to many, including folks who have not to date considered themselves direct participants. For those of us who have been involved from the outset, we feel some relief that we can spend more of our time just doing the work, instead of expending great effort on defining the field or defending its existence.

But there is some danger in this orientation – danger of resting too much on our laurels and taking too much for granted. In the process of "just doing the work" we run the risk of letting the strengths of the field slip away, especially if we fail to draw and build upon them in concrete and explicit ways. It is in this light that I would like to consider the five chapters in Part III. All of them, as intended, have added to our knowledge of the processes of self-study and its role in the enhancement of teacher education, as I will highlight and summarize below. In the process of doing so, I will argue that all the authors could be bolder about the claims they are making and more explicit about the connections of their work to previous self-study formulations; I will also make some suggestions as to how they and others might go about doing so.

ASSERTING THE CLAIMS

My presumption is that I was invited by the editors of this book to write the summary chapter for this part because of my previous work in the self-study international handbook, for which I served as editor of the section on methodology. In addition to monitoring the completion of the other chapters, most having to do with a particular method type utilized in self-study research, I had to write the introductory chapter that articulated the current nature of the more general self-study methodology, based upon a review of the literature in the field to that point (LaBoskey, 2004a). I also wrote the concluding chapter to that part, which drew upon the whole to make suggestions for the future development of the field (LaBoskey, 2004b).

In those chapters I argued that self-study is a viable and distinct methodology well grounded in particular *epistemological*, *pedagogical*, and *moral/ethical/political* theory. Agreeing with Pinnegar (1998), I defined self-study as "a methodology for studying professional practice settings" (p. 33). I then distilled and articulated five predominant characteristics of that research methodology:

(1) It is *initiated by, and focused on, us* as teachers and teacher educators.
(2) The research is *improvement-aimed*.
(3) Self-study is *interactive* at one or more stages of the process.
(4) The methods of self-study are *multiple and primarily qualitative*.
(5) Validation in the field is accomplished through *the construction, testing, sharing, and re-testing of exemplars* of teaching practice.

I claimed further that, as a result of these theoretical underpinnings, *the pedagogies, research methods, and research representations* utilized in self-study take particular forms.

None of these features, qualities, or justifications was self-generated; all were derived from a systematic analysis of the self-study literature with the intention of detecting and articulating the consistencies therein. As such, they represent the current agreements in the field – the foundation upon which we should build. We can do so in a number of ways: we might, for instance, add to, extend, transform, or even challenge one or more of those conceptualizations or claims. In this section I will do just that by situating the work of each of the authors within these formulations in order to further explicate the contributions I think each is making to the processes of self-study in teaching and teacher education.

Groundwater-Smith

One of the primary contributions of Susan Groundwater-Smith's chapter is to the first characteristic of the methodology of self-study, *the focus on the self*.

In utilizing the term "our second record", which includes the views, values, interpretations, and assumptions that result from our personal histories, she adds detail to our definition of the self. That is, she articulates particular aspects of our identity that need to be surfaced, analysed, accounted for, and, if necessary, transformed, if our research is to help us learn about ourselves and enhance our professional identity formation, a central goal of Groundwater-Smith's and of self-study research. Furthermore, she extends the notion beyond the domain of self-study by supporting an argument made previously by Lawrence Stenhouse and others that all researchers need to make their personal interests and values transparent. In other words, she argues for the application of this feature of self-study methodology to every type of research design.

Since Groundwater-Smith examines and interrogates the influence of her second record in the context of her role as the facilitator of the practitioner inquiry of others, she also provides insight into the *interactive* quality of self-study methodology, the third characteristic. Her investigation makes apparent how important it is to experience our perspectives in relationship to those of others, especially others very different from us, if we are to detect the details of that second record, challenge the necessarily circumscribed and often problematic beliefs that reside there, and ultimately transform them.

One of the techniques Groundwater-Smith used in her research for the purpose of making "the tacit more explicit, more tangible and more contestable" was a device she acquired from a local radio talk show she referred to as "two books and a person". What that entailed in her case was the naming of two books and one person who had been particularly influential in her understanding of her professional self, including the reasons for those choices. By supplying us with an exemplar of how this strategy worked for her, she is adding to our existing repertoire of possible and compatible *research methods*.

Aubusson and Gregson

One of the main ways in which the chapter by Peter Aubusson and Robyn Gregson strengthens self-study is by providing us, somewhat indirectly, with an instantiation of how the methodology of self-study is, and needs to be, consistent with its *theoretical underpinnings*. Indeed I would suggest that the employment of self-study in a context where some of the institutional conceptions of the teaching/learning process were different from the pedagogical and epistemological theories behind self-study was at least partially responsible for the difficulties they encountered. At one point, for instance, they describe these challenges as a "clash between researcher and teacher roles", which is true because of the way in which those roles have been defined traditionally, and in Gregson's situation. The beauty of their story is that it provides us with

clues as to how that discrepancy might be resolved – through a redefinition of both roles according to the theoretical foundations of self-study. This would make the use of self-study action research less challenging, precisely because in this methodology the distinction between the roles is virtually eliminated. If Gregson's context defined teaching and learning as self-study researchers do, she would be provided with time and support to, among other things, articulate and rearticulate her aims; to gather, examine, and debate evidence of learning in ways that would not require teaching and learning to be put on hold in the meantime; and work with colleagues who could not possibly conceive of such endeavors as oppositional to, or different from, "just doing their jobs". The claim I think their research is making is that taking an inquiry orientation to our practice, as self-study does, *is* our job. The processes of self-study require that the roles of teacher and researcher be integrated or, stated in the reverse, teaching in ways consistent with theories related to the social construction of knowledge will support the doing of self-study.

If such a shift were to happen, both teachers and teacher educators would always be using student outcomes, as determined by a systematic analysis of student work and performance, to inform their practice. The deliberations over what constitutes "evidence" in self-study action research, as exemplified in the Aubusson/Gregson chapter, contribute to both the *pedagogy* of self-study, which includes modes of assessment, and the *validation* aspect of our research methodology, the fifth characteristic. In particular, they make clear that our search for evidence of learning needs to be guided by an explicit, yet qualified, identification of our aims – what we are intending to accomplish. In addition, the pursuit needs to be ongoing and never dependent on a singular representation or interpretation of understanding.

This careful analysis of their research process is representative of one of the chapter's greatest strengths: they are particularly explicit in their efforts to connect their work with previous formulations. They conceptualize their investigation, for instance, in relation to the handbook chapter on the *method* of action research (Feldman et al., 2004) in a manner that both extends that discussion and raises important questions about it. Furthermore, they utilize the *characteristics of self-study methodology* from my chapter to determine whether or not their research could be deemed self-study. This is exactly the kind of process I am encouraging herein. In a later section of this chapter I will speak about how I think this aspect of their work might be further enhanced.

Schuck

Like Aubusson and Gregson, Sandy Schuck's chapter examines the challenges that result when there is a discrepancy between our instructional and

empirical practice and the *epistemological and pedagogical theories* held by our institutions, our colleagues, our students, and us. In her case she takes this issue on directly and makes it the focus of her self-study research. In fact, she suggests that a growing awareness of, and dissatisfaction with, the outcomes of her teaching with regard to student understanding and performance triggered her move into self-study, an approach that enabled her to better specify the nature of the inconsistencies between her practice and her goals, differences that were not evident in her previous means of assessment, including institutional course evaluations. In addition, self-study provided her with a means for bringing those two aspects of her work more into alignment.

In the process of doing this research, Schuck explicated a set of guiding questions that both resonate with, and amplify, the questions that have been previously identified as central to self-study: "How do I live my values more fully in my practice?" (Loughran, 2002) and "How do I improve my practice?" (Whitehead, 2000). Schuck's questions are these: "How do I know if I am doing a good job in my teaching? What counts as evidence for this? What am I actually trying to achieve in my teaching?" The greater specificity of these questions might grant the field more direction with regard to both our *research designs* and *pedagogical strategies* than do the foundational questions posed by Loughran and Whitehead. At least her questions make very explicit the need for us to focus from the outset on the related aspects of aim clarification and data-gathering strategies that will provide evidence regarding those aims, and therefore should, as Aubusson and Gregson have already noted, strengthen the process. Because her questions remind us of our concern for the value of our work and its potential to make a meaningful difference in the lives of our students, she is also making a contribution to our consideration of the *moral/ethical/political* qualities of self-study, a reminder I believe we could use more often.

Most noteworthy in Schuck's chapter is the fact that it is not the documentation of a single study. Rather it is a summary and analysis of a process that has taken place over time. As such, it represents what I would call "a body of work" (LaBoskey, 2004b) and is, therefore, an exemplar of the *validation process* described in the fifth characteristic of the methodology of self-study. I have argued that the field is, and has been, using a means of validation like that described by Mishler (1990), who proposes "to redefine validation as the process(es) through which we make claims for and evaluate the 'trustworthiness' of reported observations, interpretations, and generalizations" (p. 419). He suggests that this can only be done in "the general flow of scientific research" rather than by a discrete form of assessment applied to a single study. Therefore, I included in my recommendations to the field the

production of bodies of work that focus on, and illuminate, an individual's accumulated evidence of growth, which will thereby help to validate the knowledge claims thus achieved. Schuck's chapter does just that.

De Vries

The primary focus of Peter de Vries' chapter is on the question of representation in self-study research. He explores in great depth the potential of the autobiographical novel not only to represent teacher experience and knowledge but also to provoke both individual and communal deliberation about, and perhaps reconsideration of, the meanings embodied by such a story. Thus, his grappling with whether or not his novel can be considered research directs our attention to the connection between our *research designs* and our *research representations*. The questions de Vries raises and the struggles in which he engages help to confirm claims made previously by Eisner (1993): "The meaning that representation carries is both constrained and made possible by the form of representation we employ. Not everything can be 'said' with anything" (p. 7). De Vries clarifies both the strengths and limitations of the autobiographical novel in self-study research. He also shows us how the method needs to be engaged in order to maximize the former and minimize the latter.

One of the means advocated by de Vries for enhancing the potential of the autobiographical novel both to reveal and to transform teacher knowledge for the self and the other is through *interaction*, the third feature of the methodology of self-study. In fact, he provides us with an exemplar for how to employ interaction in two different ways and for two different reasons. The first involves the interaction between the author and other participants for the purpose of corroborating and expanding upon the experiences and understandings portrayed in the novel – a relevant type of triangulation, if you will. This is carried out in a manner consistent with the form – via, in de Vries' characterization, a phenomenological approach. The second entails interactions between subsequent readers of the novel and the author and his ideas, for the purpose of extending the conversation in ways that will either confirm or challenge the value of the experiences and interpretations represented in the text to their own identity development.

According to de Vries, this is the ultimate intention of his self-study – to facilitate identity development. He wants to characterize and enhance his identity as a male primary school music teacher and contribute to a similar process for others. Identity development is embraced as a central goal of all self-study research. Bullough (1994) describes it as an "ongoing quest for authenticity" (p. 110). And the authentic self must be inclusive of the whole

self – the intellectual, emotional, and spiritual (Palmer, 1998). Derry (2002) and others have argued that artistic media are unique in their abilities to capture and convey the emotions. De Vries supports this claim by emphasizing the centrality of the emotional aspects of the lived experiences of teachers and making clear that the novel is especially capable of representing the "truth" of those feelings. He thus strengthens the argument that we need to include *multiple, primarily qualitative* means in our self-study research, the fourth feature of the methodology.

Hoban and Brickell

The chapter by Garry Hoban and Gwyn Brickell provides us with an excellent example of the value of having some self-study scholarship focused on a very specific aspect of the work. To be considered within the domain of self-study a treatise does not have to be an actual self-study; nor does it have to contemplate the field as a whole. The authors themselves acknowledge that "this chapter does not represent a self-study". Instead it is devoted to a very detailed description, supported by specific examples, of a particular reflective tool that could be employed in self-study either as a *pedagogical strategy* or as a *research method* or both. I have argued (LaBoskey, 2004a) that assignments used by teacher educators to facilitate student learning are not the same as self-study because they are typically "lacking in certain requirements of self-study, most particularly in the metacognition involved in theorizing the learning experience and in the formalization of the work" (p. 827). I would stand by that argument in this case; neither the students nor the authors are engaged in self-study. Rather, Hoban and Brickell are sharing with us a specific strategy, diagrams of the teaching and learning process, which could become a part of future self-studies if we utilized them as data sources in our research designs. I think, when this is the aim, authors would do well to follow their example and provide us with as much detail with regard to form, function, and potential outcome as possible.

In addition, self-study researchers who choose this focus need to provide us with a rationale for the tool, which these authors did. One of the main supports offered by them for this method is its consistency with the *epistemological and pedagogical theories* that underlie the self-study field. Hoban and Brickell are engaging their student teachers in this "self-study-like" activity because that is how they believe the process of learning to teach happens. The justifications they provide for the strategy include the need to study teaching and learning as a relationship; reflection as a key procedure for encouraging pre-service teachers to make meaning from their experiences; the quality of that reflection as dependent upon the richness of the

mental representations they have initially formed; and the importance of having pre-service teachers reflect on not only what they are learning but also how they are learning it, all of which are consistent with the theoretical framework for the field of self-study. On those grounds, these authors are making the claim that diagrams of the teaching and learning process should be added to our repertoire of methods we might employ in the pedagogy and research of self-study.

They, like all the authors in Part III, have made contributions to one or more aspects of the processes of self-study in teaching and teacher education. Some have made those claims more explicit than others. One of my suggestions to them and to the rest of us is that we, as John Loughran (2004) has already argued, make our learning from self-study more accessible to others by stating the "assertions" that result from that research clearly and boldly. Only in that way can the ideas be employed, applied, and re-tested by the teacher education community in ways that will help us to embrace, discard, or transform those assertions; this is the essence of the validation process for the field. The other suggestion I have for enhancing this process and fortifying our strengths is by making very explicit what aspect of the work we are making assertions about and how those connect with, extend, or challenge, earlier claims. In the next section I will illustrate what I mean by pointing out a few additional ways in which I think the work of these authors could be better situated within previous formulations.

MAKING THE CONNECTIONS

One suggestion I had for the future development of the field was for us to better clarify the distinctions between the terms "method" and "methodology" (LaBoskey, 2004b). In my review of the literature I found the usage and definitions of these terms to be inconsistent in the field, resulting in some confusion. This was the case in many of the chapters in this part. For instance, Aubusson and Gregson agonize over "the interactions among self-study, action research and teacher-research methodologies". I would propose that if they conceptualized action research as a *method* to be used within the *methodology* of self-study with the teacher-researcher as the self in this case, their dilemma would, in the main, be resolved. Stated otherwise, the five characteristics of the self-study methodology would provide the frame for their research, wherein the teacher-researcher self would be embodied in aspect one and action research would be the main method, as included in aspect three. Making connections, then, with previous discussions of the difference between method and methodology in self-study could help to strengthen their research and, simultaneously, the field.

Similarly, the authors in Part III, as well as other self-study scholars, would do well to be sure that the pedagogical strategies and research methods we use are consistent with the epistemological and pedagogical theoretical underpinnings of the field. In addition, we need to make those conceptual frameworks very explicit in our writings and presentations. Schuck's chapter is commendable in this regard, but I would suggest she could take the effort even further, particularly in her discussion of the implications of her work for herself and others. Very specifically, I believe that she should characterize her future endeavours as not just changing people's conceptions about self-study but also transforming their beliefs about the nature of the teaching/learning process. If she made that connection more explicit to herself, as well as to others, it may open to her other avenues for pursuing her goal of transforming her teaching and the subsequent teaching of her graduates.

As I mentioned earlier, de Vries struggled with the notion of validation in his research utilizing the autobiographical novel for similar reasons. His shift to the self-study methodological paradigm was not as complete as it might have been. That is, he drew upon the notion of collaboration, the third characteristic, to try to establish validity. He consulted with "characters from his teaching past" to see whether or not they remembered things as he did and in that way better establish the "truth" of his story. He does recognize the inadequacies of this practice and alludes to its possible irrelevancy, but is somewhat at a loss as to what to do about it. I propose that if he took it a step further and also connected with the fifth characteristic, he would be engaging in a validation process more consistent with the field of self-study and more satisfying to him. He would assume and acknowledge without reticence that validity within a single study, in his case a single autobiographical novel, is and must always be partial, and simply stress the need for further validation to be accomplished through the testing of his exemplar in the future lives and self-studies of other male primary school music teachers, rather than by changing what he has already done.

Hoban and Brickell do draw upon the theoretical groundings of the self-study realm in their efforts to promote the utilization of diagrams of the teaching and learning process in self-study as a pedagogical strategy and data-gathering method. It is a different aspect of their work that I think needs to be more directly connected with previous formulations. They acknowledge that they are not reporting on their own self-study; however, they do suggest that they are engaging their student teachers in self-study. As previously mentioned, I (LaBoskey, 2004a) and others have made the claim that assignments we give to student teachers for the purpose of promoting reflection are not the same as self-study. Hoban and Brickell can, of course,

believe otherwise, but if so, they need to use the definitions of self-study to justify that position in direct and explicit contrast to the previous arguments. Advancing the field through connections with the past does not mean we always have to agree with what has come before; it does mean we have to explain how and why we are proposing the changes we are.

Many in self-study have argued that to be deemed self-study there must be a demonstrated transformation in the self-study researcher; this aspect must be part of the improvement aimed for and achieved, the second feature of the methodology. Hoban and Brickell are not presenting a self-study so that concern is not applicable in their case. Schuck's chapter constitutes a body of work rather than an individual study, whose whole purpose is to document that transformation, so the question is also inappropriate in this instance. I think the three other chapters could strengthen their contribution to the processes of self-study if they made more explicit the nature of the personal transformations they made – exactly how they know, think, feel, and act differently as a result of their research. For example, Groundwater-Smith documents very courageously the limitations she discovered in her assumptions about the school context in which she was working. In addition, she proposes several compelling questions derived from those discoveries that she believes would facilitate the ongoing development of the professional identities of any of us involved in the facilitation of teacher inquiry and learning. What she does not do is summarize or explain the particular transformations she made in her professional identity as a result of this project. More complete connections with the previous literature in self-study would direct her to do so, would remind her that the notation of self-change would constitute particularly powerful grounding for her arguments. In other words, she, like the other authors in this part, should make the assertions about what has been learned more explicit, which brings me back to the suggestion made in the first portion of this chapter.

CONCLUDING REMARKS

The authors of this part have all made valuable contributions to the general processes of self-study in teaching and teacher education, though the nature of those contributions vary in terms of both focus and means. In this chapter I have tried to highlight what I consider to be the most important, as well as suggest ways to extend and solidify what they have done. In an effort to practice what I preach and be consistent with the validation process I believe we should be pursuing, I would remind both the authors and the readers that the analysis of their findings and proposals might be incomplete. It is up to all of us to take the next steps, to continue the validation process by embracing

those ideas we find most "trustworthy" and test them out for ourselves. I think we will all find much in these pieces to be worth the risk. Then when we document, analyse, and share the results of these new self-studies, we need to situate them in the context of this text. We cannot preserve the fragile strengths and advance the field of self-study simply by doing the work; we must also make bold claims or assertions (Loughran, 2004) about the discoveries that result and make clear how the knowledge we have generated connects to previous formulations – what aspect of the field it helps to illuminate and in what way.

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