Self-Study of Teaching and Teacher Education Practices 18

Kathleen Smith

Teachers as Self-directed Learners

Active Positioning through Professional Learning

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Foreword

There has been considerable writing about the nature of teachers' professional development over the years. Even a cursory glance of the literature illustrates that despite the best efforts of many, a prevailing view of teacher development hinges on notions of working *on* teachers as opposed to working *with* teachers. The difference between these two views is stark. An important, and far too often overlooked, aspect of the difference revolves around teachers' knowledge and how it is recognised, valued and developed.

In the working *on* teachers approach to professional development, teachers tend to be positioned as members of a workforce that need 'upskilling', usually as a consequence of a change in policy and curriculum or in response to a new teaching activity/idea that has recently come to prominence. Under these circumstances, teachers are not necessarily seen as creators of knowledge. Rather, they are viewed as consumers and implementers of others' knowledge. Yet, on a daily basis, through the very interactions that define quality in learning and teaching, teachers are building their professional knowledge of practice – albeit idiosyncratic, tacit and highly contextualised. Recognising and valuing that knowledge is what matters for developing the teaching as a profession and so doing offers a window into understanding the complex and sophisticated work of teaching and the expertise that results from learning about it in meaningful ways.

In this book, Kathy Smith breaks new ground around these issues as she makes clear how working with teachers through professional learning impacts their practice and their understanding of student learning in new and powerful ways. The project at the heart of this text draws serious attention to the nature of professional learning and makes clear how valuing teachers as producers, not just users, of knowledge matters – it shapes their deeds and actions as professionals. There is little doubt, as her data makes clear, that for many teachers, being valued in this way is a new experience, an experience that changes how they come to see themselves, what they do and the way they go about doing it.

This book offers insights into the ways in which creating conditions for learning matter in shaping the way teachers come to see, and accept, the possibilities for their own growth and development. The professional learning approach Smith developed

through this project and the way in which she has researched it and now shares with the education community, in new ways. In so doing, she creates an invitation for education systems to think differently about how they work with their teachers – she offers evidence of real change through professional learning. More than that though, she also illustrates the importance of placing the teacher at the centre of their own pedagogical thinking and reasoning. In recognising and responding to that type of positioning, their issues, needs and concerns are not only met, but their practice is also challenged and further developed in ways that matter for their sense of efficacy and ultimately, their students' learning.

What it is that teachers know and are able to do has been a point of discussion for some time. However, much of that discussion has hinged on the work of those observing teaching, not necessarily those involved in it. Through this book, Smith offers an opportunity to see into what teachers know and are able to do from their perspective as a consequence of their ownership of their professional learning. As her research makes clear, that is not necessarily an easy task, but it is an important task. It is a task that is driven by a respect for, and a serious valuing of, teachers' professional knowledge of practice.

In reading this book, it becomes immediately obvious that sharpening the focus on professional learning leads to outcomes that cannot be mandated and certainly should not be seen as a model for precise duplication. As her research consistently demonstrates, there is a crucial element of professional learning that is deeply personal, so supporting teacher growth requires a form of planning and leadership that is inherently tied to context and to teachers' personal pedagogical needs and concerns. As she makes clear, creating a professional learning model that will solve the many and varied issues in teaching and learning is not the intention. However, it is a message that education systems need to come to grips with if teacher development is to genuinely respond to the needs of the profession.

Through this book, Smith shows us that the very nature of learning and teaching, and how teachers grapple with that on a daily basis, is a gateway to valuable professional learning. By developing principles of practice, by creating opportunities for pedagogical growth through the notion of conditions for learning, she illustrates how to better value teachers and teaching, their knowledge and the way that is developed, refined and enacted over time – these essence of learning.

I find this book to be a compelling and powerful account of research into professional learning that makes a difference. Research like this matters because it offers an opportunity to impact what teachers do and how. It goes well beyond superficial views of teaching as training or the simplistic pursuit of technical competence alone. I appreciated enormously the thoughtfulness, rigour and evidence displayed throughout the text in building a case for professional learning as a catalyst for educational change. I trust you arrive at a similar conclusion through your reading.

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About the Book

Research, at its best, exposes the complex weave of events and intricacies that are the fabric of routine. The familiar becomes extraordinary and from that moment on there is no going back; this clarity demands attention. Teachers, the professionals who weave the fabric of educational routine, those who are most familiar with the intricacies of this work, have an expertise and professional knowledge that provides a clarity about what matters in education. This is a story of research about teachers who share what they think matters and how they determine what they need to learn to become the teachers they want to be. After hearing this story, there is no going back; there is only one way forward.

Contents

Part I
Teacher Professional Development: Who Owns the Learning?

Reconsidering the Assumptions that Frame Teacher Learning

The first section of this book considers the thinking and action that has traditionally framed approaches to teacher professional development and suggests that generally accepted practices have had limited impact in terms of teacher learning or educational improvement. This creates opportunity to explore alternative conditions for teacher learning, in particular conditions that seek to position teachers as active learners working as key decision makers about what matters for their own professional growth. Underpinning such a position is a recognition of the professional expertise of teachers and a willingness to reconsider the ownership of expert knowledge, in particular teachers' professional knowledge of practice and the value and place of this expertise in teacher education. This begins to highlight a key difference between programmes which seek to provide teacher professional development and teacher professional learning, and these differences must be clearly articulated to ensure that teachers are supported to work in conditions which value and explicitly attend to their professional status and expertise. Finally, these ideas are developed in practical ways to produce an in-service programme that is designed to work with teachers to develop deep understandings of the conditions that enable teachers to work as self-directed learners. The systematic organisation of this study is outlined together with some key findings which become the focus of the following sections of this book.

Chapter 1
Teachers as Learners: Building an Alternative Landscape

Abstract In the first chapter, teaching is defined as that which involves a complex understanding and enactment of the interrelatedness between pedagogy, context and astute decision making. This thinking is positioned within the personal experience of the author who has worked as both a teacher and a professional learning facilitator. This chapter begins to define the local context which gave rise to and determined a need for research to rethink the role of the teacher in the professional learning experience. It flags that the changes that emerged ultimately required all involved in the process of learning to think and work differently.

Introduction

For many years as a professional learning facilitator, my 'everyday' involved working within a range of contexts and situations watching and listening to teachers as they talked about and developed their practice. In this role, I had the privilege to witness the high degree of expertise that teachers exercise as they seamlessly attend to a wide range of complex decisions every day in their teaching. I heard teachers describe their efforts to create rich learning environments, and I learnt a great deal from their thinking as they described how they attended to their students in order to build relationships which nurtured and supported meaningful learning. Such experience has assured me that expert teachers know what they want to achieve for their students and that such a clear sense of educational purpose can and does make a difference to student learning. Yet more than anything, these experiences have continued to deepen my conviction in the belief that teaching is complex and difficult work. It is interrelated with and answerable to a range of diverse stakeholders, many of whom are external to the everyday work of schools yet all hold vested interests and high expectations of teachers.

K. Smith, *Teachers as Self-directed Learners*, Self-Study of Teaching and Teacher Education Practices 18, DOI 10.1007/978-981-10-3587-6_1

The Role of Teachers in Changing Times

It is impossible to understand teaching without acknowledging the complex and demanding top-down models which frame regulatory educational practice. Governments, political parties, education systems and the educational sectors within such systems have all framed education in ways which define philosophical positions and political aspirations. This is clearly evident in the prevailing global agendas of national security and strong fiscal growth which, as global drivers of education policy, have charged schools with the immense responsibility of ensuring an innovative and adaptable workforce capable of delivering economic prosperity and social stability. In this way, bureaucratic perspectives actively work to define that which is 'valued' learning and, backed by productivity indicators, these educational emphases seek to direct teaching – performance against compliance.

Within the often conflicting agendas of government policies, assessment regimes and reactive, short-lived educational initiatives, teachers continue to negotiate the task of nurturing meaningful learning for every student. This ever-changing and continually demanding context partly accounts for the problematic nature of their work – providing continuity and routine within an uncertain and changing educational landscape. Yet they continue their work, attempting to ensure students experience opportunity for sustained growth and development. Teachers navigate this landscape to shape school-based learning, and in doing so ensure the needs and expectations of competing stakeholders are expertly woven into the fabric of their professional practice.

While global contexts and situations differ, every education system relies upon teachers to execute and deliver quality teaching to enable quality learning. While political imperatives frequently shift, expert teachers keep an eye on what matters; they are the gatekeepers who determine meaningful learning, teaching and success. Yet within the general discourse of education, the teacher's voice is rarely heard, such expertise seems forgotten or at worst deliberately ignored.

Noticing Teacher Expertise

Teaching is difficult work because it requires a complex understanding of the interrelatedness between pedagogy and context, enacted through astute decision making. Everyday, as teachers make decisions that determine appropriate actions and responses in a range of circumstances, they appear to draw on an almost intuitive knowledge of practice that is shaped by their professional experience. Yet teachers seldom describe how they use this 'know how' to inform their practice. They are rarely required to explicitly articulate what it is they pay attention to in their teaching, and while there is a clear relationship between effective teaching and quality learning, their 'silence' seems to feed a general ignorance about the nature and value of teacher professional knowledge. Their actions and their profession

constantly attract public attention, as the old adage goes, everyone has been to school so everyone has an opinion about how to teach. Often, public perceptions define teaching as simply about doing great activities or delivering accurate information, and this fails to value the very specific and complex professional knowledge that underpins teaching. Sadly, even perceptions among the broader educational community often fail to recognise the intricacies of teachers' practice and the expert knowledge teachers could potentially contribute to educational discourse. As a consequence, many teachers fail to value their own expertise causing them to talk about their work in overtly understated and self-effacing ways. Many teachers feel disenfranchised from the very work they do, feeling disempowered and victimised by the systems in which they work.

Without doubt teacher professional knowledge of practice clearly embodies a proficiency that is crucial to supporting quality learning. Encouraging teachers to articulate their professional knowledge and share the reasoning that informs their practice, is critical to enhancing not only student learning but the status of teachers and the teaching profession. Knowing more about what matters to teachers is crucial.

Over time, I have become increasingly intrigued to know more about the conditions that enable teachers to share the thinking that informs their practice. I have more recently started to wonder if in-service professional learning opportunities could be designed in ways that develop teacher confidence in their expertise and also enable them to articulate what they value and what they want to learn more about to enhance their practice. However, my experience as a professional learning facilitator also alerts me to the difficulties of attempting to explicate teachers' professional knowledge, not least because it appears to be tacit and deeply embedded within the everyday busyness of teaching (Loughran 2010).

Professional Learning That Actively Positions Teachers as Self-Directed Learners

Against this backdrop of thinking about teacher expertise and the need for teachers to articulate the knowledge that drives their teaching, I began to consider if it was possible for in-service teacher education programmes to actively acknowledge teacher expertise and do so by creating learning conditions that required and supported teachers to actively share their professional knowledge. This shift in thinking would inevitably necessitate a shift in the accepted and prevailing practices which frame in-service teacher education. To nurture such learning would require conditions which explicitly positioned teachers as active learners experiencing a process of personal learning rather than simply attending a mandated programme. To achieve this end, it seemed reasonable to assume that teachers would need to be positioned as key decision makers about what mattered for their own professional

learning, and in doing so this would require programme facilitators to find ways of working *with* teachers rather than *on* teachers.

From my experience, working as a facilitator of in-service teacher education programmes, it seemed that prevailing approaches to teacher in-service education did not actively create such conditions for learning. Anecdotally, the content of many in-service programmes was predetermined and not intentionally designed to address teacher's individual learning needs. Instead programmes appeared to be designed with a one-size-fits-all intention, focusing on the most cost-effective means of delivering information while also achieving the greatest outreach. Such conditions positioned teachers as passive learners, and these programmes often appeared to have little lasting impact on teacher practice and thinking. To change these conditions would require a significant shift in accepted approaches to teacher learning programmes. What opportunities, resources and time would be needed to effectively empower teachers to make decisions about what matters for their learning and how they will apply their learning within the reality of their personal teaching context? What would this mean for the facilitator of such a learning opportunity? What skills and behaviours would they need to be able to support teachers to work in this way? Would education sectors support the development of such a different approach to in-service teacher education?

Changing both the expected role of the teacher as learner and the conditions that were needed to promote such learning, would also have major implications for teacher participants in such programmes. I began to wonder if teachers would be willing to break away from traditional roles, take the risk to work differently and explore aspects of their practice not explicitly valued within existing educational approaches. Would teachers have the capacity to identify their learning needs? Would they be able to make decisions about the necessary context, learning objectives, learning experiences even the expertise they wished to draw on to enhance their personal learning needs? What strategies would support teachers to identify and articulate changes to personal professional thinking?

Given the prevailing educational agendas of systemic accountability, most notably to improve student learning outcomes, I was aware that my intentions to develop a programme that focused solely on teacher, rather than student, learning could be problematic. It may be especially problematic in terms of achieving system or sector support. Nonetheless, I decided to forge ahead, and I approached an education sector I had worked closely with for a number of years. I raised with them the prospect of developing a professional learning programme focusing less on the delivery of information about mandated policy implementation and more on the process of teacher learning. It was clear to me that the approach I was advocating could possibly be something that was at the very least challenging or at worst at odds with the intentions of this sector. Fortunately, the sector shared the goal of improving the quality of teaching and teacher learning and recognised the importance of exploring conditions that might enhance teacher confidence. The sector believed that such a process may also build personal professional capital and provide teachers with 'permission' to embrace a new sense of professionalism in their work. The sector therefore recognised the potential such a programme offered and equally saw a

value in conducting research to explore the conditions needed to enhance such learning.

With these objectives in mind, we set about to work collaboratively to provide a very different learning experience for teachers. It was timely because the sector had been planning to develop an in-service programme entitled *Leading Science in Schools (LSiS)* – a programme that would work to enable teachers to lead school-based change in science education. The programme had been proposed as a way of supporting teachers to value and build upon their knowledge and develop their expertise as leaders. In so doing, it was anticipated that the programme would assist participants to promote and lead meaningful science teaching and learning in their schools. The idea of such a programme provided a perfect vehicle for exploring conditions designed to enable teachers to work as self-directed learners. So, as both a professional learning facilitator and researcher, I found myself in a privileged position to design, implement and trial a range of alternative approaches to in-service teacher education all designed to foster meaningful teacher learning and challenge more traditional models of teacher learning.

What I learnt from this experience was that teachers not only have the capacity to think about and understand their practice in different ways, they are also capable of clearly articulating the deep thinking that drives their teaching. This information creates a new imperative for reconceptualizing teacher learning, supported by empirical results that reinforce the importance of enabling teachers to take ownership of their professional knowledge. However, to achieve such outcomes requires hard work from both teachers and those who seek to work alongside them to support their decision making and their investment in learning. Teachers must be willing to devote their time and their intellect to develop meaningful practice and develop a deeper understanding of their professional expertise.

When teachers are effectively supported to play a different role in their own professional growth and development, they have opportunity to experience, recognise and construct learning that is both personally and professionally rewarding. These findings matter for all teacher in-service programmes because this information demonstrates that we have only scratched the surface of what is possible in the area of teacher in-service education. We must begin to work in new ways, and this depends upon all educators sewing new seeds for potential growth, building on what we already know; teacher learning is complex, nuanced and contextual. Unfortunately, prevailing practice has failed to acknowledge the implications of this information and has chosen to frame teacher learning in terms of a common denominator rather than explore the rich insights that potentially grow from the diversity of teachers' contextual realities. We need to critically analyse why these limited frames have existed for so long to understand how we can move forward. The key lies in literature and research in the area of teacher learning, in particular, understanding the tensions that have for so long framed the role of teacher as learner.

Chapter 2
Sowing the Seeds for Potential Growth

Abstract This chapter explores literature that sheds light on the thinking and action that has traditionally framed approaches to teacher professional development. A review of relevant research highlights the limitations of these practices in terms of producing meaningful teacher learning and sustainable educational change. This carries implications in terms of the effectiveness of such approaches to address the nature of teacher learning – in particular the complex interrelatedness between teaching, thinking, experience, context and action. This chapter then explores an alternative role of the teacher in the learning process by examining three key ideas emerging from literature in the area of professional learning: (1) professional learning must be personal; (2) it must be about noticing; and (3) it inevitably challenges teachers because it involves hard work. This chapter then explores the literature which frames some important considerations around the ownership of expert knowledge, in particular teachers' professional knowledge of practice and the value and place of this expertise in teacher education. The chapter concludes with a call for more research into the operational conditions conducive to meaningful teacher learning.

Introduction

A range of accepted assumptions about the purpose and nature of teacher learning frame programmes designed to attend to in-service teacher education. These assumptions and the power relations that shape such thinking give rise to a range of approaches, which in reality, impede rather than open opportunities for meaningful teacher learning and sustainable educational change. This chapter explores what we know about teacher in-service education in an attempt to better understand more about these power relationships. Three key aspects are explored: the purpose of professional development (PD), the role of the teacher in the learning process and the ownership of expert knowledge in teacher education. To ensure alternative models of practice actually shift the nature of the prevailing interactions and experiences inherent in current in-service practice, three key ideas are examined from the research literature about the role of the teacher in the learning process: (1) professional learning must be personal; (2) it must be about noticing; and (3) it inevitably challenges teachers because it involves hard work. It is also essential to explore some of the work that has been done to date around the ownership of expert

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knowledge, in particular teachers' professional knowledge of practice and the value and place of this expertise in teacher education. As the work in this chapter reveals, such work highlights the need for research which sheds light on operational conditions that effectively address the complex nature of teacher learning – in particular the interrelatedness between teaching, thinking, experience, context and action.

In Pursuit of Effective Teacher Professional Development

The classroom teacher has been identified as the point at which all layers of teaching, assessment and curriculum innovation come into contact, and a range of research suggests that the quality of what teachers know and can do has the greatest impact on student learning (Darling-Hammond 2000; Ferguson 1991; Ferguson and Ladd 1996; Muijs and Reynolds 2000; Wenglinsky 2000), particularly in terms of developing meaningful classroom practice designed to meet student learning needs (Anders and Richardson 1992; Hiebert and Calfee 1992; Johnston 1992b; Stiggins 1985). Recognition of the teacher's influential role has highlighted the importance of providing teachers with educational opportunities that ultimately aim to continuously develop their professional competencies. This process is often referred to as in-service teacher education or PD and has been widely linked to improving schools and increasing teacher quality.

The pursuit of 'effective' teacher PD has become an increasingly important part of educational change (Ashdown 2002; Elmore and Burney 1997; Thompson and Zeuli 1999). This connection is based on a belief that high-quality in-service education will produce superior teaching in classrooms, which will, in turn, translate into higher levels of student achievement (Supovitz 2001). In the USA alone, public schools spend 20 billion dollars annually on PD activities (National Center for Educational Statistics (NCES) 2008). This type of large financial investment, together with globally prevailing agendas such as school accountability, curriculum standardisation, assessment, improved student learning, and teacher performance standards, has produced high expectations of return from PD programmes. Governments worldwide look to local education systems for demonstrable evidence that such priorities have been addressed. The most favoured indicator tends to be demonstrable improvements in student learning outcomes. Sectors within such systems, given obligations to government funding and the incentives available for compliant performance (see, e.g. Hargreaves and Shirley 2012), require their investment in PD to produce such observable outcomes.

There is little doubt that such 'leverage' has placed in-service teacher education programmes and practices under greater scrutiny; programmes are assessed on their efficiency to deliver outcomes, and there is a call for more empirical evidence to identify what makes some programmes effective. As a consequence of these agendas, 'professional development' (PD) has become a convenient and manageable channel through which to exert influence over teachers and their teaching. Characterised by approaches that work in particular ways to deliver such outcomes, it has become the embattled domain of educational change.

PD programme content can too easily adopt a narrow focus on the technical aspects of teaching, that is, assisting teachers to develop teaching strategies to improve practical teaching and the teaching of specific curriculum content (Darling-Hammond and Richardson 2009). Arguments in support of such approaches have sometimes suggested that programmes which focus on the very practical aspects of teaching are far more likely to have positive effects on student learning than programmes that focus mainly on teaching behaviours (Boyd et al. 2009; Kennedy 1999). However, such approaches characterise PD as practice that defines and entrenches teaching as a technical activity, implicitly suggesting that teacher learning is understood, and attended to, as linear and task orientated.

These prevailing trends have also had inevitable consequences for research agendas in the area of PD. By concentrating programmes on teaching actions, i.e. what teachers can be seen to do, researchers have been able to frame teacher learning as a process-product model, whereby learning outcomes are exemplified in the 'product' of teaching actions and student learning. In this scenario, teacher learning becomes an observable and measureable entity. This construct creates opportunities to generate data to address the concerns of the prevailing 'bottom line' and accountability mindsets driving current political education agendas.

Limitations of PD: The Tension Between Intent and Outcomes

The ultimate aim of any teacher PD programme appears to be improved student learning; this is the outcome valued by education systems around the world, and yet it appears to be the outcome that continually remains elusive. Making a difference to student learning is of course a logical intention of teacher learning; however, the expectation that teachers will produce such change as an immediate outcome of a programme experience positions teachers as merely a conduit of linear change, with PD input at one end and changed teaching practice at the other. Delivering this prized outcome appears consistently problematic for stakeholders at all levels of PD, and this difficulty suggests that the conduit metaphor is too simplistic. Disappointing results place further pressure on research to find explanations for the low correlation between intentions and outcomes. In response, working within the limitations of accepted improvement frameworks, the concern of research has been to focus on why changed teaching practices have not produced the intended outcome of improved student learning. For some time, such outcomes have been attributed to a number of possibilities: the incompatibilities between standards-based reform practices and the assessment instruments used to measure impact; the relationship between the content taught to that which was tested; unrealistic timelines for change leading to expectations of immediate rather than accumulated effects; models of teaching practice being disconnected to crucial environmental specifications for student achievement; and, the inadequacy of reformers' specifications lacking the precision required to powerfully impact student achievement (Supovitz 2001).

What appears to be neglected in many studies is the search for evidence, or concern for, factors relating to the complex nature of teacher learning and the contextual nature of situations being researched, despite a considerable amount of educational research conducted since the 1980s that has continued to highlight the importance of these considerations when examining teacher learning (Anderson et al. 2000; Ball 1997; Cobb and Bowers 1999; Greeno et al. 1996; Lave and Wenger 1991; Leinhardt 1988; Mockler 2011; Putnam and Borko 1997).

The lack of attention to these factors clearly demonstrates that contemporary research concentrates mainly on what Opfer and Pedder (2011) described as the 'micro context' of PD, i.e. individual teaching action or individual activities or programmes to the exclusion of, and disconnected from, the broader contexts of teaching. This list of explanations, by omission, reveals an approach to PD that somewhat superficially understands and attends to teacher learning. A more comprehensive list would also attend to:

- the assumptions about teacher learning which underlie each of the PD programmes and how these ideas drive facilitator pedagogy in each programme;
- how teacher actions provide evidence of the precise nature of various aspects of teacher thinking;
- the interpretative framework used by researchers and facilitators in responding to this evidence, in particular the approaches used in acting on these interpretations and the consequent rationale driving programme design including choice and presentation of learning experiences;
- the divisions of responsibility between teachers and facilitators in the learning process;
- the perceptions and beliefs held by teachers about themselves as 'learners' and 'learning', together with their individual purpose and motivation, their intention for their own learning work and perceptions about their own 'abilities' and professional expertise;
- the nature of the social setting in the classroom; and,
- how teachers perceive and evaluate the constraints of the wider school system.

The findings of contemporary research would then enable a greater understanding of the actions, processes and conditions that may be useful in supporting effective teacher professional learning. However, it could well be argued that the implications of such neglect produce potentially lethargic and inconsequential findings in relation to teacher learning and thus inherently limit future discourse about and potential growth in PD practice.

Much research, which emerges from such practice and the ensuing literature about PD, continues to commit what Opfer and Pedder (2011) call an 'epistemological fallacy' of taking empirical relationships between the technical aspects of teaching and some measures of teacher change to *be* teacher learning. Overall, measuring programme effectiveness based solely on the impact on student learning prevents attempts to dig deeper and understand more about the required conditions that enhance teacher learning. Only then can we really begin to understand how teachers learn in such programmes and the conditions that are needed to ensure teachers

experience effective and meaningful learning. It could well be argued then that PD practice and research remains constrained by the limited agendas of prevailing educational priorities.

PD has moved from a term that delineates a stage of teacher education to a prevailing practice (PD) that aims to 'improve' teaching rather than nurture meaningful teacher learning about their professional practice. A complex mix of prevailing political and research agendas, together with a desire to satisfy these with products that exemplify success, drives this approach. While many in-service and school-based programmes continue to comply with these expectations and persistently focus on student outcomes as the sole determinant of teacher learning, then attempts to broaden understandings of the conditions that nurture and support effective teacher professional learning remain somewhat opaque.

The disconnection of the action of teaching from the contextual nature of practice continues to frame teacher learning within a cause–effect model. Maintaining a limited and fixed focus on existing variables excludes consideration of a richer and more powerful factors influencing teacher learning and in doing so reduces the professional practice of teachers to a technical rationality model (Schön 1983). In reality, PD programmes become merely a series of events focusing on content delivery and pedagogical strategies. While research simply interrogates existing practice in pursuit of the 'silver bullet' for improved student outcomes, then it can probably do little more than confirm the rather discouraging findings reported in a range of studies.

Hunting the Assumptions Shaping PD

To be informative and productive, we need to assess the success of teacher in-service education programmes in terms of genuine teacher learning and, in so doing, investigate alternative operations. We need to value and explore further questions about teacher learning, including: Why is it that some learning experiences matter in PD programmes for some teachers? How do teachers make decisions about what matters for their practice and their students' learning? How can teacher capacity for effective decision making be enhanced and supported? Such inquiry necessitates the importance of understanding more about why teachers work in the ways they do, in particular how they use new knowledge to inform professional judgements and respond with contextually relevant action.

To effectively address these types of concerns, it becomes important to question the assumptions and practices that, presently, appear to make PD manageable but which in reality work against the long-term best interests of effective and meaningful teacher learning. To this end, the remaining sections of this chapter explore three key areas within PD in an attempt to better understand more about the present assumptions and power relationships which frame inherent processes and interactions. These areas are the purpose of PD, the role of the teacher in the learning process and the ownership of expert knowledge in teacher education.

The theoretical understandings that define each of these areas importantly determine the meaning of PD as a learning experience. Yet the thinking, which underpins and drives present practice, appears somewhat superficial as it tends to be silent on research from the 1980s forward that stress the complex, personal and contextual nature of teacher learning. To explore alternative ways of framing the thinking that guides practice in these areas, the following sections of this chapter draw on the insights of such research and reposition studies and reviews of teacher PD within the context of research on teacher thinking, teacher learning, curriculum and educational change. This information is used to understand how the practice of teacher PD can align operationally with philosophies and perspectives, which recognise the complexity of teacher learning, school-based change and teacher expertise.

In-Service Teacher Education Practice: Purpose and Framing

The accepted intention of teacher PD is to engineer, albeit well-intentioned, improvement initiatives in the area of teacher learning and practice. Programmes have largely been about helping teachers enhance their knowledge and develop new instructional practices. Agencies, outside of teaching itself, have largely driven operational approaches to ensure that practice complies with prevailing political objectives and mandated changes.

While PD remains driven by an assumption that expertise and control reside with those outside schools, i.e. governments, universities and consultants, then curriculum generally remains most often embodied in regulatory outcomes, and teaching and learning is understood within a model of education which best describes schooling as the delivery of or entitlement to information. Curriculum and inevitably teaching therefore are framed as essentially technical, able to be systematically and sequentially developed using a questionably defined 'objective' collection of main ingredients.

Decontextualised perspectives define what is 'valued' and 'effective' in terms of teaching and learning. Teachers' professional knowledge of practice is effectively ignored, and instead teachers are presented with a 'one-size-fits-all' (Hill 2009) approach to PD that provides solutions which fail to make distinctions among different types of school and classroom contexts and between the needs of novice and experienced teachers (Lieberman 2000).

The Limitations of Existing Assumptions

The nature of educational improvement is multifaceted; what works well in one school may not work so well in another; teachers' values and beliefs about what matters in teaching are impacted by their colleagues, the community in which they work and the characteristics of the students with whom they work, and as a

consequence all these influences affect results because they shape learning needs. The process of school-based change is complex because context exerts powerful influence over action. Therefore, teacher learning is situative and interrelated to all these aspects of practice. However, the 'traditional' or more commonly accepted ideology driving PD programmes rarely attends to any of these aspects of educational change, and therefore it appears simplistic and unrealistic, which gives cause to rethink the assumptions which underlie the intentions for much in-service education. Any process which is designed to assist teachers to understand more about teaching and professional practice must also recognise that such 'learning' is of course contingent given the complex, transitory and changeable nature of teacher learning.

The concern for a need to develop 'professional capital' (Hargreaves and Shirley 2012) has entered the discourse of schooling and teacher education. The thinking surrounding this ideal carries with it some interesting possibilities for an alternative purpose for in-service teacher education and associated research. Essentially such thinking espouses that all aspects of education system operations need to intentionally work in ways that actively recognise and develop teacher professional expertise, particularly within their everyday practice, and enhance each teacher's capacity to function as empowered and valued professionals.

Applying the essential elements of this thinking would see inherent structures of teacher education practice working to support teachers to develop their individual knowledge, skills and capabilities in ways that enable them to maximise their own improvement and ensure that teacher learning is personally meaningful and relevant. A guiding principle of this thinking is the importance of enabling teachers to become confident and competent in their work. Therefore, the need to engage teachers in collaborative models of interaction to develop the levels of trust that contribute to mutual learning becomes highly valued. However, the ultimate intention of such learning is to build teacher capacity to use their knowledge, capabilities and experience to make effective judgements about their practice. If these intentions were to inform the design of PD, practice would work to ensure that teacher learning initiatives could more effectively attend to the 'human', 'social' and 'decisional' capital of teachers, building teacher capacity to be self-directed learners who value and use personal expertise and professional knowledge to enhance personal practice.

Valuing and effectively attending to each teacher's own motives and skills to build each teacher's personal expertise and professional status, alters the accepted intent of PD programmes and opens up opportunities to radically change prevailing practice. Such thinking broadens the potential for learning and may provide mutually beneficial outcomes for the teacher, students and ultimately the education system.

Applying these ideals in practice necessitates a rethink of the ways in which teacher learning opportunities are presently operationalised. This becomes a complex task because accepted attitudes and approaches are not only highly political but also deeply embedded and externally controlled.

While applying such an alternative theoretical construct to PD and exploring alternative practice may inevitably be challenging, the continual goal of improving

the quality of teaching and learning is reason enough to pursue this as a serious educational endeavour. At the very least such an alternative perspective provides possibilities to expand research agendas to explore more flexible pedagogies, designs and delivery modes of the professional learning experience.

Exploring the specific conditions that may contribute to enhancing teacher learning within this theoretical framework becomes crucially important. To do so, all aspects of operation must be considered within and must remain connected to the intended overarching philosophy of teachers as professionals, acting as self-directed learners working towards the personal goal of self-improvement. But attention to the importance of personalised teacher learning requires a broader combination of approaches with richer qualitative studies of processes and interactions within the PD experience.

Effective support for meaningful teacher learning is essential to achieving the long-term outcomes of teacher self-development, enhanced student learning and sustainable education reform. Therefore, it becomes important to reconsider the existing role of the teacher in professional learning, particularly in terms of the attention to ownership and self-direction, identity and expertise.

Reconsidering the Accepted Role and Identity of the Teacher in PD

The essential message implied in many traditional PD programmes is that what teachers do is incorrect or needs improvement (Korthagen 2001). In this context, PD becomes a 'dissemination activity' (Wilson and Berne 1999) where experts know what is important for teachers to learn. Teachers have traditionally been 'fed' information and expected to act as passive 'transmitters of knowledge' (Elbaz 1981). This model of teacher learning focuses on the technical aspects of teaching and tends to isolate the actions of teaching from the contextual realities in which teachers work so that imposed educational targets carry less meaning for many teachers. Expressed quite succinctly as the 'conduit' metaphor (Clandinin and Connelly 1992), this model of PD has proved problematic and as previously discussed, simply doesn't appear to be working. Rather than building 'human' and 'decisional' capital, the reverse is inevitable; teachers become disempowered and establish a dependency upon outside expertise for decision making and innovation.

When PD programmes position teachers as something needing to be developed or improved, such approaches fail to recognise the extensive contextual knowledge teachers hold and use every day in their teaching. These approaches are threatening to teachers because they impact on professional status by placing teachers as passive players within their own learning.

While PD may be theoretically designed to develop teacher learning, in the main, PD programmes lack attention to the complexity of teacher thinking and professional practice and as a result tend to tell teachers what to do.

In reality teacher PD is not a mechanical process; teachers develop themselves, and to do this, they must play an active part in the process of learning. As a consequence, the term 'PD' has come under significant scrutiny as an approach that embodies these limited and constraining views of teacher learning. Instead, the idea of referring to in-service teacher education as professional learning needs to be keenly advocated as a way to place an emphasis on the central place of the teacher and their context in planning, learning and action. Professional learning (PL) is about acknowledging and valuing the capacity of teacher participants to actively engage with and professionally determine the type of knowledge they need for their personal and professional growth. PL, in theory, is a more responsive, active process in which teachers engage in collaboration, where they determine what matters and set personal learning goals and socially construct knowledge that is meaningful to their contextual reality. PL is, in essence, about assisting teachers to better meet their students' needs within the overall cultural context of their professional practice and describes a process, which intentionally leads to deep pedagogical shifts. This thinking moves PD from an idea of 'working on' teachers to 'working with' teachers (Ward and Tikinoff 1976).

Such a philosophy cannot be satisfied by merely changing rhetoric; it also involves a shift in behaviours, attitudes and actions. In-service teacher education opportunities need to embed the learning process in the daily work and routines of teachers. Teachers readily recognise the weakness of learning experiences that have been disconnected from their real teaching situation.

Lists of principles for effective PD have appeared in the literature since at least the mid-1980s (Fullan 1982; Guskey 2009; Ingvarson 2002; Little 1993), and from the mid-1990s, researchers and policy makers began to recognise that such a shift in thinking and action was much needed and could present a radical change to accepted modes of providing PD (Borko and Putnam 1995; Cochran-Smith and Lytle 1999; Fullan 1993; Knapp 2003; Lieberman and Miller 2001). Programmes have generally responded by altering design and implementation strategies to include extended timelines as opposed to 'once-off' experiences, school-based rather than course-based sessions, learning which is collaborative or developed as a learning community, learning based on teacher-identified needs, provision for follow-up support, coaching and reflection on practice, etc. However, unless the power to control the key aspects of learning essentially resides with teachers, these changes may be merely cosmetic and ultimately ineffective. PD simply renamed as PL demonstrates little concern for the differences in both meaning and intent for teacher learning.

To ensure that alternative models of practice actually shift the traditional power relations underpinning in-service education, opportunities must be created which allow teachers to become not only active in the process of learning but also empowered to take control of their personal professional learning. To achieve this, three key ideas emerge from the research literature about the role of the teacher in the learning process: professional learning must be personal; it must be about noticing; and it inevitably challenges teachers because it involves hard work. The following sections explore these ideas in relation to research, which has developed these areas of thinking. If these ideas are genuinely embraced in practice, the implications

for programme design and implementation will significantly alter the present role teachers play in PD. While such learning may be purposefully challenging, the endeavour is worth pursuing to ultimately enhance teacher professional knowledge and practice.

Professional Learning Is Personal

Teaching is not merely a technical procedure but a complex set of personal and social processes and practices concerning the whole person. Professional learning which seeks to enable each teacher to develop a depth of understanding about the complexity of teaching must attend to the personal dimension of learning by building each teacher's personal 'identity' particularly as a learner with specific skills and capabilities and also as a professional with the capacity to explore and share knowledge and understandings about teaching and learning.

External perceptions are powerful in terms of shaping the conditions and expectations around learning and ultimately enabling teachers themselves to develop purposeful learning behaviours including critical and reflective thinking. In the main, PD programmes appear to be largely predicated on assumptions of limited teacher identity. This is evident in the narrow focus of programme content and the linear and sequenced ways in which such information is often presented and explored. The control exercised over teacher learning, i.e. in terms of what is to be learnt and how as well as when such learning will occur, nurtures dependent learning behaviours. This limits the capacity of teachers to engage in deeper learning and develop the confidence they need to contribute their personal knowledge to the wider educational discourse.

To better align practice and philosophy of 'professional learning', it could be suggested that programmes could be predicated on broader expectations of facets of teacher identity. Such expectations would acknowledge that teachers have the capacity to think about, identify and focus their learning around what matters to them in their practice. Teachers are more likely to develop useful knowledge, articulate deep understandings and develop new insights into teaching and learning when they are working under conditions which support them to actively participate in decisions concerning the direction and process of their own learning, experiment with new teaching procedures and construct a knowledge base directly related to the context of their own teaching and learning practice.

Positioning teacher learning (in the ways noted above) has the potential to place the agency for self-improvement directly in the hands of teachers themselves and encourages teachers to value and attend to the personal ideas, values and beliefs that drive their teaching. In that context, it seems reasonable to suggest that teachers would be more likely to learn how to help themselves and others to construct positive personal, professional and sociopolitical identities and meanings (Armour and Fernandez-Balboa 2001).

Professional Learning Is About Noticing

Respecting, acknowledging and attending to the values and beliefs teachers hold are fundamental to broadening a teacher's identity as both a learner and a professional. To do that, teachers themselves need to attend to the values and beliefs that are often tacit in respect to their practice. Explicating the tacit involves active learning.

Encouraging teachers to explicitly value and explore their thinking and knowledge of practice is a difficult process given that in-service education has, as previously explained, traditionally positioned teachers as passive learners, and teachers themselves have rarely been required to articulate why they teach in the ways they do (Loughran 2010).

Encouraging teachers to explore such personal professional thinking plays a vital role in assisting teachers to develop new thinking and understandings about teaching while also enhancing their ability to demonstrate new understandings in contextually relevant situations. Such learning involves each teacher thoughtfully attending to the teaching approaches and processes they utilise each day so that they recognise within their own practice opportunities to critically examine a range of significant incidents. Such critical scrutiny requires teachers to develop an increasing sensitivity to notice (Mason 1998) the significant features of teaching itself, not only the subject discipline but also the significant features of learning and the choices made when working with learners.

Reflective practice therefore becomes an essential part of such a mindful approach to teaching and professional learning. Conditions, which encourage teachers to continually evaluate events and use this information to shape future planning, may assist teachers to recognise, value, understand and develop their professional knowledge.

Encouraging teachers to openly face and articulate the challenges or issues that arise every day in their teaching is essential to mindful practice. Such learning enables teachers to see that issues and problems do not reflect inadequacy or lack of success as a teacher but rather, as (Dewey 1933) explained, the act of recognising that teaching is often problematic and is essentially the first step towards developing and enhancing teaching.

Schön (1983, 1987) built upon this notion of reflection by further expanding the idea to include professional knowledge and describing stages of knowing, thinking and reflecting in relation to action in practice. Experienced teachers operate from a complex knowledge base, yet this is often not well articulated or remains tacit; in Schön's terms, this may exemplify *knowing-in-action.* In conditions where teachers begin to notice and question their practice or their teaching, or their thinking about teaching, they may begin to move to a position of *reflecting-on-action* in which they start to look critically at events after they have occurred. This stage involves a metacognitive awareness in which knowledge and action are linked. Developing personal awareness is an all-encompassing part of this learning because it requires an objective yet connected power of observation.

Mason (1990) explored *the discipline of noticing* and developed a model that highlighted the importance of overt 'noticing' of significant acts or issues, leading to their 'marking' in future practice. *Marking* leads to overt recognition of choices in subsequent activity. It is such recognition that enables teachers to actively make informed and deliberate choices as they undertake reflection-in-action.

Brookfield (1995) developed the idea of reflective practice further by examining the idea of critical reflection and argued that not all reflection was critical. Key elements of critical reflection included an intention to understand how considerations of power underpin, shape and often contort educational processes and interactions (Brookfield 1995). Also important in critical reflection is the act of questioning the assumptions and practices that seem to make teaching easier but which actually work against long-term interests. Brookfield's work encourages teachers to probe beyond experience and investigate the 'hidden dimensions' of their practice in an attempt to unearth the taken-for-granted assumptions which often drive teacher thinking and practice.

From the early 1980s, educational research has been exploring ways of enabling teachers to notice and interrogate their practice; this essentially relies on teachers feeling supported to think differently about their teaching and explore it in ways that will be personally meaningful. Such conditions ensure that professional learning is connected and contextually relevant for teachers and involves questioning and a willingness to see teaching as problematic, a very different process of learning to that which is more typically experienced by teachers in traditional PD programmes. It is essential then that to enable teachers to notice their practice and open up alternative ways of operating and understanding practice, professional learning must involve withholding judgement and empowering teachers to make decisions about what matters for their learning.

Professional Learning Is Hard Work

While these conditions are essential and ultimately productive for personal learning, this type of learning is hard and difficult work for teachers as they are not practised at undertaking such an investment in their own personal development. Teachers are not encouraged to actively question their own professional knowledge or to be personally suspect of their professional practice. However, Ball and Cohen (1999) theorised that teacher learning requires some disequilibrium and that important personal learning only emerges from times when teachers' existing assumptions are challenged. Jaworski's research (1994) with mathematics teachers demonstrated that teachers experience professional growth when they utilise and deliberately engage with the challenges of learning to probe their practice. Through the use of difficult or 'hard' questions, teachers undertook what was, at times, a confronting task of drilling down into their own professional thinking.

Professional learning requires teachers to take ownership of their personal expertise, develop their capacity to become self-directed reflective learners and develop

and articulate strong personal purpose in their professional practice. Whether teachers personally value the expertise and professional knowledge they hold is not always clear yet when working under conditions, which clearly aim to assist them to examine their practice in supportive ways, teachers are able to explore and make sense of their own practice and the relationship with student learning. It should be an important intent of in-service teacher education programmes to empower teachers to decide what matters and what carries importance for them in their professional context. However, creating the conditions that support teachers to develop their personal capacity to undertake such change requires facilitators and educators to reconsider their roles and responsibilities so that they effectively value and attend to the specific strengths and needs of the teachers they aim to support.

More information is needed about the capacity of teachers to recognise themselves as educational experts, explore and develop their own professional knowledge and the conditions needed to raise their awareness to the multiple factors which contribute to the construction of their own professional thinking and action. However, providing solutions or exemplifying what teachers 'should do' is not always as helpful as it may initially appear in this endeavour.

Ownership of Expert Knowledge in Teacher Education

While improving student learning may be the justification driving PD practice, support for effective professional learning may easily become, as Hargreaves (1994) stated, another form of bureaucratic control undermining the role of teacher as professional. It could be argued that traditional PD programmes have divided and estranged the role of the teacher as employee and teacher as professional by limiting teacher autonomy and choice and privileging public codified knowledge about teaching over teacher practical knowledge. Decisions about what counts as knowledge about teaching and learning, what that knowledge is and the value placed on different perspectives have defined the role of the teacher in the learning process, limiting their ability to recognise personal professional expertise and also limiting opportunities for teachers themselves to generate and share knowledge that contributes to improving practice.

Since the mid-1970s, research began to recognise that teachers used a particular type of knowledge to inform their teaching, a professional knowledge of practice which is diverse and contextual, derived from each teacher's experiences of classroom teaching and from personal professional experiences. Sometimes described as a form of personal understanding, decisions about teaching, classroom dynamics and student learning appear to be strongly related to how teachers construct an individual perception of the reality of their classroom. Studies emerged in the 1980s which demonstrated that such perceptions evolved from personal experience and consequently often differed from teacher to teacher and each teaching situation (Clandinin 1985; Clandinin and Connelly 1987; Connelly and Clandinin 1986; Elbaz 1983; Johnston 1992a). Referred to initially as teachers' practical knowledge

(Elbaz 1983; Fenstermacher 1994), research indicated that individual perceptions guided teachers through the complex process of planning and implementing curriculum in the classroom and impacted on decisions at all levels. The dilemmas teachers face in relation to teaching and learning are shaped by multiple factors within their teaching context. Teachers' daily experiences within their workplace setting shape their understandings, and their understandings shape their experiences. Teachers continually build professional knowledge through experience and balance this knowledge within system structures and agencies to which they are accountable.

Academic knowledge of teaching or formal (Fenstermacher 1994) or public codified knowledge is different; it is stereotyped as being empirically based, is scientifically conducted and rigorously reviewed (Loughran 2010) and is therefore often regarded as more credible and reliable than teacher practical knowledge. Formal knowledge asks different types of questions; it serves as a form that can be generalised and applied across contexts. According to Loughran (2010), 'traditionally academic knowledge of teaching has had little impact on practice' (p. 41) as this knowledge provides information that is not always compelling to teachers and the dilemmas they face in the everyday work of their teaching. A number of reasons may account for this including the use of academic jargon and writing styles that are unfamiliar to teachers, lack of classroom activities offered by such work, etc. However, it would be incorrect to assume that teacher work is atheoretical (Loughran 2010). Teachers do use and adapt academic knowledge that they see makes a difference to their practice and which helps them to understand or explain their experiences; they are expert at using and adapting this knowledge in meaningful and practical ways.

Traditionally, both forms of knowledge have not been assigned equal status in teacher learning. In terms of importance and consequently representation, academic knowledge of teaching has been privileged over teacher practical knowledge, and while even teachers themselves may generally accept this preference for public codified knowledge, this stance limits the development of further insights about teaching and learning.

When in-service education delivers only information drawn from research and expertise outside teaching and implicitly ignores the personal and professional knowledge of teachers, the consequences serve to limit rather than enhance teacher learning. Interpretations about teaching and the solutions delivered through PD programmes remain disconnected from teachers' contextual realities. The opportunity for teachers and the wider educational community to understand how teachers themselves socially construct curriculum perspectives and knowledge of teaching for use in schools may be lost.

An alternative approach sees teacher knowledge as an explicitly valued aspect of in-service education, alongside traditional components of public codified knowledge, where both forms of knowledge are used to support teachers in ways that teachers themselves determine as meaningful and productive. It can therefore be argued that both types of knowledge bring a different type of perspective and both are equally important for advancing understanding of teaching and the professional

practice of teachers. In terms of considering how teacher professional learning could be enhanced to be personally meaningful and contextually relevant for teachers, it is worth revisiting the notion raised by Fenstermacher (1994) that perhaps the critical objective of teacher knowledge research is not for researchers to know what teachers know, but for teachers to know what they know. In the context of professional learning, this perspective intentionally positions teacher practical knowledge as a form of knowledge that may equally assist teachers to recognise not only what they *know* but that they *know* what they *know* (Fenstermacher 1994). Such a change in thinking and approach would be dependent upon a genuine commitment and agreement from all agencies involved in the provision of teacher in-service education to acknowledge and attend to teachers' professional knowledge of practice as the most valuable starting point for professional learning.

When teachers' knowledge of practice is valued and attended to in meaningful ways, the agencies involved in professional learning would then need to find ways to support teachers as they work within and respond to 'the unsteady beat' of teaching (Mueller and Skamp 2003). Facilitators would listen carefully to teachers, and teachers themselves would contribute their understandings, beliefs, values, aspirations, practices and concerns and work to make sense of this information in ways which broaden the collective knowledge base about teaching and learning. Facilitators would work to find ways to bring together the different voices that shape teaching. This approach to teacher learning then positions the teacher's voice in the very notion of professionalism, and the relationship between both the knowledge of teaching and the real world of practice becomes one that is dialectic in nature. Such professional learning would work to build the capacity of teachers to value their own learning in ways that might contribute to enhancing their own practice. This learning may also be used to inform the future learning of other teachers.

Summary

Effective in-service teacher education needs to be contextually situated, centred around teachers' learning needs and respectful of teachers' professional knowledge of practice. Yet despite the evidentiary research in support of this thinking, traditional PD programmes tend to be characterised by approaches that remain disconnected from teachers' contextual experience and depersonalised in terms of teachers' professional knowledge. The assumption that teacher learning lies at the heart of any effort to improve education must confront the reality that conventional PD practices are in the main inadequate in producing effective change.

It is important that PL empowers teachers to not only become effective decision makers in terms of their own learning, self-directing the focus and development of their own learning agendas, but to also ultimately generate professional knowledge about teaching and learning. To explore these issues further, the work outlined in this book examines the type of conditions which provide ongoing, challenging, relevant and supported learning experiences for teachers while also exploring the types

of resources, time allocation and expertise that become crucial to creating more effective ways of supporting the improvement of teaching and learning.

There are some essential elements which can be used to inform how PL practice may be operationalised in ways that might better align the philosophy of meaningful teacher learning with action in practice. Efforts to attend effectively to these elements inevitably shift the roles and responsibilities of both teachers and facilitators of PL in the learning process. This shift became an incredibly important consideration in the implementation of the *LSiS* programme, the key PL experience in this study.

It therefore is important to develop a conceptual framework to define the position that underpinned this study in terms of both a theoretical and practical understanding of the nature of teacher learning with particular regard for the role of the teacher in both accepted approaches to PD and that of PL.

Chapter 3
PD and PL: Navigating the Divide

Abstract This chapter outlines the conceptual framework underpinning this research and pays particular attention to the theoretical difference between professional development and professional learning. A theoretical dichotomy is used as a rhetorical device to explain these differing positions. This chapter explains that common approaches to professional development tend to reflect assumptions about the nature of teacher learning, where teachers are actively positioned to be passive recipients of external expertise. Alternative assumptions acknowledge teachers' capacity to become active decision makers about personal learning, actively seeking to place teachers and their context, as central to the learning experience. Such assumptions, it is argued, capture the intention of that which comprises the notion of professional learning.

Introduction

In designing a study to identify the conditions that enhanced meaningful teacher learning, it became necessary to develop a conceptual framework that explicitly outlined the theoretical difference between professional development and professional learning. To clearly convey the thinking that underpinned this work, a theoretical dichotomy is used as a rhetorical device to explain these differing positions. Common approaches to professional development tend to reflect assumptions about the nature of teacher learning that position teachers as passive recipients of external expertise. Alternative assumptions acknowledge teachers' capacity to become active decision makers about personal learning and this thinking places teachers, and their context, as central to the learning experience. Such assumptions more purposefully capture the intention of that which comprises the notion of professional learning.

Positioning Teachers as Active Learners

It could well be argued that professional development (PD) characteristically views teacher learning as a dissemination activity, positioning teachers as passive recipients of information about teaching and learning (Korthagen 2001; Wilson and Berne 1999). Programmes and learning experiences of this nature are typically designed to

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engineer educational change by positioning teachers as needing to be improved or developed – 'objects rather than subjects of change' (Ovens 2006, p. 280). PD also tends to privilege formal (Fenstermacher 1994) or public codified knowledge of teaching over teachers' knowledge of practice, thus tacitly suggesting that those outside of teaching are best placed to decide what teachers need to do to improve their practice and enhance student learning.

In contrast, professional learning (PL) can be viewed as recognizing the central place of teachers and their context in planning, learning and action thus theoretically working to position teachers themselves as owners and key decision makers in their own professional processes of learning. PL can therefore be seen as being based on an assumption that teachers have the capacity to understand and enhance their professional practice when they are supported to critically explore their professional experiences, articulate personal learning needs and recognize the level of expertise and professional knowledge they bring to the learning situation – particularly so in relation to the contextual nature of their teaching situation.

PL situates learning as an individual experience – personal and unique for each teacher and aims to make explicit the embedded beliefs and values that are often tacit in a teacher's practice. Therefore, PL values teachers' professional knowledge of practice at both an individual and collective level.

Through this dichotomy (PD vs. PL), the stereotype developed is one through which PD and PL are based on very different assumptions about the source and subsequent value of knowledge for practice and the role of the teacher in the development and use of that knowledge. It could be expected then that such differing perspectives would produce disparate professional practice, yet in reality distinctions in practice are often vague, perhaps because (unfortunately) in many cases, PL has simply rebranded traditional approaches with the label more a marker of intent rather than an assurance of distinguishable practice. Yet it has been well noted that meaningful teacher learning relies on the individual teacher seeing a need to think and work differently, and this can be a very challenging experience.

The relationship between teacher thinking and action is not a linear process; it can be nuanced, unsteady, surprising and arbitrary. To genuinely support teacher learning, the associated professional practice must effectively attend to the inherent diversity of teachers' contexts and learning needs. Considering the assumptions outlined above, this then presents a challenge for the practice of traditional PD as it can be characterized as following a predetermined and linear approach to programme development. On the other hand, PL acknowledges the need to provide flexible and supportive conditions for learning – and teachers see value in such a process. However, the 'blurry' use of PL in literature illustrates that, when faced with the diversity of learning needs and teaching contexts of participants in PL programmes, there is an almost unstoppable programme reversion to approaches that focus more on control and management and less on building teacher capacity for individual learning. It is not surprising then that research is needed to shine a light on why there are difficulties with translating PL into action that genuinely attends to that which matters to teachers in their experience as learners. So what are the actions

that would characterize and distinguish PL as effective, teacher-centred in-service education?

Brookfield (1995) advocated the need for assumption hunting to determine the thinking that drives professional practice in relation to teacher learning, and as this chapter will make clear, such a process is important in exposing the drivers that create tensions between the rhetoric of PL and the practice in action.

Exposing Assumptions

The study framed around the *LSiS* programme worked from a perspective of critical reflection as a means of understanding how 'taken-for-granted' beliefs are embedded within, give meaning to and determine the routines which characterize teacher in-service education. These routines will be interrogated to develop a deeper understanding about 'the conditions under which processes can be changed' (Brookfield 1995, p. 3). Assumption hunting requires a critical stance to noticing existing trends in practice in order to expose the more deeply embedded prescriptive and paradigmatic assumptions (p. 3) that drive such action.

Of particular interest in this study were the assumptions concerning professional expertise, the ownership of learning intentions and the nature of teacher learning – the central tenets of PL. In the following sections, one way of more formally differentiating between PD and PL is explored, that is, through the use of assumptions and the impact they have on practice and teacher learning. These assumptions are boldly stated as a way of ensuring the rhetorical device of the dichotomy has real effect on the nature of the associated characterization. The structure of the following sections offers an accepted routine, followed by a paradigmatic assumption with an outline of the impact of that assumption on the conditions for teacher learning, then a brief account of the emerging tension inherent in the assumption in practice followed by an alternative assumption and its impact on the conditions for teacher learning.

Existing Assumptions About Professional Expertise

Accepted Routines In-service teacher education programmes are largely designed and implemented by those outside of teaching. Teachers do not have input into decisions regarding content, learning experiences and valued learning outcomes.

Paradigmatic Assumption Professional expertise is derived not from knowledge of practice but through the development of formal or public codified knowledge of teaching. Such knowledge is developed using accepted scientific methods; it is reliable and communicated publically. Such expertise is best placed to determine educational change.

The impact of this paradigmatic assumption on the conditions for teacher learning include:

- control of decisions about educational change is placed in the hands of those external to teaching;
- in-service programme practice rarely acknowledges or attends to teachers' knowledge of practice as a valuable component of professional expertise;
- opportunities for teachers to generate and share professional knowledge that contributes to improving practice are limited; and,
- teachers are disenfranchised from the discourse of schooling.

Emerging Tension As outlined in the previous chapter, even within the prevailing political imperatives of improved student learning outcomes, educational conformity and an increased desire to politically mandate the nature of practice, individual teachers ultimately determine changes in teaching.

Teacher in-service education, which rarely acknowledges or explores teacher professional expertise, denies the active role teachers play as decision makers in educational change. Instead, teacher development programmes tend to be created as a way of ensuring (or at least attempting to ensure) the implementation of external initiatives. Teachers are positioned as passive learners, i.e. the recipients of knowledge that they should use.

Alternative Assumption Teachers are agents of educational change. The most effective and valuable educational change is informed not only by formal or public codified knowledge but also by teachers' professional knowledge of practice (which is highly valued).

The potential impact of this alternative assumption on the conditions for teacher learning include:

- the design of learning experiences and any professional support aims to assist teachers in recognizing their professional expertise so that they are able to determine and enact effective educational improvement;
- learning structures are designed to support teachers to find their voice and value themselves as experts or, as Munby and Russell (1994) described it, to recognize and respond to the 'authority of their own experience';
- conditions for learning are designed to encourage and actively seek insights into preferred action and outcomes from teachers themselves; and,
- programme practices purposefully attend to teachers, not as objects of learning but as the directors of the processes that enhance learning and ultimately produce educational change.

Existing Assumptions About the Ownership of Learning

Accepted Routines Standardised expectations of teacher learning and practice. Those outside of teaching determine that which is deemed as 'valued learning'.

Paradigmatic Assumption Teachers can be developed through the expertise of others; teacher learning is a passive rather than active experience.

The impact of this paradigmatic assumption on the conditions for teacher learning include:

- the prevailing political agenda determines teachers' learning needs;
- learning tends to be disconnected from the contextual reality of a teacher's professional context;
- teachers are marginalised from decisions about what matters in their own learning;
- teachers are positioned as passive recipients of information; and,
- programme practices focus on content delivery.

Emerging Tension Change in education is a complex process, and teachers need support to navigate their way through the many intellectual and contextual dilemmas that emerge as they reshape their practice. Tensions arise when approaches that purport to support individual learning intentions fail in practice. When teachers are distanced from such decisions, a personally meaningful purpose for professional learning is not established – largely through a disregard for the importance of a personal imperative leading to a lack of alignment with the outcomes intended by the programme designers. Such practice has been described as 'spray-on' (Mockler 2005), 'drive-by' (Senge et al. 2012) and 'hit-and-run' (Loucks-Horsley 1987) professional development (PD).

Alternative Assumption Teachers have the capacity to engage as active professionals capable of determining their own individual learning needs, thereby diversifying the intentions and outcomes of professional learning.

The potential impact of this alternative assumption on the conditions for teacher learning include:

- programme practices attempt to ensure learning conditions support teachers in identifying and developing learning objectives that are personally meaningful;
- programme practices involve active collaboration between facilitators and teachers so that teachers are engaged in decisions about their own professional learning;
- teachers articulate and work towards an individual purpose for learning;
- programme design and support works to attend to teachers' learning needs in ways that acknowledge their capacity to determine that which is contextually relevant for their teaching experience; and,
- the process of learning is personalised.

Existing Assumptions About the Nature of Learning

Accepted Routines Programmes sequentially disseminate generalised information to teachers about classroom strategies and activities.

Paradigmatic Assumption Teacher learning is linear and unproblematic because teaching is essentially a technical activity.

The impact of this paradigmatic assumption on the conditions for teacher learning include:

- the complexity and contextual nature of teaching and learning is underestimated; and,
- teachers experience a 'one-size-fits-all approach' to both teaching and their teacher learning.

Emerging Tension Teacher learning is complex and changing, yet programmes operate under the assumption that learning is about transmission, and routinely, predetermined programmes, sequenced formats and modular programme designs prevail as persistent and accepted approaches to programme organization and structure. The persistence of an underlying assumption that teacher learning can be managed as a simple, straightforward process of information delivery is ever present. Yet such approaches do not address the complexities that teachers face each day in their classrooms as they deal with a wide range of contextually relevant issues and dilemmas. As a consequence, such limited approaches simply do not work.

Alternative Assumption Meaningful teacher learning is a collective, interactive professional experience, supported by conditions, which provide flexible assistance designed to address individual learning needs.

The potential impact of this alternative assumption on the conditions for teacher learning include:

- learning experiences are designed to cater for individual experience and utilise the group experience to ensure that learning is a collective, interactive professional experience;
- teachers are supported to use their professional knowledge, their own pedagogical reasoning about what matters for their teaching. They are empowered to make decisions about what matters for their practice and determining how they will apply information;
- conditions are designed to build professional relationships and provide opportunities for critical conversations with colleagues;
- experiences are in themselves fluid and responsive to arising learning needs;
- opportunities are provided for sustained learning, collective participation, the effective application of new ideas in practice and the overall coherence of professional development activities linked to teachers' other experiences; and,
- support aligns with a teacher's personal purpose for learning rather than a one-size-fits-all approach to teacher learning.

Developing a Conceptual Framework to Actively Position Teachers as Learners

Figures 3.1 and 3.2 (below) represent two differing views which shape, and appear to determine, programme practice for in-service teacher education. Figure 3.1 signifies what might be described as a traditional PD view based on the assumptions (outlined above) that underpin some approaches to current practice. In this model, the determinants of programme design, content and learning outcomes largely reside with those external to the practice of school-based teaching. The resultant conditions tend to marginalize teachers from decision making and position them as anonymous participants within a mechanical process of professional development.

Figure 3.2 represents an alternative view and is the framework that informs this study.

Figure 3.2 portrays personalized teacher learning based on empowering teachers as self-directed learners. In this framework, teachers are central to the learning process, determining the experience of learning and ultimately the learning outcomes and the impact of those outcomes on their personal practice. In this second model, teachers are positioned as professionals who are committed to personal learning that further develops their professional expertise, i.e. their capacity to determine and lead meaningful school-based change.

The use of the dichotomy heightens the tensions between these two frames (Figs. 3.1 and 3.2) but is important in bringing the differences into stark contrast. Identifying the types of changes needed to facilitate a shift from the first to the second frame requires accepting the need for new assumptions about teacher learning (as outlined above). Investigating self-directed teacher learning is dependent upon

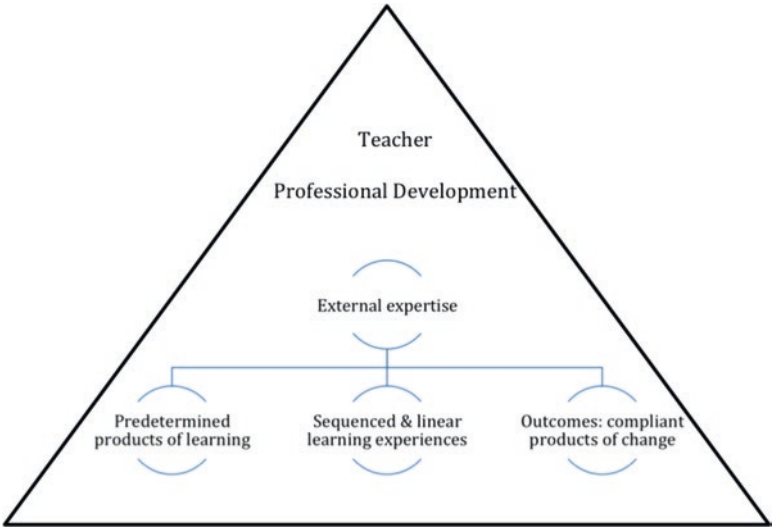

Fig. 3.1 'Traditional' approach to teacher professional development (PD)

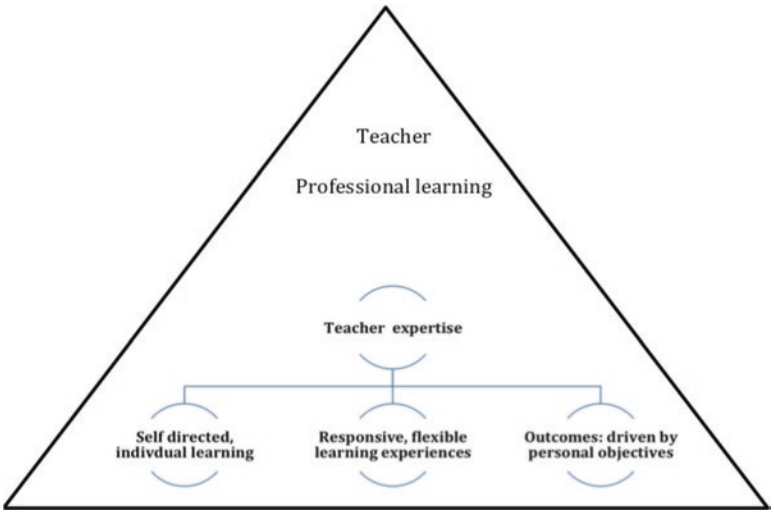

Fig. 3.2 An alternative approach to teacher professional learning (PL)

the willingness of educational sectors to move away from predetermined activity-based professional development programmes in order to better mobilise supportive formats that are genuinely useful for teachers' learning.

This study is based on understanding the development of teachers' professional learning through the conceptual framework outlined in Fig. 3.2.

Summary

The conceptual framework underpinning this study paid particular attention to the theoretical difference between professional development and professional learning. Identifying the types of changes needed to facilitate a shift from PD to PL is about accepting the need for a range of new assumptions about the nature and ownership of teacher learning and the role and value of teachers' knowledge of practice in teacher education.

How this study was developed is described in the following chapter. The information illustrates how researching this conceptual framework might better inform approaches to, and understanding of, teachers' professional learning.

Chapter 4
Shifting Accepted Routines of Practice

Abstract This chapter briefly reiterates some information included in earlier sections outlining how research approaches were designed and implemented to gather specific data which explored the structures and approaches that actively positioned teachers to become key decision makers about their own learning. This chapter specifically explores the approaches that enabled teachers to articulate their learning needs, determine the type of support their learning required and enabled them to determine how new thinking became evident in their professional practice.

Introduction

This chapter is designed to illustrate the way in which a study was organised and conducted to develop deep understandings of the conditions that enable teachers to work as self-directed learners. The research tracked the development of these conditions throughout an extended professional learning (PL) project. Information was collected which captured the structures and approaches that effectively supported teachers to become key decision makers about their own learning, articulating their learning needs, determining the type of support their learning required and applying new thinking in their professional practice. The data collection methods were particular to the professional learning activities and genuinely reflect approaches to capturing, portraying and articulating participants' learning.

Designing Research to Investigate Conditions for Learning

A study was designed to observe, analyse and strategise the conditions within a PL programme which positioned teachers as self-directed learners so that teacher learning was more likely to be personally meaningful and relevant to each teacher's contextual reality. In this study, professional learning was conceptualised as being 'what professionals do and as a consequence learn about their own knowledge of practice' (Loughran 2007, p. xiii). Self-directed learning was conceptualised as being about positioning teachers to be key decision makers in their own

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professional learning, determining the learning that personally matters to them while actively shaping the conditions to most effectively support such learning.

The research positioned teachers and programme facilitators to notice and attend to the 'critical moments' of teacher learning. The professional learning programme was therefore designed to provide opportunities for teachers to inquire and learn more about their professional values and beliefs in relation to their professional practice.

Teachers who participated in the PL programme in this study became active participants in the research process, and as I was undertaking the role of programme facilitator, I also assumed the role of researcher. My role was to attempt to identify the conditions through which teachers as learners were able to work collaboratively within the programme to construct new understandings about practice. To effectively contribute to this research, both the teachers and myself as facilitator were required to:

- consider personal learning as sometimes being problematic and identify the challenges for which there may be no immediate solutions;
- accept ownership of the learning problems/challenges and engage in inquiry with others to explore the situation;
- persist and systematically explore problems from a number of different perspectives;
- document and record actions and thinking;
- reflect on practice and taken-for-granted assumptions and explore how these shaped behaviours; and,
- inquire into their changes in actions.

Such action inevitably involved a mix of conscious planning, acting, observing and reflection in an attempt to make meaning.

The Connected Dimensions of Professional Learning

Four key dimensions of professional learning underpinned this research and became critical to data analysis. These four dimensions were:

- *Personal dimension*: the uniquely personal experiences, expectations and professional knowledge that each individual teacher and myself brought to the PL programme. This information provided a personal context for learning and defined participants as learners.
- *Interpersonal dimension*: the relationships and interactions which took place between myself as the facilitator and participating teachers and how these interactions defined the ways that we worked together to provide a social context for learning. This dimension emerged strongly in a range of data sets.

- *Contextual dimension:* the organisational setting that was the reality of each teacher's workplace and teaching situation. This dimension encompassed the school as an organisation and the place of the teacher within this organisational setting. Aspects included the structural, operational, social and psychological environment and the impact of these on the work of the teacher.
- *Technical dimension*: the practical circumstances of programme design and implementation including the cohort, the location, the duration and the learning experiences that defined the programme. These practical aspects made the PL programme contextually unique and as such situate the study within that context.

The process of data analysis involved determining how these dimensions influenced teachers' capacity to undertake self-directed learning and examined these dimensions from dual perspectives: the teacher as participant and the facilitator as the coordinator of the learning experience. Data collection and analysis was maintained across the duration of the PL programme as it was imperative that the research design was flexible enough to allow ongoing learning through the process to feed back into the practice of facilitating teacher learning.

The information that emerged through analysis of various data raised unanticipated questions or concerns that impacted both the research and the PL programme. Inevitably, the nature of learning was fluid, changing as new understandings emerged or new ideas were tested. Rather than simply focusing on the final teacher learning outcomes, the research design allowed methods of data collection to be adjusted, attending to the experience of learning as a focus of the research, i.e. the ongoing professional thinking, the uncertainties and the challenges for practice that teachers experienced throughout the programme.

Attempting to Align Intention with Practice

The purpose of this study was to explore the conditions that contributed to teachers articulating their learning needs through a PL programme. Therefore, it was important to determine how the operational features of the professional learning programme could be framed in ways which positioned teachers as self-directed learners. It was also important to determine the specific types of learning experiences that also positioned teachers as self-directed learners, i.e. enable them to determine what matters in their learning and assist them to construct personally relevant meaning and develop new knowledge.

When considering these important aspects of programme design, the four dimensions of professional learning, personal, interpersonal, contextual and technical, were important. I wanted to learn more about how teacher thinking personalised the meaning of professional learning, how facilitator thinking and action shaped the experiences and opportunities for personalised teacher professional learning and the challenges that emerged for both teachers and facilitators when attempting to reframe the conditions and personalise the learning outcomes of the PL programme.

Method

This study is particularly interesting because it explores the processes of professional learning through the eyes of both the researcher/facilitator and the teacher participants, who together experienced and shaped the learning approach. These perspectives were possible because the data that was captured accessed the thinking and behaviour of both the teachers and myself as researcher/facilitator as we worked to identify, articulate and respond to learning needs. When analysing this information, it was essential to identify evidence of professional thinking embedded within the beliefs and reasoning of both teachers and myself as facilitator. It was also important to determine how both teachers and myself came to recognise and articulate the learning we valued and how each of us used that information to determine what would be useful action in a given context. This intention ensured the analysis of associated data achieved a deeper insight into the specific dimensions of professional learning.

Stage 1: Learning About What Matters to School-Based Leaders of Science

The education sector that supported this research had given approval for the development of an external professional learning programme designed to support teachers who were undertaking science leadership at a school level. The intention of this programme was to support effective school-based change in science education. The programme entitled *Leading Science in Schools (LSiS)* was designed to become Phase 2 of the *Science Teaching and Learning* programme (STaL) which was another external professional learning programme developed in collaboration with staff from the Faculty of Education at Monash University. The context of science leadership was chosen because it aligned with the intentions of the sector's policy which was to support change in school-based science teaching and learning. At the time this study took place, the sector intended to develop a science strategy that would be used to lead work in science education in all schools. To develop such a plan required the sector to gather more information about the roles and responsibilities of science leaders within schools. Given that the focus of this study also built upon the intended learning outcomes of existing science professional learning programmes on offer within the sector, i.e. STaL, these existing programmes provided potential access to a suitable cohort of participants.

To ensure that the programme could provide a meaningful experience for participant teachers, information was needed to determine the types of issues and challenges teachers faced as leaders of science within their schools. This information would then be used to shape the design and implementation of the initial sessions of the *LSiS* programme. In response, a small pilot study was conducted which involved semi-structured interviews conducted at the outset of the project between the

facilitator (interviewer) and individual teachers ($n = 5$) (interviewees). To design a programme where teachers felt comfortable enough to make decisions about content and design, I needed to know the audience very well, in particular the teaching contexts which shaped their professional practice. Therefore, the aim of this small study was to understand what was happening in school-based positions of leadership in science and how teachers managed their roles. Of particular interest was how teachers understood and experienced their leadership roles and their perspectives on the types of skills, approaches and support they felt they needed to best place themselves to potentially influence change in school-based science teaching and learning.

The responses received were examined to develop an understanding of the range and prevalence of views among interviewees, and these ideas were used to inform the conceptualisation of the LSiS PL programme.

Stage 2: The Programme

The *LSiS* programme focused on school-based science leadership and provided a specific context for exploring teacher knowledge and expertise. A selected entry to the programme was made available to both primary and secondary teachers who had previously participated in a professional learning programme entitled *Science Teaching and Learning* (*STaL*). The *STaL* programme, a 5-day in-service programme with a focus on pedagogy and student learning in science, operated as a collaborative professional learning programme between the sector and science education staff from the Faculty of Education at Monash University. Teachers who had previously participated in *STaL* were considered as suitable candidates for this new programme as teacher reflection was fundamental to *STaL* and these teachers had also undertaken the process of capturing their thinking and new learning through case writing as a part of this programme (Loughran and Berry 2007, 2008). These experiences were considered valuable in terms of laying the foundations for the role that teachers would be expected to play as self-directed leaners in a new programme.

Timeline

The *LSiS* programme was conducted over a 14-month period from October to the following November (i.e. spanning two school years). As the school year in Australia runs from February through to December each calendar year, this programme schedule spanned the close of one school year in December and the opening of a new school year in February the following year. This schedule was a deliberate planning strategy to embed participants' action plans in the school planning agenda for the following year. The timeline also required participants to attend to the

inherent leadership challenges of beginning a new school year, facing changes in staffing and the possible redistribution of roles and responsibilities.

The programme was initially intended to consist of 4 days of professional learning sessions away from the school setting; however, as the programme progressed, teacher feedback indicated a need for further support and so the programme was extended to 5 days. Teachers were released from school teaching duties to attend these sessions which were scheduled as follows:

- 2 consecutive days end of Year 1 (November)
- 1 day early the following school year- Year 2 (April)
- 1 day mid-year -Year 2 (July)
- 1 final day late in Year 2 (October)

Venue and Format

The programme was conducted at a central hotel in Melbourne CBD utilising conference facilities and catering services. The final day was located at a sector facility. The programme sessions encouraged participants to take part in a range of learning experiences designed to empower them to see themselves as science leaders within their own school, having the capacity to initiate change and enhance the quality of the teaching and learning of science. While the timeline was predetermined to assist school planning, the format or content of each session was not pre-planned but instead was informed by data received from teachers throughout the programme, e.g. information obtained from school-based meetings. An action research project was a predetermined requirement of the programme, and so time was used within the programme sessions to support each participant to work towards developing a targeted plan to address a particular issue that presented personal challenges for their leadership role in their school.

The action plan needed to:

- be relevant and manageable within the present teaching context;
- be responsive to the principal's/leadership representative's expectations; and,
- contribute to the overall school vision.

The expertise of the sector's science education team was provided to support teachers in this process, and outside expertise was also sourced as needed and when appropriate throughout the programme, to enhance the programme design and ensure quality teacher support.

A particular focus of the programme was the use of digital technology as a reflection tool and as a means of providing valuable evidence and data which could be used to inform practice and planning. It was a requirement that all participants developed a level of competency in using this medium on a regular basis to capture their thinking and experiences. Each participant was presented with a flip camera, and time was allocated within the programme to develop knowledge and skills in

the operation and use of the camera, including basic applications for the purpose of presentations. It was also a predetermined requirement that at the completion of the programme, each teacher would share with the group a digital story of their learning journey as documented through their flip camera video capture.

The following aspects of the programme were completed within the school setting:

- November Year 1: A collaborative planning meeting between participant, principal/leadership representative and facilitator to outline the personal action plan and seek input and clarification in terms of expectations and school vision.
- School visits involving the programme facilitator and participant. These meetings were conducted several times throughout the programme. The researcher/facilitator visited each participant teacher at a mutually agreeable time. These meetings provided an opportunity for participants to discuss the effectiveness of approaches and strategies while sharing concerns and challenges.
- E-learning communication strategies that were designed support the ongoing nature of the programme.

Participants

For this research project, all of the participant teachers and the researcher/facilitator were participants of this study. The cohort consisted of 11 teachers, four primary and seven secondary, and one programme facilitator. An overview of participant background can be found in Appendix 1: Teacher participant biographical data.

Data Collection and Analysis

Data collection focused on the thoughts and actions of the participating teachers as well as myself as the facilitator and researcher. As both the facilitator and researcher for this project, being a participant myself demanded special attention. It required me (as facilitator) to collect data that captured my pedagogic choices in terms of:

- the selection of content and learning experiences;
- my behaviours as a facilitator, including responses to participants and the ways I interpreted and made sense of facilitator–teacher interactions;
- how information was shared and developed across the facilitator–teacher relationship;
- how I attempted to draw out teacher thinking; and,
- how I determined if teachers were making sense of and connecting new learning to their present context and past experiences.

For the purpose of this study, these acts needed to be interrogated repeatedly, rigorously and effectively, and this called for methods of data collection which were

methodical and systematic and allowed for interrogation of these aspects of practice over time. Seven data sets were used in this research to understand facilitator and teacher thinking. These included:

1. Facilitator journal
2. Audio-taped discussions
3. Semi-structured interviews between facilitator and participants
4. Participants action research plans
5. Reflection sets
6. Free talks
7. Digital stories

My facilitator journal entries provided opportunities for me to capture, consider and elaborate on the aspects of my personal professional thinking which initially seemed routine, intuitive or problematic. This data provided a way of revisiting and exploring this thinking to enable me to better understand why certain issues, incidents, interactions, feelings and assumptions became triggers that stimulated my knowledge of practice within this context of professional learning.

Semi-structured interviews between facilitator and teachers, the duration of each varied from 8 to 14 min. were conducted after the second session in the programme. These interviews aimed to find out more about how the teachers were processing their learning experiences in this programme, in particular the type of experiences they valued, and why and also the experiences that they felt had not been valuable for their learning. These interviews were also designed to learn more about the issues and challenges they faced when undertaking school-based positions of leadership in science.

Each teacher was asked to complete an action research plan. Each completed action plan was shared electronically across the group. It was intended that the plan would be a continual work in progress for each participant. Some teachers modified, adapted and further developed their plan as the need arose; others did not revisit or even complete the task. These plans provided a focus for many of the facilitator–teacher school-based meetings, and in many cases, these plans captured information, which conveyed how participants recognised and used learning to influence associated school-based change. This data also demonstrated how learning experiences contributed to the development of their own perceptions of leadership and their understandings of meaningful and worthwhile action. These data were also used as an indicator of teacher learning needs and to inform programme content and design.

Throughout the programme, participants completed activities designed to prompt reflection, and some of these offered data sets for the project.

The idea of Free talks was built around the thinking of Lee Shulman (1986) who proposed that teachers' knowledge might be held in the form of stories or cases. As a researcher, I wanted to provide the teachers with the opportunity to talk about what mattered to them rather than prompting or directing their thinking about particular aspects of the programme and their own learning. I wanted them to document their stories so that I could retrieve the information to see the meaning teachers were constructing of their experiences. Free talks took the form of a digital diary

entry using the flip camera provided. These Free talks were diverse with some teachers sharing their thinking almost as cases (Shulman 1992) others as dot point entries and others as a digital essay.

All participants used their flip camera over the course of the professional learning programme to maintain a series of digital diary entries capturing thoughts about their experiences and learning. They then edited excerpts from these diaries to produce a digital story conveying their personal professional learning journey across the programme. This was shared with the group at the conclusion of the programme. This footage provided a valuable insight into each participant's individual experience, thinking and action and as such became a valuable data source about how they recognised changes in their own personal learning.

The Tensions of Ownership

One of the tensions that emerged within this research was between the intention of the programme to build teacher capacity to make decisions about their own learning and the need as a researcher to access teacher thinking to monitor effectiveness of practice. Therefore, the dilemma of seeking to take ownership of what were at times very personal reflections and insights into personal thinking and understanding was problematic. This had to be approached in a way that was mindful of this potential conflict; abrupt or demanding action on the part of the researcher facilitator could have worked against the overall intention of both the programme and the research.

To approach this situation with the respect and acknowledgement to professional ownership that was deserved, I decided not to collect copies of these reflection artefacts at the end of or during the programme sessions. Instead I approached the teachers via email after a reasonable amount of time had passed (i.e. 2 weeks) since completing the reflection activity. I asked for their permission to receive copies of their reflection sheets; the results were therefore collected on a voluntary basis. This approach was based on a consideration of time, i.e. a time delay may have lessened emotional commitment to the response. While this approach may not have been necessary as participants may have been willing to share the information at the time, it acknowledged and reinforced the programme and the research intention that it was the teachers who were in control of the learning and they were the active decision makers in their professional learning.

Stage 3: Collating Findings

To collate findings in a way that would shed light on the conditions that would enable teachers to work as self-directed learners, this research employed a range of qualitative methods of data analysis. At no time in this research were the phenomena of teacher self-directed professional learning conceived of as static but as

continually changing in response to prevailing conditions. Given this thinking, there was a need to build change, through process, into the method. The analysis of the various data sets sought not only to reveal relevant and effective learning conditions but to also determine how both the teachers and facilitator actively responded to those conditions and to the consequences of their actions. The research analysis had to 'catch this interplay' (Corbin and Strauss 1990, p. 5).

As in grounded theory, the analysis began as soon as the first data was collected; this was critically important as this information potentially provided cues for understanding and building meaning about teacher self-directed learning. The procedures of data collection and analysis were carried our systematically and sequentially across the life of the project. This expanded the research project and ensured that all relevant aspects of the phenomena of teacher self-directed learning were captured as soon as they were perceived (Corbin and Strauss 1990); this information was then incorporated in programme action, directing the next observations and interactions.

Data Analysis

The research questions provided a lens for observation; the actual incidents and events as observed or reported throughout the programme provided merely 'raw data'. These data were then taken and analysed to reveal any concepts that may be potential indicators of the phenomena teacher self-directed learning. Initially these concepts were considered to be provisional and were only accepted as relevant to the evolving theory, if repeatedly present in a range of data. For this study, the process of concept development is demonstrated by the representative idea emerging from the following data samples:

> The meeting places have just been wonderful. As a teacher we don't get many chances to go to the Hyatt [5 star hotel] and go up to the 13th floor and have meetings, that makes you feel special and it also builds your confidence so that when you come back to your little hum drum classroom with your twenty eight little children, you have a special feel inside yourself that says I'm ok. (Carol Int. 1 p. 1)
>
> Knowing that someone believes that I can do something makes me want to do it and do it as best as I can. But feeling that perhaps you're not valued you're not trusted you start to reconsider a lot of the decisions that you make, things that you would have just done automatically. Knowing that you were working within that environment where you were valued you were trusted, that changes. (Claudia, Int. 1 p. 4)
>
> I felt from the beginning we were treated as professionals and I think sometimes because you work with so many teachers you tend to get all lumped into one category and the instant coffee is good enough for everyone. (Georgia, Free talk)

These comments resembled similar thinking about the importance of conditions that explicitly recognised and valued teachers as professionals. This concept became one of the basic units of analysis in this study, and searching for repeated evidence of this concept across data grounded this concept and provided some theory–observation congruence.

A constant comparative method was applied repeatedly across data to inform each emerging stage of data analysis, as this analysis continued concepts became

Table 4.1 Code definitions developed for this study

Categories	Subcategories	Code definitions	Catalysts
Three overarching categories	*Five aspects of teacher self-directed learning*	*Behaviour and thinking which characterised the aspect of teacher learning in each subcategory*	*Programme operational features which promote and support learning*
Self-efficacy	Building a sense of professional identity	Often included such evidence as specific actions and behaviours, articulated awareness and noticing, articulated expectations, etc.	Selected entry
			Quality venue
			Ongoing teacher-centred programme facilitator
Aligning reasoning and action	Reflecting on professional reasoning to clarify personal professional principles of practice	Connections evident between four dimensions of professional learning, i.e. personal, interpersonal, contextual, technical	Extended timeline for learning
			Formative programme design
Valuing emerging expertise	Identifying tensions between principles of practice and action		Embedded, ongoing, diagnostic programme evaluation
	Realigning action with professional thinking		Meaningful and relevant learning experiences
	Sharing new professional knowledge		

more numerous and more abstract. Concepts that pertained to the same phenomenon were grouped to form a category. To follow on from the example above, in addition to the stated concept 'explicit recognition and value of teachers as professionals', other concepts were generated from the data including: 'involvement in constructive professional interactions' and 'purposeful clarification of personal thinking and principles of practice'. These concepts came to represent activities directed towards a similar process: teachers' understanding themselves as professionals with specific expertise. These concepts were then grouped together under the category: 'Building a sense of personal professional identity'. It then became important to develop an explanation of this category. Through reiterative data analysis, the properties and features of this category became further dimensionalised because of 'the conditions which gave rise to it; the action/interaction by which it was expressed, and the consequences that it produces' (Corbin and Strauss 1990, pp. 7–8).

In this study, five categories emerged conveying information about the nature of teacher self-directed learning. These categories were representative of three key aspects of teacher self-directed learning: self-efficacy, aligning reasoning and action and emerging expertise. Iterative rounds of closed coding were performed for each of these categories until descriptive code definitions were appropriately determined. The type of information contained in these descriptive definitions is briefly outlined in Table 4.1; for complete code definitions, see Appendix 2.

The collated data mapped directly on to the research questions; it was clear which programme operational structures had supported teacher self-directed learning; these were readily identifiable as 'catalysts' in each code definition. However, further reiterative analysis was required to deconstruct the elements of each catalyst to learn more about the nature of each operational structure and the nature of the learning experiences. For example, the code definition for the category 'Building a sense of professional identity' contained a number of catalysts; these included:

- quality venue;
- selected entry;
- learning experiences that were explicitly mindful of teacher knowledge and experience;
- professional interactions that continually attended to and were respectful of teacher concerns and experience; and,
- the ongoing personalised support of a purposeful, teacher-centred programme facilitator.

By refocusing observations of the data to pay attention to the defining characteristics of each catalyst, it became clear that these were far more than a collection of routine operational procedures. The catalysts were complex constructs of actions and reactions, which shaped learning. For example, reiterative analysis of data related to 'selected entry' revealed requirements related to teacher experience as 'active' learners, a high level of teacher personal commitment, a higher than 'normal' level of expected school involvement, etc. The heading 'selected entry' was an attempt to capture these collective processes. The impact of these processes on teacher learning was revealed through further analysis. Relationships were conceptualised between a teacher's capacity to build a sense of professional identity and school-based expectations of teachers as learners, school-based expectations of teachers as leaders and the type and availability of learning support made available to teachers at a school level. Analysis revealed that 'selected entry', when understood and implemented in ways specific to this programme, became an operational feature that significantly impacted teacher capacity for self-directed learning.

The collated data revealed that a number of 'catalysts' were repeatedly situated across the final three categories. It was clear that each of these operational features did not stand alone but were interdependent in creating conditions for teacher self-directed learning in this in-service professional learning programme. These catalysts formed the 'cornerstones' of a developing theory about the conditions that empower self-efficacy in teachers and which nurture teacher capacity for decision making and self-development.

Summary

The aim of this study was to develop deep understandings of the conditions that enable teachers to work as self-directed learners. A range of data sets were systematically collected and sequentially analysed across the life of the project, and this ongoing process of data analysis revealed information that continually fed back into and shaped the practice of facilitating teacher self-directed learning. The data analysis revealed three categories that defined the nature of teacher self-directed learning. Descriptive code definitions were developed for each category that outlined the nature and characteristics of the learning, the interconnectedness of learning dimensions and the programme operational structures which promoted such learning.

The data emerging from this study was collated to attend to each of the key research questions framing the study. The findings answer each question by providing information about the impact on teacher thinking, essential facilitator thinking and action and emerging challenge.

Part II
Teachers as Self-Directed Learners: Active Positioning Through Professional Learning

Reconsidering Features of Practice Which Frame Accepted Approaches to Teacher In-Service Programmes

This section begins to unpack the findings of the study and identifies three categories that defined the concept of teacher self-directed learning: self-efficacy, aligning reasoning with action and valuing emerging expertise. All the operational features identified in chapters within this section are those that contributed to the development of one or more of these categories. A range of identified operational features collectively formed an overall strategy to position teachers as self-directed learners so that the impact of each operational feature was therefore dependent upon the effectiveness of other features and it was this interconnectedness that framed the overall programme design. This section of the book attempts to clearly convey the nature of these features and how each influenced teacher learning.

Chapter 5
Programme Operational Features Enabling Teachers to Be Active Decision Makers

Abstract This chapter identifies the operational features of the in-service programme that actively positioned teachers to make decisions about what really mattered to them for their personal professional learning. Data analysis revealed deliberate approaches to programme design influenced the nature of programme operations and these approaches became distinctive attributes or features of the programme. These features are discussed at length in this chapter in terms of how each acted as catalysts, stimulating a change in teacher thinking and/or behaviour. Collectively these features were interdependent conditions of an overall strategy designed to actively position teachers as self-directed learners. Under these conditions, teachers demonstrated an increasing sense of professional identity, articulated personal principles of professional practice and actively worked through a process of aligning personal professional reasoning with action and recognised the importance of their emerging expertise. Teachers working in these conditions demonstrated specific thinking and action that came to define the nature of the learning they were experiencing. This learning embodied an interconnection of various dimensions of practice: personal, interpersonal, contextual and technical.

Introduction

The inherent assumption underpinning this section of the research is that professional learning (PL) programmes, in the main, implement features of operation that have over time become a form of habitual practice. While these features have come to represent apparently accepted cultural approaches to teacher learning, such practice may not align with the theoretical intention of professional learning, i.e. to provide learning conditions that actively recognise, value and attend to the central place of teachers and their context in planning, learning and action. Rather than energising teacher thinking, these features of operation may in fact restrain teacher self-confidence and decision making and therefore impact on the quality of teacher learning.

When attempting to align PL practice with theoretical intent, teachers must also see a need to think and work differently, and therefore all aspects of in-service programmes need to be driven by an intention to actively involve teachers in decisions about their own learning. To do this, programme design and implementation

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strategies need to explicitly value and attend to teacher thinking in ways that ensure teachers feel motivated and supported to take control of their learning.

This study aimed to identify the specific programme features, which are essential to align in-service programme practice with the theoretical intent of professional learning. As a consequence, it was intended that the PL programme at the focus of this study would produce learning conditions, which positioned teachers as active learners, developing personally meaningful and contextually relevant professional knowledge, i.e. self-directed learners. The research findings revealed that certain alternative operational features created opportunities to change learning conditions, in particular timeframes, learning support and the nature of learning experiences. These changes contributed to positioning teachers as self-directed learners. Most importantly the operational features discussed in the following chapters also strategically challenged and ultimately shifted accepted assumptions about teacher learning, in particular the role of the teacher and the facilitator in professional learning. Reconsidering the features of practice which frame accepted approaches to teacher in-service programmes revealed that redesigning the technical aspects of programme operation is a relatively easy process; however, assumptions about teacher learning are an inherent and tenacious part of existing PD programme culture and prove challenging to shift.

Analysis of Programme Operational Features

The *Leading Science in Schools (LSiS)* programme worked to encourage and support teachers to value their own professional knowledge, recognise their personal capacity to research their own practice and make decisions about ways of enhancing their work. The programme's operational design attended to many planning considerations that were typical of any PL programme: a location where teachers could work away from the interruptions of daily school routines, a programme facilitator who worked directly with teachers and was responsible for overall programme management, adequate time for learning, a variety of learning experiences and acknowledgement that participating teachers came from a variety of teaching contexts. However, when comparing the programme's learning intentions with that of other PD programmes, it required far more of teachers; they were expected to be active and discerning learners and for many teachers doing so would require a different view of PD and making an attitudinal shift that could be challenging. Therefore, it was never assumed that accepted modes of programme operations (or existing/status quo approaches to programme operations) would be appropriate to support teachers with such learning. The approaches implemented needed to be explicitly and repeatedly examined to determine the contribution and impact each made to teacher self-directed learning.

The study revealed that the effectiveness of the experience relied on both practical elements of programme design and teacher willingness to collaboratively work towards a new vision for professional learning. Creating conditions for effective self-directed teacher learning therefore was dependent on technical elements of

programme operation and a clearly articulated and shared ethos or philosophy for teacher learning. As a result the term 'operational programme features' has been utilised throughout this section to explain the arrangement of, and relations between, the philosophical and practical elements of programme operations. These elements were interdependent and worked together to create learning conditions that effectively assisted teachers to recognise and exercise their personal capacity to think and work independently as professionals. Some of these features (discussed in this study) differed significantly from more 'traditional' practice and appeared effective in creating conditions for teachers to think and work in ways that were more personally and contextually focused.

As outlined in the previous chapters, three categories emerged from the data analysis which came to define the concept of teacher self-directed learning in this study: self-efficacy, aligning reasoning with action and valuing emerging expertise. All the operational features identified in chapters within this section contributed to the development of one or more of these categories. The data revealed that a range of identified operational features collectively formed an overall strategy to position teachers as self-directed learners. The impact of each operational feature was therefore dependent upon the effectiveness of other features, and it was this interconnectedness that framed the overall programme design.

The following sections identify the operational features of an in-service programme that ultimately enabled teachers to make decisions about what really mattered to them for their personal professional learning. Data analysis revealed deliberate approaches to programme design which directly influenced the nature of programme operations. These approaches became distinctive attributes or features of the programme. These features acted as catalysts, stimulating a change in teacher thinking and/or behaviour. Collectively these features were interdependent conditions of an overall strategy designed to position teachers as self-directed learners. Under these conditions, teachers demonstrated an increasing sense of professional identity, articulated personal principles of professional practice and actively worked through a process of aligning personal professional reasoning with action and recognised the importance of their emerging expertise. Teacher participants demonstrated specific thinking and action that came to define the nature of the learning they were experiencing. This learning embodied an interconnection of various dimensions of practice: personal, interpersonal, contextual and technical.

Teachers as Self-Directed Learners: Six Operational Features

Data analysis identified six distinctive operational features of the *Leading Science in Schools (LSiS)* programme that worked as catalysts for teacher self-directed learning. These features created conditions that supported teachers to recognise and apply their professional expertise in making decisions about their learning. These six features were:

(a) *Selected entry*: requiring an interested and committed cohort

(b) *A quality venue*: impacting on teacher's personal sense of professionalism
(c) *Extended time for learning*: allowing teachers to make sense of new thinking in the context of present practice
(d) *Formative programme design*: allowing teachers to determine the focus of their learning experiences
(e) *Open facilitator access*: providing ongoing teacher support throughout the programme
(f) *Embedded, ongoing, diagnostic programme evaluation*: ensuring the programme actively responded to the learning needs of teachers

Each of the conditions (a–f above) is detailed through three recurring themes: intention, operational impact and learning impact. These themes create the overarching analytic structure of the conditions and the manner in which they are presented in the chapter. Each feature contributed to the creation of a learning environment where teachers developed an awareness of their own professional knowledge and an awareness of how their colleagues, fellow participants and the programme valued that knowledge. These features created specific conditions for learning, and through these conditions, teachers were observed openly discussing their ideas, sharing alternative perspectives about what they felt mattered, considering alternative actions and implementing approaches in their practice that were contextually relevant and personally meaningful. These observations became indicators of self-directed learning.

The interrelatedness of these features can be illustrated by considering the changes made to the role of the facilitator. Changes included ongoing access beyond the programme sessions, an emphasis on listening and building personal relationships with each teacher, school-based visits and critical professional conversations designed to monitor teacher learning needs. These changes made this role pivotal to programme success ensuring that teachers' learning needs and interests were effectively addressed. However, this role might not have been so effective if positioned within a programme bound by rigid, predetermined content plans and predetermined learning outcomes. Through this programme, the facilitator role was effective because other programme operational features provided the degree of flexibility needed to explore options and try alternative actions. Both the operational and learning impact of these features will now be discussed.

(A) Selected Entry: An Interested and Committed Cohort

To be accepted into the programme, it was a requirement that each teacher:

- Be a past participant of the *Science Teaching and Learning (STAL)* programme (Berry et al. 2009).[1]

[1] STAL programme – The 'Science Teaching and Learning' programme is a collaborative professional learning programme between the Catholic Education Office Melbourne and Science Education staff from the Faculty of Education at Monash University. It is a 5 day programme with

- Express interest in the learning focus of the programme, i.e. leading science in schools.
- Be undertaking position of school-based leadership in science.
- Obtain a commitment from school leadership for the provision of ongoing support and active involvement in aspects of the programme.

The selection process applied to all participants and was based upon these four clearly stated prerequisites. Teachers initially submitted an expression of interest to participate in the programme, these prerequisites were then used to identify eligible applicants and an invitation to participate was then extended. The heading 'selected entry' has been used to describe these collective processes.

Intention

The intention of this operational feature was to ensure that participants had some prior experience in active and personalised learning and their participation would be based on their personal interest. It was also important that participants would be well supported at a school level and they would be working in a role that allowed them to exercise some degree of decision making about meaningful school-based change.

Operational Impact

Prior Learning Experience

It was considered important that teachers had previous experience working within a professional learning programme where they were required to critically reflect on their own teaching practice and use this context to develop new understandings about teaching and learning. The *STaL* programme had been developed to challenge some existing and accepted science teaching and learning practices and encourage the development of new knowledge of practice through critical reflection, sharing expertise and case writing (Berry et al. 2009). In the *STaL* programme, teachers were positioned as 'producers of sophisticated knowledge of teaching and learning, not just users' (Loughran and Berry 2006, p. 15).The *STaL* programme valued the 'sophisticated knowledge of practice' and positioned it as being generated through experience and collaboration between teachers, which provided valuable opportunities for teacher professional learning. By establishing participation in *STaL* as an entry requirement, the selected entry process acknowledged that the *STaL* experience would prepare and assist teachers for the intellectual demands they would face when working in the Leading Science in Schools (LSiS) *LSiS* programme, i.e. as key decision makers about their own learning. With this in mind, it was intended that the programme would become 'stage two' of the existing *STaL*

a focus on pedagogy and student learning. Teacher reflection is fundamental to this programme and teachers capture their thinking and new learning in case writing.

programme. Past participants were invited to submit an expression of interest to attend the programme, an attempt to ensure that teachers entered the programme based on personal choice rather than coercion.

Leadership Roles

It was noted that many past *STaL* participants were actively undertaking science leadership roles within their school. The sector envisaged that setting a leadership role as a criterion for entry into the programme was a way of harnessing the insights and expertise of participants with the intention of effectively promoting change within the system – particularly as such roles inherently carried the responsibility of enhancing student learning outcomes and theoretically leading overall school improvement.

School Leadership Support

School leadership support had anecdotally been identified within the sector as a key contributing factor for ensuring effective teacher involvement in PL programmes. For this reason, each teacher was required to seek agreement from their school's leadership that their involvement would be supported and that leadership would also take an active part in the development of their individual action research plan. The principal or leadership representative was required to meet with both the programme facilitator and the teacher to review the action plan to ensure that it was in line with the school's vision and priorities. Prior to each teacher being accepted into the programme, school leadership was required to sign a statement guaranteeing support for, and involvement in, these aspects of the programme.

Size of Cohort

The prerequisites (noted above), overall, proved to be rigorous and demanded a level of commitment, from both teachers and schools, not normally required by other science professional learning programmes within this educational sector. The number of applicants for participation was subsequently limited by eligibility, and as a result, the programme involved a small cohort of participants, i.e. 11 teachers – four primary teachers and seven secondary teachers. Initially this limited size was seen as a possible challenge to the programme's overall success; however, the small cohort proved to be a significant and positive condition, which supported teacher self-directed learning. The smaller group size created opportunities for the use of smaller venues; more personal interaction between teacher participants and facilitators resulting in the development of effective, personally supportive working relationships; and ultimately a programme through which the process of responding to teachers' ideas and experiences was manageable in terms of time and human resources.

It is important to note that the programme's selection process was a contributing factor in shaping the PL experience as it communicated clear expectations for

school-based support and enabled additional programme features to build upon prior learning experiences and attend more effectively to the cohort's learning needs. Collectively these conditions were designed to position teachers as decision makers and directors of their own personal learning.

Learning Impact

Selected entry appeared to support two key aspects of teacher self-directed learning:

- Self-efficacy
- Aligning reasoning with action

Self-Efficacy: Building Professional Identity

The data revealed that selected entry assisted teachers in building a sense of professional identity because the selection procedures explicitly recognised the value of each teacher's previous learning experiences and valued their emerging personal expertise. Teachers' comments revealed the personal importance of such recognition, articulating feelings of empowerment and self-worth. This mindset enabled them to think differently about the importance of the work they did each day and the value of teaching as a profession. The following excerpts exemplify such thinking – Carol explains her personal reaction to being selected as a programme participant:

> I've liked the fact that you thought highly enough of me to ask me to be in the programme or accept me. I think I probably volunteered myself with Claudia, but that I was accepted -that makes me feel valued and positive. (Data Source: Free talk. Carol: pp. 1–2)
>
> For someone to recognise that you actually have something to offer that you can actually help other people in your profession, particularly people with a science bent, which I always consider is an extra skill, was very good for me. So actually being accepted for the programme is probably the most exciting thing about being part of it. (Data Source: Interview 1. Carol: p. 1)

For Claudia, acceptance into the programme was a gesture of trust, and as evident in the following comment, she felt that such trust enabled her to believe she was capable of thinking and working differently:

> Knowing that someone believes that I can do something makes me want to do it and do it as best as I can. But feeling that perhaps you're not valued you're not trusted you start to reconsider a lot of the decisions that you make, things that you would have just done automatically. Knowing that you were working within that environment where you were valued you were trusted, that changes. (Data Source: Interview 1. Claudia: p. 4)

Teachers acknowledged the contribution their involvement in the *STaL* programme made to their role as learners within the *LSiS* programme. They recognised the presence of similar learning experiences across both programmes and talked openly about the value of these in terms of what they had learnt and the impact of that learning on how they worked and thought about their practice. The *STaL* experi-

ence and the thinking that emerged were now informing the way they thought about themselves as science teachers and innovative practitioners making decisions about the type of teacher they wanted to be:

> One of the important things I think of this particular course is the dialogue between primary and secondary sector which doesn't get to happen. It was one of the things I loved most about the first STaL programme that I was involved in and it's certainly been one of the important parts of this one as well and I think it's been really useful for my leadership within my school and it raised a lot of questions about leadership for me and where I want to go and how I would lead as a leader. So I've found the programme really helpful. (Data Source: Free talk. Helen: p. 1)

Data analysis revealed that the requirement for school-based leadership support was also a significant influence on teachers building a sense of their own personal professional identity. The selection process required that a key person from the school leadership attend and be actively involved in one of the initial school-based meetings. This meeting also involved the teacher and the programme facilitator and was designed to be a scheduled opportunity for the teacher to share their plans for the intended school-based action they were hoping to undertake to reflect their professional learning. The leadership nominee was required to provide feedback to the teacher about how the plan aligned with the overall school goals and vision.

While schools had signed off on this agreement, many teachers found that it was difficult to access leadership to arrange the meeting. Once the meeting was underway, the teachers often became frustrated by the failure of leadership to empower them as an agent of change within the school, and teachers often found it difficult to find their voice in these meetings and faced the inflexibility of school agendas which presented obstacles for initiating change. For some participating teachers, these meetings were uncomfortable and often complicated by powerful and controlling relationships. As a result, very few teachers were made to feel as if they really mattered in the overall operation of their school. The awkward dynamics evident in these meetings implied that it was unusual for many of the teacher participants to share personal, professional thinking and learning closely with a member of school leadership. It became apparent to many participating teachers through these meetings and the support the meetings were supposed to provide, that schools often did not recognise them as professionals and failed a responsibility to develop a productive relationship between teacher professional learning and school-based change. The following entry in the Facilitator's Journal provides an example of the difficulties and tensions experienced by teachers as they attempted to find their voice in these initial meetings:

> **7th December 2009**
>
> Today I attended another meeting, which was a difficult meeting for the teacher. The principal attended and it was obvious that this was someone who was difficult for the teacher to access and also someone with whom this teacher did not share a common view on a variety of topics. It felt as if this principal represented power and control and the teacher, who usually appears confident, seemed vulnerable and worked overly hard to attend to the principal's concerns. Just as the meeting began, the principal had to leave, regardless of the emails and communication the teacher had attempted to put in place to ensure the meeting would be scheduled and his time would be available. Despite these

> attempts, the principal still did not afford the meeting the time or priority that had been 'committed to the programme' on application. So this teacher faces some difficult times ahead re support or assistance.

As a consequence of such challenges and the emotional responses teachers experienced, participants generally recognised that feeling valued and being treated as a professional was an essential prerequisite for professional learning:

> It is probably equally important to have support from your deputy principal and principal as well as having support from your colleagues because if you've got a programme that you think is exciting and no one else wants anything to do with it then you won't do it, yes it's your class but if the other however many classes don't do it and nothing changes. (Data Source: Transcript 1, final day of programme – Keith)

Participating teachers talked about the need to see themselves and their colleagues as professionals and began to reconsider the 'accepted' conditions at school level which appeared to implicitly impact their capacity to exercise professional judgement and instigate actions to affect meaningful change within their workplace. Such thinking is demonstrated very powerfully in the following excerpt from a discussion between the facilitator and one of the teachers on the final day of the programme. Joanne discussed the importance of being valued and used an example from her school setting where she felt teachers were being treated as children. Joanne explained how the experience of being valued in the programme enabled her to see her workplace differently and to approach school leadership in a different way, clearly stating her belief about the importance of trust and respect in the professional workplace and the importance that all teachers be treated as professionals:

> Joanne: I told the school that I would get these flip cameras and there was a really big push at the school to get them [for everyone] and put them in the library. Leadership said you [the teachers] can borrow them, and I was saying, "You know what? Teachers need to be treated like professionals and everybody has a laptop and the laptops never go missing, you can even borrow each other's laptops so let's give each teacher a camera." So that was my sort of thinking that if we treated them [the teachers] like professionals they would be more likely to use it [the flip camera] and there would not be that constant "can we borrow the camera?" "Who's got the camera?" sort of thing and so that was a change and I was supported with that.
>
> Facilitator: What you have articulated there is one of your principles as a leader…. "my colleagues need to be treated like professionals they have the capacity to make decisions about these things."
>
> Joanne: …. There needs to be a difference between the way we treat our staff and the way we treat our students. (Data Source: Transcript 1 of final day pp. 1–2)

Being acknowledged and valued enabled teachers to feel confident about their own professional identity, and participants recognised that as foundational to self-efficacy, was the capacity to not only believe in personal capabilities but the confidence to utilise such self-belief to initiate change.

Aligning Reasoning with Action

Selected entry enabled teachers to align their reasoning with action because it enabled them to further develop their capacity to reflect and clarify their personal principles of professional practice. Participants identified very quickly that while schools had agreed to support their learning, this support was in some cases quite rare. Teachers began to reason that school 'support' was about more than time release and financial approval; it was about trust, interest and permission to move forward with their learning:

> The word that jumps out at me is trust, they [leadership] have to actually trust that you are actually doing something good for the school and we're putting trust in the teachers and we need to put trust in us as leaders as well. (Data Source: Transcript 1, final day of programme – Claudia)

It became apparent to the participating teachers that while schools stated that they encouraged them to undertake professional learning to enhance the quality of school-based teaching and learning, in reality some schools didn't attend to this statement as they were not forthcoming with the types of support that accompanied recognition of the value of teacher thinking and supporting their ideas for change. Participants began to reconsider existing approaches to professional learning, in particular how personal learning was supported once a teacher returned to school. Teachers discussed existing school protocols and policies and considered how school practices and protocols might implicitly disempower teachers by not explicitly encouraging them to connect their professional learning with their existing practice. Therefore such practices did not allow teachers to develop expertise to the extent envisaged. This became an important consideration for participants in terms of their own leadership within the school. Some felt they needed permission to implement the aspects of leadership they were beginning to value. Participating teachers began to translate these experiences and this new thinking into principles of action – in particular that respect and trust were essential components of school-based change.

The following dialogue (from recorded sessions on the final day of the programme) illustrates the idea of 'ticking off' PD and encapsulates the notion of a mindset about such programmes, i.e. an experience understood as task orientated. In the following transcripts, the participants grapple with the inherent challenges of such thinking, and the data demonstrates how these teachers made decisions about that which mattered to them in terms of school support:

> Georgia: I know in our school they are doing the school improvement framework at the moment, there is a strategic plan, there are a whole lot of layers and layers of things that have to be fitted in and I think sometimes something like this can get a bit lost. 'Oh yes we've dealt with that, we've paid for that PD' and that connection is lost in the mix of everything that's going on. And I've found that when I'm leading people that's the one thing that I want to try and make sure that doesn't happen because I know what it is like when you're given almost too much freedom or lack of trust and lack of interest, and that can be not so motivating as well. So finding out what different people need for support and what different people need to do, what they want, I think is really difficult to do.

> Facilitator: As a leader yourself when people come to you and say I want to go to a PD – what have you learnt, from being in your situation, about interacting with them when they are either going to the PD or when they come back? What are the things that you would do differently?
>
> Maree: One of the things would be taking the time to evaluate with the person, whether it's worthwhile [the professional learning] or not worthwhile but to take that time and actually hear and listen to what they say. Because I agree with a lot of things it's the same, but we had to actually run a PD and I just think – ok great we did it but there's been nothing after that to say you did a good job, there are now more people using it, or that was a waste of time, whatever way I want to hear something. It does, it gets lost.
>
> Carol: Our school has a policy that not one person ever goes to a PD on their own, they always go in twos or threes and it's easier for a group of people to report back and I agree with that too, it's like every time you get together with a few you've got a committee and more will come from it if it's a little group.
>
> Megan: Yes like we spent masses amounts of money on PD and yes we tick off the box when people have gone to them, but we are now looking at how can we use that money back at the school and I like the idea of a couple of people going but we're looking at well we've got to have so much in-house PD for our registration, do we start getting people to come back and actually present? …. I guess a lot of money is just wasted on individuals and not spread throughout the whole school.

The transcript demonstrates how teachers began to think about the interconnectedness of school rhetoric around professional learning and supportive action for teacher learning. Their comments illustrate that they actively make decisions about the types of school-based conditions they personally value – the need for peer support, time to apply thinking in practice and time to consolidate professional practice and embed the ideas and skills in a familiar context – before progressing to another level within the school.

The *LSiS* programme was structured to accept teachers on a selected entry basis. This feature created some uncomfortable experiences, particularly the requirement for school leadership support, which proved confronting and in some cases disempowering for some participants. Yet the selected entry experience powerfully influenced teachers' thinking about the conditions that enabled them to feel their learning was valued and could make a difference at a school level. They noted that school support for professional learning needed to be more than simply offering a financial commitment or providing teaching time release to attend the external in-service programme. Participants described the need for genuine trust, interest and permission to move forward with their learning in ways that were contextually relevant to the needs of their students and the overall teaching and learning needs of their school. As a result of such thinking, many teachers decided to actively create conditions of trust and interest to support their colleagues within their own school context.

(B) Quality Venue

The programme was held in a venue designed to reflect the view that teaching was highly valued.

Intention

The intention of using a quality venue was to recognise and attend to teachers as professionals, i.e. exceptionally competent members of a highly regarded profession. The venue was potentially much more than merely a place of work; it was suggestive of the value the programme placed on the teachers themselves and their expertise. By providing teachers with access to the type of venue usually reserved for senior professionals, the intention was to effectively demonstrate to participating teachers that they were regarded as highly valued professionals, and it was intended that under these conditions teachers themselves would be more likely to recognise their standing as experts.

Operational Impact

All the usual considerations, including easy access to location, flexibility with catering schedules, AV and IT resources, etc., were maintained as important criteria for venue selection. However, a proposal was made to increase financial investment in the quality of the venue and catering, and that proposal was supported by the sector. The smaller cohort size, i.e. 11 teachers, created opportunities to explore venues not normally accessed for teacher professional learning. Venues were assessed not only on the criteria of cost and location but on the visual appeal, flexibility of room layout, comfort, service, functionality and the status accorded to the prestige or reputation of the venue. With this in mind, it was decided that 4 days of the 5 day professional learning programme would be conducted using the smaller meeting facilities at one of the major hotels in the Melbourne CBD. The surroundings were luxurious, the rooms in which sessions were conducted were reserved exclusively for the participating teachers and catering was gourmet standard with morning and afternoon tea provided with a selection of hot and cold dishes for lunch. The hotel was located close to public transport and parking was available (at participants' expense); overall the venue was in accord with that normally offered to senior executives and/or used for corporate functions.

The small size of the cohort allowed the programme to explore the use of the hotel's small-scale conference facilities, which provided the physical arrangements of a boardroom setting. This was a far more intimate environment with ease of access among the group, and the layout was important for enhancing discussion and interaction. Presenters were able to sit with participants and interact in open conversations. This type of arrangement purposefully eliminated the physical divide between outside expertise and teachers so common in more traditional settings. The setting also encouraged the teachers to take a more active role in proceedings – interact, contribute their ideas and experiences, make decisions about the programme and their learning and, in doing so, begin to recognise their own expertise.

The comfortable and intimate venue, in a central location, moved teachers beyond their normal suburban localities and provided a learning space within which teachers were able to disconnect from the everyday stresses of their workplace

environment and concentrate on their personal learning. Selecting a relaxed, intimate and inviting location demonstrated that participants were not only permitted, but expected, to step outside of their normal workplace roles and personas and establish different professional relationships, develop confidence in their personal professional knowledge and experience, explore new information and consider alternative perspectives without the constraints imposed by workplace politics and personalities.

Learning Impact

Using a quality venue appeared to significantly support teacher self-directed learning in terms of self-efficacy.

Self-Efficacy: Building Professional Identity

The data indicated that teachers not only experienced obvious enjoyment in being in the venue, but they also recognised that the quality of the venue acknowledged them as professionals and valued the contribution their work made to society as a whole. They began making decisions about the importance of their role as teachers:

> Teaching is a profession that should be held in highest esteem because we are making citizens for the future and what happens is that teachers are run of the mill type people, we don't get to have these privileges of meeting in such wonderful surroundings, in such privileged places…. We don't get to go out for nice meals we tend to be eating a sandwich as we run around on yard duty or eating a sandwich while we are correcting the homework but to be able to go and feel like you are actually in a profession that is highly thought of is terrific and has been good. (Data Source: Free talk – Carol (primary teacher) pp. 1 and 2)

Teachers' comments also suggested that they placed a personal value on the decisions of programme organisers to create conditions through which they were recognised as individuals. The venue reflected a level of attention to their individual differences. Teachers articulated the importance of recognising them as individuals and how that built self-esteem and contributed to meaningful learning:

> Leading science in schools for me has been fantastic P.D. I've really enjoyed the process and I've really enjoyed being part of the process. I felt from the beginning we were treated as professionals and I think sometimes because you work with so many teachers you tend to get all lumped into one category and the instant coffee is good enough for everyone. To be taken out of that environment and treated to some little luxuries and given the space and the time to think about what we understand leadership to be, what we want to get out of a project, how we want to go about it what we're going to do along the way and what it's going to look like in the end has been a fascinating experience. (Data Source: Free talk – Georgia (secondary teacher) p. 1)
>
> The meeting places have just been wonderful… makes you feel special and it also builds your confidence so that when you come back to your little hum drum classroom with your twenty eight little children, you have a special feel inside yourself that says I'm ok I've been to the professional development I've heard people speaking and I'm really not that far behind the eight ball I guess. (Data Source: Interview 1 – Carol, p. 1)

A quality venue became an empowering operational feature for teachers. The deliberate choice to financially invest in a quality venue, which provided excellent service, facilities and catering, appeared to set a tone for the programme and conveyed to participants that they were highly valued. The data illustrates that under these conditions participants felt more acknowledged and appreciated. As a result they began to see themselves as professionals, and this was important in developing self-efficacy. Data evidenced that these personal experiences influenced teachers' understandings of the essential conditions for teacher learning, i.e. the need to explicitly recognise and acknowledge teacher personal thinking and expertise.

(C) Extended Time for Learning

The programme schedule provided ongoing time for learning and by doing so recognised that teacher learning is complex and interconnected with professional practice and existing professional knowledge and supported through reflection.

Intention

Providing teachers with extended time for learning was intended to shift the focus of the programme from the technical aspects of teaching (i.e. instead of just accessing practical ideas for classroom teaching, concentrate on teachers developing understandings about their professional role and their knowledge of practice). Extended time for learning allowed participants to notice how they worked to make sense of new ideas and information and how they demonstrated understanding through contextually relevant action. The extended programme timeline acknowledged that such learning is complex – teachers don't simply transfer ideas from any programme into their school setting. Time was provided to allow teachers to actively construct meaning through the critical lens of personal experience and support reflection on their knowledge and personal beliefs. It also, and most importantly, was intended to allow teachers to intellectually engage with the rigours of learning.

Operational Impact

The overall scheduling of the programme was not determined by the amount of content that needed to be covered, i.e. 'selling' particular ideas to teachers; instead the programme's learning experiences were designed to initially introduce alternative perspectives and experiences as springboards for professional discussion, and from those discussions teachers were supported in deciding on the issues that mattered in their professional practice and how best they could work with them. Teachers themselves determined not only how long they needed to work with new ideas but also when programme sessions should be scheduled to ensure that they had time for learning amidst their busy teaching responsibilities. Teachers' previous

experiences and expectations of professional learning, i.e. their familiar and known professional learning experiences, were sourced to determine a suggested timeframe for the programme.

Information obtained from the pilot study, involving past *STaL* participants, indicated that on the whole teachers valued the 5 day *STaL* programme model as effective timing for a professional learning programme – that is, 5 day spread across a 12 month school year period. Teachers found that timing feature allowed time for thinking and learning and allowed them to return to their workplace context and trial new thinking and ideas. With this feedback in mind, the *LSiS* programme intended to replicate this structure and was conducted over an extended period of time, i.e. 4 days consisting of one 2 day block and further 2 days spaced across months. Unlike the *STaL* programme, it was conducted over a 14 month period which ranged from October to the following November (see timeline information in previous chapter). This schedule situated the programme across two school calendar years and was intended to embed participants' action plans for change in the realistic dilemmas of a school planning agenda – moving from 1 year to the next. This timing was intended to raise the inherent leadership challenges of beginning a new school year facing changes in staffing and possibly the redistribution of roles and responsibilities.

Learning Impact

Providing an extended timeline for learning was a significant operational feature, as it appeared to support two key aspects of teacher self-directed learning:

- Aligning reasoning with action
- Valuing emerging expertise

Aligning Reasoning with Action

Operating the programme across an extended timeline as opposed to a 1 day programme provided teachers with time for formal input of ideas, collaborative debate, individual exploration of practice and a process of personal reflection:

> I think the days are well-spaced. I think you do need some time to be able to implement some things and have a bit of time to reflect on them. It's all worked really well. (Data Source: Interview 1. Georgia: p. 2)

The deliberate open scheduling of programme days and the overall duration of the programme were determined by teachers deciding the appropriate time they needed for learning and thinking, implementing and understanding change. The timeline was driven by teacher concerns about the most appropriate times to engage intellectually and physically with the rigours of learning; they felt it was important to schedule programme days at times when they were best able to concentrate on their learning and so they selected dates when less was happening at their school. They avoided times when events, such as external assessment programmes, camps,

parent–teacher interviews, report writing, etc., were taking place. The extended timeframe also ensured that 'in-programme sessions' could be supported by professional conversations with the programme facilitator in school-based meetings and these conversations appeared to provide ongoing support.

A connection between the personal and contextual dimensions of their professional learning was ever present and was clearly evident when teachers talked about the often present tensions between the demands of workplace responsibilities and attempting to achieve clarity of thinking and learning as a participant in the programme:

> I thought the timing of the first session was really good … it gave us time to think about what we would do and even to practice the use of the camera so that when we started the new year we would actually be ready to start in the classroom and that is what I actually did… I think maybe the timing of the further sessions was perhaps a little too spread out. While it gave us time in between it also allowed us to kind of stop thinking about the project that we were involved in at times especially when we get so busy in the day-to-day school life. (Data Source: Free talk – Maree)

Teacher input, late in the programme, indicated that more time was needed to develop school-based action, and so it was decided to extend the programme with one final day for reflection and collaboration. The final day was scheduled as an opportunity for participants to share their learning and reflect on the big ideas about leadership that had emerged as a result of this professional learning experience.

These timelines were not determined by the amount of time needed to cover predetermined content or by programme facilitators (as is more commonly the case in traditional PD programmes). Placing the decisions about programme timing with the teachers enabled them to notice the interrelatedness of intellectual engagement, teaching practice and learning. The decisions of programme timing, arrived at by the teachers, offers an indication about teachers' capacity to direct their own learning.

Valuing Emerging Expertise

The extended time for learning encouraged teachers to engage with learning as an ongoing process, rather than as isolated or technical activities. Over the duration of the programme, teachers continually worked to make decisions about what really mattered in terms of their thinking and action. Many came to value the expertise and insights they were developing about leadership and practice. As the following excerpt demonstrates, time allowed teachers to exercise discretionary judgement, refocus their thinking and explore ideas they hadn't initially anticipated were important. As a result teachers used the extended time to identify what their real concerns were and what mattered for their practice:

> I'm finding that it is a fascinating process because at the beginning I thought my project was about giving people support but I had no idea at the start of this process what support was. Now I'm starting to not really know what support is needed for different people, there aren't any rules but I'm getting much clearer about the cues that people give you and the cues that allow me to find out the type of support that someone might need and initiate the conversation, develop the relationship, have a good understanding and mutual respect. I think all of

> these things come from really spending time thinking about that leadership and having someone else come in and talk to you about it has been invaluable in refining what it is that you are doing in I guess making you that little bit accountable as well, it refocuses you. (Data Source: Free talk. Georgia: p. 1)

Extended time for learning also enabled participants to stand back and notice changes occurring around them as a result of their actions or interventions. Teachers' comments indicated they thought such changes were sustainable and perhaps such observations may not have been possible within a shortened or constrained programme timeline. Such observations as those made by Carol in the following transcript were indicative of emerging expertise which they valued and were willing to share:

> I think I've learnt a lot myself and I think when you learn a lot yourself and you're pleased with what you learn, you want others to come along with you. So I looked around the room today and I saw other staff members talking about things that they were doing, things they were enjoying and I realised that maybe … I've contributed more than I gave myself credit for at the time or over the last few months. I've not been giving myself a lot of credit but maybe things have been moving along in a nice not too fast way but in a way that will probably stay. (Data Source: Free talk. Carol: p. 1)

The extended programme timing supported teacher self-directed learning by giving participants space to think and time to build relationships and strategize new ways of working. Time was available for supported reflection and professional conversations; they made decisions about what mattered for their learning and valued the personal thinking that emerged and were willing to share their experiences with other teachers.

(D) Formative Programme Design

Teachers determined the programme's overall learning focus. The term 'formative programme design' indicated that the programme developed and changed across the year, providing learning experiences that were explicitly mindful of teacher knowledge and experience and which were responsive to teachers' expressed learning needs. The changes in learning focus grew from their expressed learning needs, and this information was gained from the opportunities provided for participants to collaborate with the programme facilitator to determine what they needed to know and how they would move forward with their learning.

Intention

The intention of the formative design was to effectively respond to teachers' learning needs in ways that connected learning experiences with the contextual reality of their particular teaching situation. With this in mind, the content focus, the design of the programme's sessions and the focus of a teacher's personal learning needed to be driven by each teacher's personal imperative, i.e. their individual desire to improve the aspects of science teaching and learning that mattered to them. Strategies

that positioned teachers as active participants working to determine the design and content focus of the programme became crucial to achieving this intention.

Operational Impact

The initial sessions were shaped by data obtained from the pilot study, and this information provided some starting ideas that were used in the first 2 days of the programme. This approach provided opportunities for teachers to consider and identify their personal learning needs and actively use this thinking to suggest the most effective ways to shape planning, format and content at each stage of the programme. The remainder of the programme continued to seek teacher input, and the programme provided sessions and experiences that were responsive to the expressed needs and interests of the cohort.

Learning Impact

A formative programme design was a significant operational feature, as it appeared to support the three key aspects of teacher self-directed learning:

- Self-efficacy
- Aligning reasoning with action
- Valuing emerging expertise

Self-Efficacy

> I like the fact that being leaders we've been able to deviate away from the programme as it's written down, we've been able to experiment with new ideas and not felt like we've been doing the wrong thing. (Data Source: Free talk transcript – Claudia (primary teacher), p. 2)

The selective entry process provided a strong foundation for formative programme design; it produced an identified cohort of teachers willing to utilise their leadership role to engage in school-based change in science education and who were, as a result, of the *STaL* programme, experienced in sharing their professional knowledge. The formative programme design built upon these experiences and provided further opportunity for teachers to take ownership of their learning and shape the focus for their personal learning and school-based action:

> Initially I thought I was on a science journey but as we've gone through the programme it's become much more about leadership, leadership in science but leadership generally. And looking at different styles of leadership and my own leadership style has been a real eye opener and part of the journey. One of the important things I think of this particular course is the dialogue between primary and secondary sector which doesn't get to happen…. I think it's been really useful for my leadership within my school and it raised a lot of questions about leadership for me and where I want to go and how I would lead as a leader so I've found the programme really helpful. (Data Source: Free talk. Helen)

This opportunity required teachers to address the complexity of their professional practice and take note of the relationship between professional knowledge and professional practice. Teachers became aware of the knowledge of practice they had developed through their teaching experience and articulated their thinking around that knowledge that led them to make decisions about the many dilemmas they faced in their contextual reality. Such thinking influenced how, as professionals, they worked to address these issues. The experience of making decisions about the learning focus of the programme appeared to influence their capacity to set professional learning goals for themselves:

> So much fantastic work is being done at our school that more people should know …so maybe that can be my goal as a leader in the school to make sure other people can see what a wealth of talent we have now. (Data Source: Free talk. Carol, pp. 3–4)

Aligning Reasoning with Action

The data indicated that the formative programme design valued and attended to the importance of professional awareness and attention in teaching. The programme was based on an approach to planning which created effective opportunities for teachers to develop personal sensitivities to their practice, articulate personal thinking, apply learning in contextually relevant ways and reflect to make sense of experience. This development of self-knowledge became the focus for learning, and this placed the teacher at the centre of the professional learning experience rather than as a recipient of a smorgasbord of 'potentially useful activities'.

The initial programme sessions were designed to support each participant to work towards developing an action research plan. The action research plan was intended to target a particular issue that captured a personal challenge within their leadership role. The project became a valued outcome of the programme because it was one way that teachers could practically focus their learning around issues or challenges that were present in their workplace context. However, to develop and enact their plan of action required them to also value the importance of the task, i.e. developing an awareness of how they worked. This required participants to think differently about their practice and to recognise that teaching, by its very nature, is dilemma based.

Working as a professional required them to continually attempt to address the dilemmas they recognised in their practice by analysing situations and drawing on their professional experience and knowledge to determine appropriate practice. Understanding teaching as problematic required teachers to disconnect from personal perspectives of competency or inadequacy and examine teaching as a discipline – a practice underpinned by professional principles. Participants talked about what they valued, and through the action plan, they examined their practice to determine if they were actually attending to those values. In this way they consistently worked to align reasoning with action:

> Thinking about what is going on at our school, thinking about what I'm going to share with the rest of the group and thinking about what is important, things like that I found really useful. Having to actually sit and reflect has been good too because it makes you actually sit down and do something which I think has been helpful as well because I wouldn't

> normally sit here and reflect perhaps on what I've been teaching or what I've been trying to do so doing that has been a good experience as well. (Data Source: Free talk. Sophie: p. 1)

Articulating principles, which underpinned their practice, appeared to be an important part of working effectively to address the concerns outlined in their action research project. Identifying personal values allowed teachers to mark moments in their practice where action was not aligned with these principles. The following excerpts provide examples of this type of thinking. For example, Joanne outlined a principle that she valued and then noticed an existing tension in her practice where she was required to lead the science learning as part of a rotation programme. Joanne alone was responsible for science teaching, and she was unable to inspire others to lead, while this planning and teaching structure was in place. This made it difficult for her to align her principle with her practice:

> **The principle:**
> I think good leadership is often about inspiring others to take up a challenge and not necessarily being the one out there being a leader or not necessarily being the one in the lab coat but encouraging others to find an interest or find a talent that maybe they didn't have, and getting further input and supporting people in that challenge. I suppose, maybe that's what good leadership is? (Data Source: Free talk. Joanne)
> **The tension:**
> I think six years ago our rotation programme really met the needs of what we wanted to achieve. We wanted to engage the boys, we had a high population of boys and we wanted to provide hands on learning opportunities, we wanted to have the students in gender groups so it strengthened up their friendships, especially the girls because we felt that they didn't have the numbers in their own class groups. At times I think that we are now just locked into this structure and we keep trying to make things fit to the structure. We started with just Grades 3 to Grade 6 then we moved to whole school and the schools got bigger and as the staff has changed. At times it frustrates me because I don't know if we're just trying to find an outcome to meet a programme that the students and the parents really value. I think in terms of teacher workload it's huge, it's a very different focus to what you plan for the rest of the week for your class and at times that's frustrating. (Data Source: Free talk. Joanne)

To support the development of their action plans, sessions focused on the work of teachers as researchers and provided time and assistance so they could begin to develop plans that were not only in line with what they wanted to achieve but that also ensured their vision was supported by data. Outside expertise[2] was sourced to enhance project design and provide quality teacher support. These plans became a work in progress, and initially teachers focused their thinking around specific challenges in their leadership. Over time it became apparent that many teachers worked to isolate the specific aspects of behaviour and professional thinking that enabled them to make sense of these challenges:

> James' session had a particular impact on me because it made me strip everything back and find out what it is that is driving me and what I really wanted to set out to achieve. I thought

[2] On the second day of the programme 'James', an academic, provided a session designed to support teachers with the design of their action research plan. James worked to meet the needs of the participants and sequenced information in response to teacher questions, comments, concerns and experiences. Teachers worked on their individual action plans, while James offered support and assistance.

> that at the end of that session that I had a fairly good understanding of where I wanted to go but I've changed that and I've changed it a lot. (Data Source: Free talk. Georgia: p. 1)

The data suggests that participants were undertaking an ongoing study of their own thinking and behaviours and that many developed the sensitivity needed to notice how they attended to and understood new ideas and situations. Programme content responded to their changing ideas and insights over time. Formative programme design became an operational feature that embodied flexible learning approaches and schedules. This flexibility created opportunities to provide genuine and relevant responses to teacher comments, ideas and suggestions. Learning experiences focused on content or issues that had arisen from teacher feedback, e.g. guest speakers were sourced to address issues associated with alternative ways of structuring internal operational procedures, collecting relevant data to determine success, etc.

The *Action Plan* template became a planning and reflection tool and a valuable data source informing session design and learning experiences. It also provided evidence that teachers were linking their learning needs with their teaching context. One of the questions on the template was: *What would you like to learn about/ develop in yourself as a leader by undertaking this project?* The following data, drawn from Anna's and Sophie's action plans, provides examples of the type of thinking teachers were undertaking about the connection between their professional knowledge and the demands of their workplace:

> I would like to learn how to ask the hard questions of myself and of others. I would like to learn how to better deal with and cope with teachers that are resistant to change. I would like to learn and develop strategies so that I feel more confident as a leader instigating change. (Data Source: Action Plan – Anna)
>
> How to deal with staff reluctant to change.
>
> How to get groups who haven't previously worked together/don't know each other well, working as an effective team?
>
> Increase my confidence in leading a group.
>
> Increase my knowledge of the curriculum links between primary and secondary. (Data Source: Action Plan – Sophie)

The school-based meetings conducted between the programme facilitator and each participating teacher also provided valuable information, which informed programme design. In response to the questions posed in these meetings, teachers made decisions about the challenges they faced in their leadership role. This information was collected and analysed and fed back to the participants so that they could review and further clarify any issues underpinning their experiences. From these conversations a number of recurring themes for learning kept emerging, and these included the value and challenge of building effective relationships, the need to redefine success, principles of effective leadership, the importance of gaining a different perspective about personal practice and the purpose of professional learning – was it about a product or a process? These themes provided a focus for session development and ensuing learning experiences. Specific leadership issues, as they emerged from these data sources, were addressed. Guest speakers provided input into sessions, and participants shared their experiences and listened to the challenges and successes of other participants. The following section provides examples of these

recurring themes and the type of teacher comments that came to define each theme. As this data was fed back to participants, each of the entries, taken from school-based conversations, was listed anonymously:

Theme 1: Relationships

'I guess the one that stood out for me was when the speaker was talking about relationships and I keep going back to that and the importance of that when working with large groups. At the same time that's been a challenge for me because I had really established great relationships with the staff at the end of last year and then with such huge turnover with new staff it's been really difficult to re-establish those relationships. And it also, I think, comes down to how open people are to have that relationship with you as well.'

Theme 2: Redefining success

'Being able to say this one worked and this one didn't and what did work and what didn't and keeping in mind that this is what I want it to look like in the end like … this is what I want it to look like at the end and then ok well we've made this little step today and that's ok, I've achieved that much.'

Theme 3: Personal principles

'So I think leadership is the sort of thing where there is a challenge every day and it's a different thing every day depending on what you're dealing with and remaining true to what you think a leader is and feeling that even though you might not have done everything right you've given it a good go. So that's been really hard to work out.'

Theme 4: Alternative perspectives – seeing things differently

'I think about things differently when its somebody else's story because you're not in it and you're not tied to it and you don't have the history or the blood sweat and tears that you've poured into something. It's easier to look at it from somebody else's point of view. You know someone could tell the story of my life in a different way and I think you could understand it but I don't think you are as emotionally attached to it.'

Theme 5: Professional learning – product or process?

'I think that's the way we are professionally developed. I think when we go to professional development they throw a programme at you they say this is the end result they say if you do A B C and D your students test results will increase and that's the way it is. So they give you a whole package but the whole package is not really what we need. We need … small steps.' (Data Source: Facilitator's Journal, pp. 15–19)

The emphasis the programme placed on ensuring that sessions and ongoing support specifically addressed teachers' expressed needs and interests, appeared to assist teachers in taking time to notice their practice and to actively attend to their own professional thinking within the busyness of their teaching schedules.

Valuing Emerging Expertise

On the final day of the programme, all participants shared the films they had created which documented their learning journey about leadership across the life of the programme. After each participant shared their film, the group discussed the emerging issues that were central to effective leadership and how each issue resonated with participants within the cohort. Data indicated that teachers valued the opportunity to learn from the experiences and expertise of others; this clarified their own expertise and professional knowledge:

I like the fact that we engage in conversation with a mixture of people, some of them obviously from secondary schools some from primary schools, we've had the opportunity to

> listen to speakers from private schools and all along I marvel at the fact that we really all think the same way, we want the same things but we fight different battles. (Data Source: Free talk – Carol)

Each film was interrogated in terms of the issues that were captured. From these issues participants were involved in a brainstorming activity to identify the most important aspects of leadership they believed must be addressed when attempting to effectively lead science in schools. The list of ideas was extensive and included 26 areas of leadership. By completing a 3,2,1 activity[3], participants identified their personal top 3 principles of effective leadership from this list. These were then collated to reveal the group's overall top three principles:

1. building relationships (overwhelmingly the most valued principle within cohort);
2. leading by example – enthusiasm/passion/taking responsible risks (extremely highly valued within cohort); and,
3. big picture, clear vision (a less consistent spread of support). (Data Source: Facilitator's Journal taken from information collated on the last day of the programme).

Relying on a formative programme design required teachers to share their professional thinking. That created a need to utilise strategies to develop teachers' awareness of their own thinking and their high level of professional knowledge. The diversity of thinking that emerged broadened the range of perceptions that could be accessed to enrich each teacher's thinking and understanding. Data indicated that when invited/probed to do so, teachers demonstrated the capacity to think beyond what they experienced in terms of activities and began to go deeper and articulate the role of their teaching context, culture and experiences. Teachers explicitly articulated how these factors shaped the thinking, values and beliefs that underpinned their practice. This deeper thinking is evident in the following data:

> Although I have been challenged what it has done for me is strengthen my own beliefs in pedagogy, in students' voice in action that matters, in teacher voice, so although I have been challenged by new features, new leaders, new relationships it has only strengthened my own personal and professional views and values. So I guess that is something I will take with me after this experience and also to never undermine the relationships in schools and the trust you put in people because when you put that trust in them they will always rise to the occasion and go beyond what you ever thought possible. (Data Source: Free talk – Claudia)

Teachers actively worked together to socially construct new understandings about teaching. They explored new thinking and made sense of alternative perspectives within the context of personal professional practice. Through critical reflection teachers developed and shared understandings about the changing nature of their personal professional knowledge, the relevance and influence of the contextual dimension of their professional practice and the importance of attending to the relationship between the purpose and the technical dimensions of practice. What

[3] The 3,2,1 activity was a simple sorting strategy to identify the most valued principles across the cohort. Each participant was required to select from the group list the three principles they believed to be the most important for effective leadership. Each participant then had to rank these principles from 1 to 3 where 1 = most important. Each participant then shared his or her top response and another list was created.

emerged was a level of professional expertise evident in teachers articulating new thinking and sharing professional knowledge about the complexity of teaching and the potential of such changes for enhancing student and teacher learning:

> I've had a lot of emotional energy invested in what I've been doing but the programme has really given me some insight and it's allowed me to step back when I need to and it's a really supportive project and I would not be anywhere near as able to lead people as what I can now without that support, without that input and without that time and respect. (Data Source: Free talk. Georgia, p. 2)

The above quote powerfully captures the essential purpose and intention of formative programme design, which was a catalyst for deep, individual teacher learning. As evident in the previous quote, the overall impact of the learning experienced in this programme was extremely personal and challenging. The data illustrated that as a result of this personal dimension of learning, participants began to notice and value their expertise, in particular their knowledge of practice, and they began to see the need to share their thinking with a wider audience.

(E) Open Facilitator Access

A large amount of the facilitator's time was devoted to providing ongoing support to all participants throughout the programme. Facilitator access was available during programme sessions and school-based meetings and constantly available via electronic medium.

Intention

The intention of the facilitator's role was to build effective, ongoing relationships with all teacher participants to enhance effective teacher learning. That required the facilitator to work to ensure that relationships were maintained and strengthened across the life of the programme and that trust and reliability were demonstrated through practical action. It became crucial for the facilitator to take time to learn about and fully understand the context of each teacher's work situation, quickly respond to teacher concerns or requests and find ways to support teachers to work towards the outcomes they valued.

Operational Impact

The facilitator became an advocate for the success of each teacher's work in their school setting, supporting conversations with school leadership. The facilitator also supported teachers to recognise the benefits of engaging in critical professional learning conversations on a one-to-one basis by meeting regularly or as needed with each teacher in their school setting. Both the facilitator and all participating teachers

were required to invest time in session attendance and school-based meetings. The facilitator worked to encourage teachers to self-organise their thinking, make decisions about what ideas mattered in their practice and how they would work to accommodate new perspectives and carefully document their learning. A range of strategies were utilised to achieve this which included the following.

School-Based Meetings

Over the life of the programme, three school-based meetings were conducted:

Meeting 1: A collaborative planning meeting between each participant, principal/designated school leader and facilitator. The aim was to outline the personal action plan and seek input and clarification in terms of expectations and school vision. As a result of that meeting, the participant reviewed their action plan and made any agreed alterations.

Meeting 2: School visit involving programme facilitator and participant was held between the first 2 day block of the programme and the third day of the programme. The meeting was conducted at the school in Term 1, 2010, at a time that was mutually agreeable for both participants. The meeting was intended to provide an opportunity for participants to discuss the effectiveness of approaches and strategies implemented in the first 2 days of the programme and share learning concerns and challenges. It was also at this time that the facilitator gathered further data from each teacher by conducting a short interview, which in turn shaped the content and approach of Day 3 of the programme.

Meeting 3: School visit involving a programme facilitator and participant. This meeting provided an opportunity for participants to discuss their overall learning journey and determine the focus of their digital story to be shared with the group on the final day.

(While three school-based meetings were scheduled for each participant, further meetings were also available upon request. Several teachers scheduled extra meetings to clarify ideas and generally seek assistance with their progress throughout the programme.)

E-Learning Communication Strategies

While school-based meetings were available, often teachers chose to make contact using the electronic communication strategies employed in the programme. It was made clear that the facilitator could always be reached via email and a Virtual Learning Environment established for programme participants allowing them to share information accessed through out the programme.

Learning Impact

Ongoing facilitator access was a significant operational feature, as it appeared to support two key aspects of teacher self-directed learning:

- Self-efficacy
- Aligning reasoning with action

Self-Efficacy

The school-based meetings and ongoing facilitator contact were a catalyst for supportive professional relationships, and it was evident that this operational feature produced strong professional relationships between teacher participants and the programme facilitator. Teachers recognised that the programme demonstrated a commitment to their individual learning beyond the face-to-face programme sessions and the data indicated that teachers came to see the importance of an ongoing professional relationship in terms of constructive personal learning:

> The hardest part I think of any PD where you are developing like that is when you're back at school – you don't have any contact, and with a lot of PDs that's it. And with this you've got a meeting coming up so you actually think about it a lot more and it really helps to make sure that you don't leave it as an idea, you actually follow it through and for me I've been motivated by that. (Data Source: Interview 1 – Georgia, p. 2)

This practical commitment of human resources was an investment in demonstrating that valuing teachers as learners was to the fore in shaping the programme, and the data indicated that teachers developed an increased sense of self-worth in response. Teachers began to see themselves as valued and worthy of such ongoing support and also recognised that the sector valued their work:

> I like the fact that I can contact you…. I like the fact that I can call you and you know who I am and if it's a small request or a large request whatever it is, I like the fact that you will have some background knowledge into what I do, who I am, where I am. (Data Source: Free talk – Carol)

As a facilitator it was essential that I developed genuine interest in and commitment to the teachers taking part in the programme. This ongoing support was a significant operational feature because for the teacher participants, it produced a sense of worth and permission to value their own knowledge and experience. This was a significant catalyst for building teachers' confidence and belief in themselves as professionals.

Aligning Reasoning with Action

The facilitator's role became far more than just a sounding board; as facilitator I actively encouraged teachers to consider aspects of their professional thinking, which were tacit in their practice, while also highlighting the inconsistencies between action and stated values. As facilitator I developed expertise working as a critical friend, a trusted person who determined when it was appropriate to ask

challenging questions and echo teacher comments so that teachers could re-examine their thinking and practice. While this was often a challenging experience, participants appeared to value these conversations:

> One of the best experiences about this programme is having our term's chats or our regular chats with Kathy [facilitator] the counsellor or our career counsellor, as I like to refer to her. That's definitely been a highlight because she asks the hard questions and it kind of gets you to reflect on where it is you're going and what's happening next. It puts it all into perspective I guess. (Data Source: Free talk – Keith)

As a result of ongoing contact, collaborative conversations and the trust that was developed between each teacher and the programme facilitator, participants demonstrated that they were able to make decisions about what mattered for their learning. The following transcript evidences one teacher working to clarify ideas and personal professional thinking and highlights the important support this teacher was able to obtain from myself as facilitator. The data is taken from my Facilitator's Diary and captures a series of ongoing email correspondence between Joanne, one of the teacher participants, and myself. The conversation is conducted through emails, at a time away from the programme sessions, and provides evidence of the willingness of this teacher to maintain open communication with the facilitator beyond programme sessions. The transcript provides evidence of Joanne making decisions about what matters for her learning, and it also provides evidence of the trusting professional relationship between the facilitator and teacher:

> **Email: Wednesday, 12 May 2010 9:46 AM**
>
> Kathy,
>
> Am looking forward to catching up with you. I think one of the biggest things that I took from last time was that I'm not sure if I want to be a leader. In some ways that disappoints me, but I realise that in some ways I don't have the passion I once did about science.
>
> Please don't think that I am ungrateful for all the opportunities I've had through *STAL* and this project – because they truly have improved my practice … just some thoughts anyway.
>
> Thanks again for all your support
>
> Joanne
>
> **Wednesday, 12 May 2010 11:51 AM**
>
> Hi Joanne,
>
> … your insights re leadership are really interesting thanks for sharing your thinking with me.
>
> …. I think that you are probably more of a leader than you realise – you're already being one. I watch you when we work together and I see the interest from other teachers when you are speaking. They are learning from you because you are innovative in your practice – you are willing to give new ideas a go, you share your successes and your frustrations and you listen, you reflect and you think – these are strong leadership qualities …
>
> I am sure as the year progresses that you will continue to think about how you feel, what you value and where you fit with teaching and other responsibilities, but I can assure you that I know that from working with you I learn a lot about teaching, leadership, science, relationships and education. I know this because you make me think differently about what I thought I knew.
>
> Regards,
>
> Kathy
>
> **Saturday, 15 May 2010 6:28 PM**
>
> Hi Kathy,

Thanks for your kind words …

My frustration is that I feel like we've done too much science! Or I have and maybe I need a change. Our innovative rotation programme that was so inspiring with its hands-on learning seems to lack purpose and we've put subjects in due to staff, not necessarily due to the learning focus. I think I find it frustrating because I'm limited in what I can do in a 45 minute lesson – it's not integrated into the rest of the curriculum and because no one else has a passion for it – I'm sort of burnt out after six years of doing it!!

I felt like other people sitting around the table the other day were more passionate than me and they were excited about making changes. I am looking forward to the national curriculum because I think it might give me an opportunity to shake things up a bit.

I think being a leader is sometimes knowing when it is time to step back or move on and I feel like I'm ready to move on from science in this structure. My challenge is convincing the Principal that a change needs to be made!

Food for thought

Take care

Joanne

Sent: Monday, 17 May 2010 7:13 PM

Hi Joanne,

Yes I see what you mean in fact I was speaking with a teacher in a workshop today who is a specialist science teacher in her primary school and the frustrations she was expressing were in some ways very similar to what you say. She felt that her work had become disconnected to the classroom work, she felt that the 45 minutes she has is too tight and nothing she did was being built on by the staff.

I think you're right too about knowing when to step back and rethink personal direction and/or interest. Thanks for sharing your thinking, if at any time you want me to come down and just have a chat with you over a cuppa just email me- happy to do so.

Kath

(Data Source: Facilitator's Journal)

The transcript (above) is significant because it demonstrates the importance of the open contact between the two parties. In the emails Joanne explores some issues around leadership and some very complex and significant insights she is developing about the place of science teaching and learning in her school and the importance of embedding that learning in teaching across all curriculum areas. That thinking was a significant shift for Joanne who had, up until that time, seen the existing approach at her school as very innovative. The doubts she expressed about her leadership ability to effectively lead practice towards the change that she had come to value, capture the challenges involved in establishing a shared vision for learning with colleagues.

Ongoing facilitator access/support created opportunities for teachers to discuss concerns at times that were personally significant. Critical moments of teacher learning emerged where participants explicitly articulated tensions and noticed the inconsistencies in their practice; they began to make the tacit more tangible and explicit.

(F) Embedded Diagnostic Programme Assessment

Explicit opportunities and strategies were embedded in the programme to collect information about what teachers felt mattered for their learning. This information was collected to ensure the programme was responsive to teachers' learning needs – which were changing and developing over the life of the programme.

Intention

Providing the conditions for teachers to make decisions about their professional learning was predicated on each teacher's individual capacity to identify, articulate and explore the significance of particular events and recognise the challenges within their professional practice. The intention was to find ways to continually monitor and attend effectively to such critical moments because it was assumed that when teachers began to connect new thinking with experience, then personally meaningful and contextually relevant learning might emerge.

Operational Impact

A number of explicit strategies were used to encourage teachers to reflect and make sense of their experiences, and these strategies were important because they provided feedback that was needed to ensure the programme remained relevant to teachers' learning needs and thinking.

These included the following.

Teacher Action Research Plans and Reflection Strategies

These artefacts captured information conveying how participants recognised and used their learning to influence associated school-based change and provided a focus for many of the facilitator–teacher school-based meetings.

Audiovisual Presentations

Teachers determined the purpose of their professional learning and then conveyed this through digital diary entries and a final visual story. These digital stories also provided information about how teachers recognised a change in their own personal learning, their perspectives and their own competency as leaders.

Learning Impact

Embedded diagnostic assessment was a significant operational feature, as it appeared to support a key aspect of teacher self-directed learning: aligning reasoning with action.

Aligning Reasoning with Action

Diagnostic strategies, which enabled teachers to reflect, consider and articulate the explicit professional principles that underpinned their professional practice, were extremely important in enhancing teacher learning. An example of this process in action was a '5 Whys' activity on Day 3 of the programme. Participants were asked the question: 'Why did you decide to participate in this programme?' Each teacher provided a written response and then interrogated the response they had constructed, building a new question to drive their thinking further. This process was repeated five times in all, and from each response a new question emerged which focused their attention to consider deeper issues embedded in their thinking. The result was that the initial response provided an insight into the original motivation for their involvement in this professional learning experience and the final response captured personal principles, which underpinned teachers' practice. As teachers worked through this activity, they actively made decisions, which connected their behaviour and their professional thinking with the purpose and intention of their practice and their learning.

The following data provides examples of how this activity enabled teachers to clarify their professional thinking and identify personal principles of practice:

> (First response): I was asked, I liked how the previous PD was run and it sounded interesting?
>
> (Final response): I believe leaders look for solutions to problems or guide others to find their own solutions by asking the right questions.
>
> I think the school might see this as a desirable quality in a leader because it's working in a positive/constructive way. (Data Source: 5 Whys sheet (final answer) – Georgia)
>
> (First response): To become better at leading a science department.
>
> (Final response): Because I want them (teacher colleagues) to feel that their time and work is valued and they can and do make a difference to other staff and students. (Data Source: 5 Whys (first and final answer) – Anna)
>
> (First response): To move into a formal position of leadership.
>
> (Last two responses): Allow students to have access to greater success at [School name] and education for life.
>
> That is my goal I continue to strive for in teaching. (Data Source: 5 Whys (first and final two answers) – Keith)

It was because the programme deliberately embedded and responded to such acts of reflection over the life of the programme that teachers appeared to develop an awareness of their own professional thinking and knowledge. Gathering information about this change in awareness was essential to ensuring that the programme

provided learning experiences and interactions that stimulated thinking in ways that responded effectively to these expressed needs and interests:

> I think what I've liked about it the most has just been reflecting back and thinking about what we do within the school and reflecting back on my teaching as well. I've enjoyed meeting up with other teachers who are doing the projects and just hearing about the things that are going on at other schools as well. Thinking about what is going on at our school thinking about what I'm going to share with the rest of the group and thinking about what is important, things like that I found really useful. Having to actually sit and reflect has been good too because it makes you actually sit down and do something which I think has been helpful as well because I wouldn't normally sit here and reflect perhaps on what I've been teaching or what I've been trying to do so doing that has been a good experience as well. (Data Source: Free talk. Sophie)

As is evident in Sophie's transcript (above), her professional learning was an individual experience while also being a collective, interactive experience. To effectively achieve these conditions for learning, information needed to be continually gathered and analysed to determine the decisions teachers were making about what mattered for their learning. This process required time, reflection and a focus on what teachers were thinking and doing. It was also essential that this information was used to inform programme design in ways which ensured that the learning focus continually evolved to remain relevant and meaningful to teacher participants.

Chapter Summary

This chapter has attempted to explain the six operational programme features that enabled teachers to make decisions about what mattered in their learning. These features were identified from the analysis of a range of data sources which revealed these operational features acted as catalysts, stimulating a change in teacher thinking or behaviour. Collectively these features were interdependent parts of an overall strategy designed to position teachers as self-directed learners. Under these conditions teachers demonstrated an increasing sense of professional identity, the capacity to articulate personal principles of professional practice and the capacity to align personal professional reasoning with action and recognise the importance of their emerging expertise. This thinking and behaviour came to define the nature of teacher self-directed learning.

Chapter 6
The Role of a Learning Facilitator

Abstract The role of the facilitator became an important operational feature in this programme and was characterised by actions and intentions different to those traditionally assigned to facilitators in professional development programmes. This chapter strategises this role in terms of the actions that became essential in both programme sessions and working with teachers in school-based meetings that enabled the facilitator to act as a conduit between teacher thinking, programme design and meaningful teacher learning. It was the facilitator's role to anticipate, determine and capitalise on moments which empowered teachers to make decisions about action and learning that was personally meaningful. These actions were essential for programme success and required the facilitator to break out of habitual behaviours and critically analyse, in action and retrospectively, the most appropriate actions to support teacher learning.

Introduction

This chapter attempts to strategise the role of the facilitator in a programme designed to position teachers as self-directed learners. Data analysis revealed that this role became a conduit between teacher thinking, programme design and meaningful teacher learning and was therefore essential for programme success.

As the facilitator in this programme, it became my role to anticipate, determine and capitalise on moments which empowered teachers to make decisions about action and learning that was personally meaningful. This required me as facilitator to break out of habitual behaviours and critically analyse, in action and retrospectively, the most appropriate actions to support teacher learning. Therefore, the role of the facilitator is an important operational feature characterised by actions and intentions different to those traditionally assigned to facilitators in professional development programmes.

K. Smith, *Teachers as Self-directed Learners*, Self-Study of Teaching and Teacher Education Practices 18, DOI 10.1007/978-981-10-3587-6_6

Findings

Overview

All aspects of the facilitator role worked to create conditions conducive to teacher self-directed learning. The role was intended to enable supportive relationships to develop among all participants that would enable the facilitator to become immersed in the complexities of teacher professional thinking. As facilitator, I was required to use this information to explore effective ways to encourage teachers to articulate new ideas and position new thinking and approaches amidst existing pedagogy. It was hoped that the knowledge and particularly the considered actions, which grew from this role, implemented in the context of the overall programme design, would ultimately enable teachers to redefine an individual and more empowering perception of professional learning.

In an attempt to hone the skills required to undertake this role successfully and align action with intent, I maintained a facilitator learning journal over the life of the programme. The journal provided a rich source of data about the complexity of the issues that informed personal action, the tensions between habitual behaviours and the action of effective teacher support and the process of constructing new understandings and insights over the life of the programme. The transcripts of the final day of the programme are also significant, yielding insights into the facilitator actions in practice. As facilitator, I was required to thoroughly review all data throughout the programme and determine how this information could be used to inform my own practice and the overall operation of the programme.

Operational Feature: Facilitator Actions in Programme Sessions

Data indicated a number of specific facilitator actions that were important in the group programme sessions because they empowered teachers to make decisions about their learning. These actions, very deliberately, opened learning opportunities and positioned teachers and their professional expertise at the centre of discussions and activities. I found that adopting these preferred facilitator behaviours took time, required awareness in action and became a work in progress. These actions are summarised in Table 6.1 and are contrasted with that which could be called accepted or habitual facilitator actions, which maintain teacher dependency on facilitator-directed learning. In reality, I aimed to move my behaviour as a facilitator along a continuum of awareness from left to right (refer to Table 6.1). The actions listed are strategised ways of thinking about both the principles underpinning each facilitator action and indicators that such actions were present in practice.

Table 6.1 Facilitator actions

In session – facilitator actions	
A continuum for developing practice	
Facilitator-directed learning	Teacher self-directed learning
	
(Effective facilitator behaviours)	
Principle of learning: Authority, expertise and control of professional learning reside with facilitator.	*Principle of learning*: Professional learning occurs when teachers and facilitator work together, experience and expertise reside within the group, and everyone is equal.
Action: Dominating physical presence evidenced by facilitator location at the front of the room.	Action: Reserved physical presence evidenced when facilitator sits with, and works alongside, teachers.
Principle of learning: Facilitator is the single entity of the learning.	*Principle of learning*: Learning is personal therefore each teacher must be valued as an individual and attended to on that basis.
Action: Disconnected from group; evidenced when little or no effort is made to actively learn names or meet and greet participants.	Action: Works to build relationships; evidenced in attention and time taken to learn participants' names and efforts to refer to each participant by name throughout the programme.
Principle of learning: Teaching is about using time to deliver information.	*Principle of learning*: Teachers must find their voice and recognise their own level of expertise.
	Principle of learning: When sharing and examining personal experiences, each teacher is more likely to develop meaningful and relevant professional knowledge.
Action: Imposing presence evidenced in a voice that is often deliberately loud with a great deal of facilitator talk. Facilitator voice dominates session. Voice is used to explain ideas to teachers and teachers are invited to answer specific questions, usually closed questions.	*Action*: A reserved presence evidenced in a modulated voice intentionally kept at conversation level. There are obvious and deliberate breaks in facilitator talk within whole group. Voice is used to invite teachers into discussion or echo teachers' comments to draw attention to underlying issue.
Principle of learning: Professional learning is about teachers finding out what matters to the facilitator and successfully feeding that back to the facilitator.	*Principle of learning*: The diversity of teacher thinking and experience enhances professional learning.
Action: Judgemental responses evidenced in the type of facilitator talk; teacher input is met with responses such as 'great idea', 'you're right', 'not quite what I was thinking', etc.	*Action*: Withholds judgement; uses open, non-judgemental responses to teacher questions and comments, e.g. 'thanks for sharing that idea', 'that's interesting tell us more', etc.

(continued)

Table 6.1 (continued)

In session – facilitator actions	
A continuum for developing practice	
Facilitator-directed learning	Teacher self-directed learning
	
(Effective facilitator behaviours)	
Principle of learning: Effective professional learning predetermines content and delivers information deemed useful for participating teachers.	*Principle of learning*: Learning occurs best when thinking is stimulated and when the learning environment actively responds to teachers' learning needs and interests.
Action: Rigid approach to content and planning following a 'sequential' format for learning determined in advance by the facilitator. Facilitator works to cover content regardless of teachers' intellectual engagement or motivation.	*Action*: Flexible approach to dealing with content; facilitator values time for teachers to share and discuss ideas. Facilitator 'reads the audience' and identifies levels of interest and involvement and adjusts content and approaches accordingly. Intellectual engagement is more important than the content or the timetable governing what should be covered.
Principle of learning: Professional learning is about promoting ideas valued by expertise external to school context.	*Principle of learning*: Professional learning is about supporting teachers to understand the professional thinking which drives their professional practice.
Action: Promotes one idea; may expose teachers to a range of options but essentially promotes an idea most valued by facilitator. Works to convince teachers of the value of the given idea.	*Action*: Values diversity of thinking; facilitator exposes teachers to a range of ideas and values teacher choices and their personal thinking. Takes time to explore teacher thinking in relation to the range of ideas.
Principle of Learning: Facilitator holds expertise and imparts their personal understanding of an issue or idea to teachers through personal experience as a context for representation.	*Principle of learning*: Effective professional learning encourages participants to find a connection to new information and make sense of that in relation to personal experience and professional thinking.
Action: Imposes understandings; facilitator shares an idea, asks open-ended questions but then dominates most of the talk in the conversation by setting a specific context of personal experience which is biased and value laden, i.e. either supporting the value of the idea or exemplifying the weakness of the idea. Facilitator may pose questions but will eventually explain the 'correct' or preferred answer.	*Action*: Creates opportunities for teachers to construct personal understandings; facilitator shares an idea, asks open-ended questions allowing participants to place information in the context of their own personal experience and invites further questions for consideration.

(continued)

Table 6.1 (continued)

In session – facilitator actions	
A continuum for developing practice	
Facilitator-directed learning	Teacher self-directed learning
	
(Effective facilitator behaviours)	
Principle of Learning: It is important to nurture teacher dependency on external expertise.	*Principle of learning*: Professional learning is about empowering teachers to utilise their professional thinking to make connections that are personally meaningful and relevant.
Action: Explains meaning and provides answers; always explicitly links ideas/issues together, feels compelled to explain and provide answers. Disregards teacher input.	*Action*: Linking learning: facilitator decides when it is appropriate to provide additional information that may assist teachers to link ideas/issues across learning experiences or personal learning. Decision making is based on evidence of the need for such intervention.

Changing Skills and Expertise

To undertake the role of facilitator effectively required me to develop new expertise including a high level of sensitivity to teachers' learning needs, an evolving understanding of the relationship between personal behaviour and conditions for effective learning, a critical sense of judgement about the presence of awareness and attention in learning and an ongoing disciplined inquiry into personal practice. This expertise was developed as I worked to find ways to: build relationships; listen; interpret teacher comments and conversations; respond to teachers' thinking; support, challenge and encourage teachers to think; and, implement contextually relevant action.

Exploring examples of my work in session time demonstrates some of these principles of learning as actions in practice. The following transcript taken from the final day of the programme demonstrates how as the facilitator I fed back to Joanne her idea around school-based support. In this instance, I concluded that it was appropriate to provide additional information that may have assisted Joanne in linking ideas and issues from learning experiences to her personal learning. In doing so, my actions were designed to empower Joanne to utilise her professional thinking to make connections that were personally meaningful and relevant.

> Joanne: So is that about leadership having a clear understanding about what you require or what you're trying to achieve? I'm just thinking maybe in hindsight in our school, with all the different things that were happening, maybe it wasn't the best idea to send someone to this programme because there was no other time to discuss it, like it has made small changes within the school but it needs to be more than just on the surface. So what I'm doing is great because it's so great and I've got a flip camera and everyone's got a flip camera but that's about it, like there's been no leadership support, no time to say what are we going to do with this footage? People are just putting it on to the server and that's it. So yes I've got support and everybody has got a camera but that's it.

> Facilitator: But maybe what I'm hearing you say there is that your understanding of the support you need now is much more complex than the way the school thinks about support? "We'll support Joanne because she's got this camera, so if we all get a camera we'll all be sharing a similar experience" and yet the way that you're thinking about support now is much deeper than that, it's not about the 'things' that you get it's about the conversations that need to go on, it's about the encouragement. You said you need time for talking about what you've been experiencing here so maybe that says something about the culture of the school and the way they think presently about what support means. What do you think about that?
>
> Joanne: Yes I think so. (Data Source: Transcript 1 final day – Joanne, p. 1)

Another example of this action in practice is in the following transcript, again taken from the last day of the programme. This time, as the facilitator, I worked to link ideas across participants' thinking to enable them to see an issue which was personally significant in someone else's context.

> Georgia: I think sometimes you want to jump in and just solve what's going on but you're right people have to come to their own conclusions. I always just take deep breaths and as you say just let it resonate and I think it is a difficult thing to do to know when to not say anything it's something that you learn to do.
>
> Joanne: I think it's empowering in a way because I think most of the time I am the biggest rescuer of people like if they are having a problem. I know I help them all the time and that's just my way of helping them, but in a school setting I have really had to learn, and that has been feedback from the school and other people, that I can't get in the hole with people I need to stand on the edge and be the support and help them out but not get in the hole and get dragged down and stuff. And also, with particular personalities on staff, sometimes offering them too much help doesn't help them, it doesn't help them, it doesn't empower them to change, they just keep relying on you to constantly be that person but when you actually give them the skills you don't do it for them and that's in that listening and observing yes in some way I hope they come to their own answers and work it out for themselves.
>
> Facilitator: That's a really nice metaphor standing around the hole and helping someone but not getting in the hole too. So what we might be saying is that the action is listening but the principles might be embedded in why I sit and listen and this is quite different. As Georgia said it is about people having to work through it and come up with the solution, it's giving people space to do that, so yes we listen and listening is important for a leader but we do it with specific intentions in mind. What about some of the other things you said – working as part of a team - what were the challenges that emerged for you that made you realize that working as part of a team was really important? (Data Source: Transcript 2 final day, p. 1)

Exploring Facilitator Skills in Practice: School-Based Meetings

The school-based meetings provide a rich example of interactions where the facilitator was required to utilise specific skills and adopt a collaborative and supportive disposition to promote teacher self-directed learning. In these meetings, as the facilitator, I was required to meet with teachers at their school at a time that was mutually convenient. I talked with teachers about their thinking and events and helped

them identify the significance of these experiences. This required me to listen and attend to each teacher on an individual basis and encourage participants to move forward with their thinking and their practice in ways that were personally relevant. These meetings usually lasted 30–40 min (or longer), and the reflections captured in the Facilitator's Journal provided a record of events and insights.

The effectiveness of enacting the role in these situations relied heavily on a capacity to provide support that was meaningful for each individual teacher. Doing so required me to identify the degree to which teachers demonstrated personal awareness and attention in thinking and learning and support them to further develop that aspect of their practice. To do so, as the facilitator, I needed to demonstrate:

- patience;
- openness to building personal connections including a willingness to accept a range of viewpoints;
- active listening attending to all information input including the spoken word and body language;
- maintained concentration, i.e. keeping the teacher as the focus of all conversations; and,
- an ability to sort through the information teachers shared to identify the underlying issues or critical concerns of a teacher's experiences.

These meetings provided an opportunity for teachers to convey many of the challenges and frustrations they were experiencing. The type of information they shared often reflected the habitual expectations and thinking they had established about their role as a learner, i.e. passive and looking for answers from those outside their teaching context. Such expectations had often been developed from previous professional development experiences. Moving them beyond these established expectations and empowering them to be active agents of change was sometimes difficult. It was essential that the facilitator continually worked to develop the skills and expertise needed to assist teachers to achieve such change.

The following entry from the Facilitator's Journal conveys my efforts, as programme facilitator, to reposition Megan in a role of ownership, empowering her to let go of some of the beliefs she held about professional learning and that which defined her as a teacher. (It is interesting to note the decisions I make about the role of the camera and the film in this teacher's learning at this particular point in time.)

While each teacher intended to capture ongoing reflections and finally a digital story about their learning journey, Megan saw these requirements as merely extra activities, and, in response, I diminished the importance of these tools to refocus Megan's thinking about the learning that really mattered to her. The entry demonstrates the importance of a facilitator's capacity to both demonstrate concern while also finding ways to move a conversation beyond being about emotional responses to situations. In this conversation, I was able to move an emotionally charged meeting to develop some general ideas about teacher professional learning. This became a moment of personal learning, which I clearly articulated at the end of this entry.

26th July 2010

I've just come from a session with a teacher and I'm quite fascinated with some of the issues that have emerged from that meeting. This teacher was quite distressed about how she couldn't operate the camera, she hadn't captured any reflections. Nothing she had done was 'successful'. Her terminology was this programme was like she had discovered a scab and she'd scratched it and she wished she had never touched it because all this puss was oozing out and the problem had got bigger, All of these other issues had emerged, she wasn't happy, she wasn't doing anything right, "it's been a disaster".

We talked at length about what was happening with her, I said, "Forget about the camera, the camera is there to support reflection, to get you thinking about some of these things, to help you identify the things you value, what you don't value, it's not meant to be an added pressure." What was coming out of this meeting is the fundamental thinking about professional learning which drives teacher behaviour and I find this really interesting and this is an observation that I have made from a lot of these meetings. Teachers perceive professional learning as producing a successful product and so professional learning is about following a series of steps which produce something very successfully. Alternatively, it's about turning up in the last session and being able to say look what I did and it all worked out really, really well. Professional learning isn't viewed as a process; professional learning isn't viewed as thinking about your practice and the person you are in teaching, professional learning [is being seen as] … going to a programme that has an end point and the end point is that you actually affect a difference with something.

The reality is, in my view, that the teachers who are a part of this professional learning experience will find that leadership is much more difficult than what they thought it was or much more difficult than has ever been described to them. I think in reality they will start to feel that they themselves have a set of principles and values, which they bring to their position, which is sometimes compromised or pressured or constrained by the expectations of other people around them. A number of dilemmas or tensions may emerge for them from this programme and the approach of this programme. These tensions might be around how they make decisions about finding a balance, if that's even what they want to do, between what they value and see as important in leadership and what the system demands of them or expects or how the system has always operated, not because it's the way everybody is happy with but it's just the way that it's always been done. So the insight for me is that when teachers start to take control of their professional learning they start to model it on what they've experienced before even though they don't really like it, it's only what they know. (Data Source: Facilitator Journal)

The difficulties in the conversation captured in the entry (above) contrast with my account of an exchange with Georgia in the following journal entry. Georgia is a reflective teacher who faced challenges as learning opportunities and who constantly developed new thinking and understandings. In both entries, it is evident that I am always trying to find ways to make sense of how each teacher was processing experiences and information and the entries reflect both concern and appreciation of the difficulties faced by each teacher.

4th November 2010

I have just had a meeting with Georgia who is for me one of the most inspirational teachers in the whole programme, she is a real thinker and she has already started to think about the principles of leadership that she really values. She has gone way beyond just doing the activities and making the movie and has really started to distil leadership down into not only principles but I guess it's a philosophy, things like 'its not about me but it starts with me', 'there's no manual you just have to learn through experience'. There is quite a list of ideas she had. I find her to be really interesting, she really listens and she goes further with the comments that I am able to contribute. She is very reflective and she sees reflection as a really important part of her practice, even though she has been in quite a difficult

> position this year in terms of her leadership where she has taken on roles that required her to work with difficult people at times, and be in positions that are rather vague and challenging. She has continued all the way through to think about the ideas that we have talked about in the sessions, she has tried to share some of those ideas with other people, she has tried to really use those ideas to shape her behaviour and her beliefs about good leadership and the ways that she interacts with other people. (Data Source: Facilitator Journal)

It is clear that as a facilitator I needed to employ specific actions and thinking to position teachers to take ownership and make decisions about their personal learning, and when I did so successfully, the facilitator and teacher became collaborators in the evolving professional learning experience. The actions outlined above and the examples of my own thinking, learning and the connections I was making to practice in action were important in terms of understanding more about how such a role is conceptualised and enacted to become a key operational feature of the programme. This information demonstrates how the facilitator role required actively attending to teachers as self-directed learners.

Chapter Summary

This chapter has attempted to position the role of the facilitator as an essential operational feature of a programme designed to position teachers as self-directed learners. As facilitator, I continually worked to listen and attend to each teacher on an individual basis and encouraged participants to move forward with their thinking and their practice in ways that were personally relevant. The facilitator's role is therefore about supporting teacher learning in programme sessions by opening learning opportunities that position teachers and their professional expertise at the centre of discussions and activities.

Learning support continued for each teacher in his or her own school context through school-based meetings. In those meetings, I worked to develop the required skills to enable teacher talk about professional thinking and events to become a learning experience designed to help them identify the significance of their experiences in terms of contextually relevant action. In both programme sessions and in school-based meetings, a large part of my role as facilitator was to continually gather data, monitor and work to make sense of how each teacher was processing experiences and information.

In the PL programme at the centre of this study, facilitator actions were designed to utilise strategic approaches that might enable meaningful self-directed teacher learning – an intent that informed practice in ways that it could well be argued is different to that of facilitators in traditional professional development programmes. This role was an essential operational feature of this programme.

Chapter 7
A New Way of Operating: Emerging Challenges for Traditional Practice

Abstract A number of tensions and challenges emerged for all stakeholders as they attempted to work differently in this professional learning experience. This chapter builds on the information in the previous chapters in this section and identifies and explores the nature of the challenges that emerged for the sector, the teacher participants and the facilitators. The chapter discusses how the operational features that actively positioned teachers as self-directed learners placed different responsibilities on teachers as learners and support personnel, requiring them to redefine their values, expectations and ultimately their behaviours in professional learning.

Introduction

The previous chapters in this section provided a description of the intention and impact of specific operational features in the *LSiS* programme. This chapter attempts to identify and explore the nature of the challenges that emerged when these features were implemented within the operational space that it could be suggested, traditionally define teacher in-service education. Generally unquestioned modes of operation frame traditional teacher in-service programmes such as practice follows a top down model; focus is on teacher attainment of predetermined learning products; and the overall intention is to measure success based on improved student learning outcomes.

The operational features that defined the *LSiS* programme moved away from the traditional model and instead aimed to support teacher self-directed learning. In so doing, different responsibilities were placed on the teachers and support personnel requiring them to redefine their values, expectations and ultimately their behaviours in this professional learning programme. Inevitably tensions arose on a number of levels: the sector, the teacher participants and the facilitators. This chapter discusses these tensions and the challenges that emerged.

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Challenges at a Sector Level

Traditionally at the sector level, the value and success of in-service professional development programmes have been measured in terms of cost analysis, teacher outreach and student impact. An assumption appears to prevail that effective teacher PD programmes are those that deal with large numbers of teachers and achieve this wide outreach with minimal expenditure. If these outcomes are achieved, then it is assumed to have provided a quantifiable return for sector investment. Such assumptions tend to determine routine operation and as such created a significant challenge for the proposed operational programme features developed for the *LSiS* programme.

Under normal operating conditions, the *LSiS* programme would have been unlikely to have been approved as it required an intensive investment of money, time and professional expertise for a small cohort. By making an exception for this research project, the sector ensured that an unusually large financial investment, similar to that aligned with larger programmes, was maintained for a small cohort. The investment enabled the programme to create conditions whereby teachers themselves were effectively empowered as the key decision makers in their professional learning experience.

The flexible timing of the programme also challenged existing sector practices. While the programme developed across a 5-day format, the overall timeline was determined as the programme progressed, and the flexibility the approach required initially created conflicts in relation to 'usual sector planning procedures'. A requirement of sector PD protocols is that external PD programmes advise central office and schools of all session dates in advance of programme commencement. In so doing, it ensures the time allocated to each programme can be recorded for teacher registration purposes and also allow schools to receive advance notice of programme dates. Such a process assists with the organisation of replacement teachers to cover participants' absence from school. However, in this research project, the programme was initially advertised to schools with confirmation only of the dates of the first two days, and while it was explained that the dates of the following days would be announced, schools and teachers found the uncertainty around dates difficult to manage because of existing structured school routines. The unanticipated nature of the programme's timeline was a significant shift from accepted procedures, and while all participants were able to attend all programme days, the format was initially problematic for the sector and school-based administration processes.

Another challenge that emerged for both the programme and the sector was the identification of science leadership roles in school settings. Although the participating teachers were all undertaking positions of leadership in science within their schools, the selection process found that a position of school-based leadership, as it applied to science teaching and learning, was not consistently designated across all schools. In secondary settings, the role of 'science coordinator' reflected the types of responsibilities pertinent to the programme's intention of leading school-based change; however, not every secondary participant was undertaking such a role. Some teachers were year level coordinators who were in a position to work with

colleagues to rethink science teaching and learning at certain year levels. Primary (elementary) schools rarely designated a science coordinator role; instead the 'teaching and learning coordinator', 'curriculum coordinator' or again 'level leader' indicated a position within a school where responsibilities included leading planning discussions around teaching actions. The roles and responsibilities, the time allocations, the expectations of performance and the challenges and tensions each teacher experienced in relation to their role differed from school to school.

In this research project, the sector valued the nature and quality of the learning experience the *LSiS* programme provided. Project officers, located in the central office, worked to accommodate the challenges that alternative operational features created for programme implementation. By doing so, the sector demonstrated a shared value in terms of positioning teachers as decision makers about their own learning, their practice and, ultimately, change at the school level.

Challenges for Teachers

In many programmes, facilitators pre-plan and control programme design. The assumption underpinning such a model is that the facilitator is best positioned, due to their recognised expertise, to determine what teachers need to learn and how that learning should occur. In this (common/traditional) scenario, teachers are 'professionally developed' through the work and ideas of programme designers and facilitators. The *LSiS* programme set about to reposition the notion of expertise and actively place the decisions about the focus of learning with the participating teachers.

Some of the greatest challenges to these changes emanated from the preconceived ideas teachers had about their role in professional learning. Teachers based their expectations on what they had previously experienced, and most teachers began by adopting a passive role as a learner, happy to place decisions about programme content firmly in the hands of the facilitator. Changing that scenario required teachers to be willing to undertake a new role that demanded more intellectual engagement. Such an expectation was sometimes met with uncertainty and resistance, as illustrated in the following transcript in which Joanne reflects on the challenges she faced as she attempted to understand and work differently through the *LSiS* professional learning experience.

> Joanne: I remember saying to you, "What do you want? What do you want from me? Why are you giving me this accommodation? Why?" And I think we really get focused on that end product and even I will go, "Oh what do you want me to film? Do you want something sciencey?" It's not enough for me to just go with the process even though I know that is the best way, that is a change of thinking because I keep thinking I have to do something really good or they'll take my camera back off me or why are you giving me this accommodation? You want something from me and that is the way we're conditioned isn't it? But with the spacing of these programmes and with the thinking and with gradually introducing things, just one thing, yea I think it makes a difference. (Data Source: Interview 1, Joanne p. 4)

Data such as that from Joanne (above) suggests that, initially, teachers found it difficult to understand different approaches to professional learning because they did not see more traditional PD approaches as problematic in terms of their own learning. It could be argued that teachers are happy to continue the role they know and at times resist attempts by programmes to hand ownership of learning over to them. The challenges participants faced in developing new learning behaviours in the *LSiS* programme reflected the way their previous experiences had been 'ingrained' and led to enculturated ways of operating as 'PD learners'.

It may well be fair to suggest that teachers are not typically encouraged to critically reflect on the features which frame professional learning programmes, and if so, it is understandable that for many the first challenge as decision makers is finding a reason to make decisions, i.e. a reason why they should think and work differently in professional learning.

LSiS created a new role for participants which required them to explicitly consider and accept that a new purpose for personal learning could be as advantageous to them as learning about the 'what to do' of teaching. Previously, professional development experiences typically provided practical ideas, resources and activities, that is, programmes maintained a strong focus on the technical aspects of teaching. In the *LSiS* programme, teachers were asked to focus their learning on the process of their professional practice, in particular, why they worked in certain ways and what informed their decisions. Through *LSiS*, professional learning was about enabling participants to undertake disciplined enquiry (Mason 2002) into their professional practice. As the data cited throughout this chapter consistently illustrates, teachers had to 'live the experience' to value the change these new features could deliver, not only in terms of their professional thinking and practice but also in terms of their self-esteem and confidence.

Challenges for Facilitators

Facilitators also bring their previous experiences and preconceived ideas about their role to bear on their practice, which inevitably impacts how they behave and interact with teachers as they work in professional learning programmes. Typically, PD frameworks can be interpreted as positioning facilitators as experts responsible for:

- helping teachers understand things they need to know and to become better at what they do;
- determining specific content – identifying a range of ideas they consider valuable for teachers to know more about and selecting the teaching strategies that will be most effective in helping teachers understand such ideas; and,
- controlling the learning – working within areas of content that they personally feel confident with and in which they feel they have developed a degree of recognised expertise.

Creating alternative conditions for facilitators, which allow them to be open and willing to change the nature of the relationships that underpin their role, is crucial to shifting from a PD to PL perspective. The facilitator needs to work collaboratively and cooperatively with teachers. While such a role is fundamental to teacher self-directed learning, undertaking a role which responds directly to the expressed needs of teacher participants is clearly difficult and unpredictable, and I was required, as facilitator, to effectively find strategies which dealt with my own uncertainty and corresponding teacher resistance.

Such a new facilitator role is a work in progress, and through the *LSiS* project, it has been conceptualised, developed and enacted across the life of the programme. There were no established guidelines to shape facilitator actions. Facilitator-teacher relationships based on equity and sharing to minimise 'power positions' became essential, and facilitator action had to evolve to nurture such trust and openness. The process required a time commitment to teacher learning beyond the face-to-face programme schedule and involvement in ongoing open communication and interaction. Finding the personal confidence, time and effective ways of working with teachers required commitment and persistence.

Maintaining teacher ownership was also problematic as the *LSiS* programme relied on appropriately accessing and responding to teacher thinking to inform programme design. An example of the difficulty this operational feature created for facilitator practice related to the need to source and implement a variety of activities to prompt teacher reflection throughout the programme.

In the *LSiS* programme, such strategies included 5 whys, lotus diagrams, listening to learn sheets and free talk. (Examples of 5 Whys and Listening to Learn sheets can be found in Appendix 4.)

One of the challenges that emerged through this research was the intention to build teacher capacity to take ownership of their own professional learning and the facilitator's need, as a researcher, to access teachers' thinking to monitor views of, and responses to, practice. Therefore, it was recognised that this dilemma, i.e., seeking to access very personal reflections and insights into personal thinking and understanding while enmeshed in a pedagogical relationship, could potentially work against the very intention central to the programme and the research. The situation needed to be approached with respect, acknowledging teachers' rights to operate safely without inducement or duress. Thus, after a reasonable amount of time had passed (i.e. 2 weeks) following the completion of the reflection activity, the teachers were contacted, and their permission was sought to share their responses.

Chapter Summary

While teachers may expect that PL programmes provide outside expertise to address some of the situations they face in their teaching, this programme provided a very different learning experience. Rather than nurturing dependency, *LSiS* aimed to foster teacher autonomy and ownership of learning, requiring teachers to undertake

new responsibilities and become active learners. This new role presented challenges for many of the teacher participants, as it demanded a higher level of intellectual engagement than their previous PD experience. These expectations were sometimes met with uncertainty.

To provide the conditions needed to support such learning, alternative operational features were required which challenged many of the traditional approaches to programme design – including predetermined timeframes, expectations about learning outcomes and outreach. Practical sector support was needed and required a degree of flexibility not normally seen in programme design.

To enable teachers to work differently, the facilitator needed to develop a range of alternative skills and find strategies that effectively accessed teacher thinking. The facilitator had to find ways to deal with personal uncertainty and corresponding teacher resistance. That made for a challenging role as it was constantly evolving, being conceptualised, developed and enacted across the life of the programme. The programme operational features produced challenges on a number of levels yet all challenges produced new insights and fostered deeper understandings about how teacher self-directed teacher learning could be achieved within the present space of teacher in-service education.

Part III
Positioning Teachers as Self-Directed Learners

Reframing the Nature and Intention of Programme Learning Experiences

This section examines how certain learning experiences in this PL programme enabled teachers to explicitly explore and understand more about their professional knowledge. Each chapter examines in turn the particular learning experiences and facilitator support that enabled teachers to shape their practice in ways that were personally meaningful and contextually relevant. As a consequence, teachers developed a deeper understanding of the complex interconnected personal, interpersonal, contextual and technical dimensions of their practice. This section positions content focus and learning experiences as important considerations when creating conditions that enable meaningful self-directed teacher learning. It is argued that PL programmes can effectively provide learning experiences that privilege and build upon teacher professional knowledge in ways that enable participants to become active proponents of their own professional expertise. While this is a complex process, this section argues that it can be achieved when learning experiences are closely aligned with very clearly stated learning intentions.

Chapter 8
The Teacher Perspective: The Value and Impact of Learning Experiences

Abstract This chapter provides insight into three key learning experiences that teachers valued as they worked as self-directed learners: guest speakers, talking with other teachers and reflection. The chapter also identifies why and how these particular experiences impacted teacher thinking and action, in particular how these experiences enabled teachers to develop self-efficacy, align reasoning with action and value their own expertise.

Introduction

This research is about identifying the specific types of experiences that enabled teachers to become active, autonomous learners, who value their own professional knowledge of practice and are willing to examine, understand and develop their practice in personally meaningful ways. This aspiration has often been challenged by the tendency of many PD programmes to ignore the complexity of practice, choosing instead to define teaching as simply a one-dimensional, technical activity. Three assumptions tend to tacitly underpin the traditional PD approach. Firstly, best teaching practice minimises problems or dilemmas by drawing on solutions that can be applied in any situation. The second assumption is that dilemmas in practice occur due to teacher inadequacy and failure to find and apply appropriate solutions. Finally, it is assumed that such perceived inadequacy renders teachers reliant upon external expertise to determine what it is that they need to know and do to respond to dilemmas and enhance their teaching.

A clear consequence of PD derived of these three assumptions is that teachers, and their actions, appear to be framed by a deficit model, thus implicitly supporting a PD programme intent as based on content as the delivery of solutions, providing learning experiences that prescribe what teachers need to do to fix or improve their practice. Such a model of PD has inevitably produced a continuous cycle of teacher dependency upon outside expertise, decontextualised solutions situated within theoretical contexts which can appear to be (or interpreted as) contrived and/or uncomplicated; solutions that do not necessarily match the shifting demands of teachers' classroom realities and leading to teachers seeking more input and 'expert' assistance to find solutions. In such a situation, teachers are positioned as passive learners, professionally 'developed' through the work and ideas of programme designers

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and facilitators. This premise and the ensuing approaches to teacher development can inadvertently limit opportunities for teachers to engage with and critically explore the contextual, personal and interpersonal realities, which influence and ultimately determine why they work in the ways they do.

The assumptions (outlined above) and the cycle of PD programme design they allude to will be examined in light of the results of this study. The data indicates teachers implicitly understand that teaching involves many competing demands that ensure there is no one way of doing teaching, yet they are rarely given opportunities which allow them to explore that reality. Evidence indicates that teachers clearly have the capacity to intellectually engage in learning experiences which focus less on the activities of teaching and more on understanding the complex relationship between the problematic nature of teaching, professional thinking and action.

When in-service programme learning experiences support teachers to value and attend to the critical moments of their practice, the data indicates they make decisions about that which matters in their practice and develop action that is personally meaningful and contextually relevant.

Such conditions support teachers in developing a growing awareness of the complex professional knowledge which underpins their professional practice and highlights their capacity to actively participate in the discourse of effective teaching. The learning experiences that teachers engage in must therefore be effective in shifting accepted understandings about the very nature of teaching itself and become critical to enabling teachers to undertake self-directed learning.

This section illustrates that such a shift in teacher thinking is possible when certain learning experiences are implemented and supported by considered facilitator action which leads them to notice their professional practice in new ways and develop deeper understandings about the nature of their professional knowledge.

Most Valued Learning Experiences: The Teacher Perspective

The data suggests that participants valued an experience if it caused or assisted them to reflect upon their practice, enabled them to consider their present situation from an alternative perspective and/or enabled them to utilise new ideas and thinking to undertake contextually relevant action. The learning experiences teachers most valued were grouped into three categories:

(a) Guest speakers
(b) Teachers talking with other teachers
(c) Reflection

Consistent with all aspects of programme design, these experiences were not organised in a predetermined manner in advance of programme implementation, and each was designed to respond to the expressed learning needs and interests of the teacher participants in the cohort. These experiences moved away from practical classroom activities and instead explored the inherent problematic nature of teaching

and examined the ways in which professional knowledge is individually shaped by a teacher's personal experience and values. These experiences also provided opportunities for teachers to work together to engage in professional conversations, sharing ideas and socially constructing knowledge of practice. These conversations allowed understandings to be personally and collectively constructed and shared by teachers.

Guest Speakers: The Programme Experience

Over the course of the programme, five guest speakers participated in and conducted various sessions, each attending to very different areas of professional knowledge. The areas explored included: building professional relationships; leading school-based change; action research; and, the role of data in measuring success and change. The invited speakers were all known to me, the programme facilitator, and came from a range of backgrounds including sector staff, a primary school principal, an academic, a private consultant and a secondary teacher undertaking the role of a school science coordinator. Each speaker had been identified as having relevant expertise that related directly to the expressed learning needs of participants. Each session was allocated at least 1 h of programme time, and all sessions were scheduled at different times throughout the five-day programme with the intention of being a shared experience for all participants.

As programme facilitator, I had briefed each guest speaker about specific ideas for session content, this brief aimed to link content to teacher feedback about personal learning needs (an example of such briefing is attached in Appendix 3: *Email to Robyn re overview of session*). Each speaker was also advised that the programme aimed to position teachers as self-directed learners and therefore each session should be as interactive as possible, build on teacher input throughout the session and link content to the teachers' personal experiences. How this was done and the extent to which this was best achieved was a decision left to each speaker, consequently the techniques employed and the interactions that took place, differed in each session. As a result, each guest speaker provided a different learning experience. Table 8.1 Approaches used by guest speakers specifically outlines the strategies and techniques employed by each speaker.

The data indicated that teachers valued guest speakers when they felt the speaker related to them in three ways: personally, contextually and technically. When teachers experienced such connections, it produced a level of engagement that directly influenced the type of learning that emerged.

Personal connection with a speaker linked directly to teachers perceiving a speaker as enjoyable, personable, realistic and knowledgeable. Personal connections engaged teachers in ways which enabled them to retrospectively reflect on their practice and attempt to align new ideas or information with their own professional reasoning.

Table 8.1 Approaches used by guest speakers

Speaker	Focus of session	Session format	Teachers
Julia	*How to discuss what matters with leadership*	**Presentation**	Passive listeners
Sector facilitator		*Content:* Predetermined format – rigid, sequential; not responsive to teacher feedback; provided sets of strategies; no time to attend to teachers' questions.	
		Context: Contrived and disconnected from teachers' realities.	
Drew	*Leadership – a shared conversation of personal learning*	**Interactive conversation**	Listening; questioning; sharing experiences; commenting; laughing.
Primary school principal		*Content:* Both predetermined and spontaneous.	
		Context: Personal experience; shared emotional/personal/ successes/challenges – humorous and serious; actively linked content to teachers' contexts and personal experiences with professional decision making.	
James	*Action research – the idea and the experience*	**Interactive presentation**	Listening; questioning; working on individual action plans; reading; reflecting; sharing ideas; seeking support from speaker; laughing; discussing; sharing experiences.
Academic		*Content:* Predetermined but also adapted to meet needs of group; sequence determined by teacher input.	
		Context: Personal practice; teacher experience.	

(continued)

Table 8.1 (continued)

Speaker	Focus of session	Session format	Teachers
Peter	*Measuring success and change*	**Interactive presentation**	Listening; questioning; developing action plans; seeking feedback from other teachers and speaker; sharing experiences; relating information to teaching context.
External consultant		*Content:* Predetermined content, i.e., model of data determinants/ evaluation.	
		Context: Teachers' action plans; information sequenced in response to teacher questions and comments; emphasised importance of adapting information to meet contextual needs.	
Robyn	*Leading school-based change – one teacher's personal story*	**Interactive presentation**	Listening; questioning; sharing experiences; commenting; laughing; relating information to teaching context.
Secondary science teacher/coordinator		*Content:* Predetermined and spontaneous.	
		Context: Personal experiences – shared rewarding/ challenging / humorous moments; highlighted teaching context and personal experience with professional decision making.	

Contextual connection with a speaker linked directly to teachers perceiving that a speaker conveyed a credible representation of the reality of teaching and was able to validate, usually through first-hand experience, the complexity of practice. Contextual connections provided alternative perspectives on familiar routines and teaching situations and enabled teachers to identify the learning embedded within their teaching context.

Technical connection linked directly to teachers perceiving that the speaker presented ideas that were practical, challenging, useful and relevant to their own contextual reality. Technical connections engaged teachers with new ways of working.

It is important to note that teachers valued a guest speaker when all types of connection were experienced. The following sections discuss each of these connections in more detail and explore the impact of each in terms of teacher learning.

Personal Engagement

If a speaker was approachable, personable and made obvious attempts to involve teachers, this enabled participants to experience a personal, affective connection with the speaker. This was a valued condition for learning as the following transcript from Carol illustrates as she outlines her reflection on the experience of working with Peter a guest speaker. As evident in her comments, Carol established an affective connection with the speaker.

> Carol: I thought he (Peter) was so refreshing he knew what he was talking about and I felt I had a lot in common with him and his message. He spoke about the value of data, the ways to measure students' learning and the purpose for measuring it. I felt myself nodding, saying, "yes I agree with that, yes I had the same experience as that." … He was personable, he seemed to be looking and speaking to each person personally, there were a dozen people there but all the time I was listening to him I had the feeling that he was speaking to me. (Data source: Interview 1 – Carol, pp. 1–3)

Teachers stated that the qualities they valued in speakers included humour, modesty, openness, approachability and authenticity. Interactive positioning of the speaker during the session, deliberate flexible use of information communication technologies, use of humour, addressing participants by name, allowing time to call on and attend to teacher questions and using these questions and teacher concerns to frame discussions, were all techniques which enabled speakers to personally connect with the audience. As evident in Claudia's comments below, a speaker's capacity to effectively establish a personal connection was a condition that enhanced participants' willingness to invest in, and consider, the usefulness of information.

> Claudia: It was valuable ….. I guess it was his manner, it was pleasant and it was engaging so he wasn't one of those experts that stood on his throne and pounded out his message.… .you feel comfortable, you feel confident to ask questions, you're engaged. (Data source: Interview 1 – Claudia p. 2)

The techniques noted in the transcripts (above) enabled teachers to engage personally with the guest speaker and helped teachers feel 'emotionally' involved in the learning experience.

The experience of working with a guest speaker became more memorable through a sense of personal connection and could be described as a 'condition' that enabled teachers to undertake retrospective reflection (Loughran 1996) particularly in relation to the information or ideas shared by the speaker. The data indicated the experience provided teachers with an opportunity to sort out and clarify what they aspired to in their own teaching, in particular the principles they held as important and how those principles were evident in their own practice.

In the following transcript, Georgia provides an insight into the development of her personal thinking as she refers to the influence of the speakers and why these experiences were particularly useful in terms of her own personal learning.

> Georgia: The other thing that really stuck with me from that first day was the Principal that came and spoke to us …and his experience of working with people and a lot of that resonated and I could identify with a lot of it and I found it really interesting to hear other

> people's stories, so that was really good..... we had the discussion again with the science coordinator, Robyn, in her experiences dealing with people, I found that really interesting and encouraging I guess because of the success she had and the types of things that she felt were really important. I really took them on board, there were a couple of things that I found really interesting and I thought yes that's the way I want to be seen as a leader. (Data source: Interview 1 – Georgia, p. 1)

The data suggests that the teacher participants in this programme highly valued personal connection as a condition for their students' learning and tended to recognise it as a condition fundamental for learning. When these teachers explained why their connection with a speaker mattered, they cited their professional practice as evidence, in particular the professional knowledge and behaviour they had developed which enabled them to effectively create conditions for student engagement. These teachers clearly valued this principle as part of their professional practice and therefore expected that speakers would similarly pay attention to the need to establish personal connections with their audience – reflecting the same pedagogical approach they saw as necessary in their classes.

The following transcript brings to the surface the negative views of a teacher working with a guest speaker who failed to effectively make the personal connection. As Keith reflects on the perceived value of the experience, he reflects on his professional thinking and the importance he personally assigns to considerations of student engagement in his practice. The transcript illustrates that the experience of working with this speaker and the opportunity to reflect and make sense of personal reactions to the experience clarified the importance of student engagement in his own practice. The transcript captures his thinking as he worked through the experience to position the value of this principle within his personal professional knowledge of practice.

> Interviewer: … so what would you have changed about that session that might have made it more interesting or engaging for you?
>
> Keith: I think the way that it was presented. I think the content was there and I think the content was interesting but it wasn't presented in an engaging way, I think is the best way I could say it … When I teach I spend a lot of time reflecting on the way that other people teach. So when you have the opportunity to look at some speakers I look at what they do that engages me. So when I am sitting down and I see someone put up a presentation that has a wall of text and then they read from that wall of text, that is incredibly disengaging. When they draw on examples that are not necessarily personal experience again it is a little bit disengaging, I think drawing on personal experience or drawing on other people's experiences will make a presentation interesting but I think if there is a power point presentation that someone is giving and it's just text wall after text wall after text wall, even if the information is interesting and relevant, you switch off. And when my students do presentations I tell them that they've got to summarise the information and not insult people's intelligence by reading from the screen … (Data source: Interview 1 – Keith, pp. 1–2)

Keith expected that a guest speaker, who aimed to educate or share information effectively, would also value the importance of audience engagement and would demonstrate practice which attempted to: respect and acknowledge the audience as thinking individuals; elaborate on information in ways that move beyond the printed word; and, draw on personal experience as a rich context for learning. As the

transcript makes clear, he noticed and articulated tensions between his own stated principles and the reality of the practice he experienced and expressed that difference as his reason for disengagement with the speaker and his disappointment in the learning experience. He was frustrated by the speaker's inability to connect with him and was of the view that the speaker should have found more engaging ways of exploring what should have been relevant and useful information.

The experience of personal connection differed for each teacher in relation to each speaker; however, when teachers were encouraged to examine their reactions, they articulated and clarified not only what they valued as learners but also what they valued as teachers. Participant teachers openly discussed the importance of developing effective techniques and rhythms in their own practice that enabled them to 'read an audience', respond to signs of disengagement and frame conversations to personalise the experience. Establishing conditions that facilitated a personal connection between teacher and learner was valued not only as a condition for their own learning but as an important part of their own professional practice.

Contextual Connection

Speakers were valued, and in particular regarded as credible, if they demonstrated an understanding of the everyday professional realities teachers faced. Teachers felt the speakers who did this effectively understood their teaching realities and connected to the contextual dimension of teaching. Often this contextual dimension was most successfully conveyed when a speaker was prepared to openly share their personal experiences. Participants identified with stories that conveyed an understanding of the challenges of dealing with personalities and unpredictable situations. To teachers these issues mirrored the nature of teaching itself, as alluded to by Joanne (below) when discussing the ways in which the speaker 'connected' with the audience and how this linked to her thinking about context and familiarity with situations and ideas.

> Joanne: I think people like to hear stories and they like to hear drama, and they like to hear that other people survived. I think that gives you a bit of hope or something. (Data source: Interview 1 – Joanne, p. 2)

When speakers acknowledged that teaching by its very nature was problematic and that it therefore required specific professional expertise, participants were more inclined to value the information the speaker was sharing. Conversely, as evident in the following transcript with Claudia, if speakers did not represent teaching in this way, then participants tended to be dismissive and considered the presenter to be somewhat out of touch. As a consequence, they were then less likely to consider the information being presented as relevant to their own teaching context.

> Interviewer: Do you find in general listening to other teachers or having guest speakers is a good strategy for your professional learning?

> Claudia: If they are in it, not people who are outside experts. I think it is really powerful to hear from people who are actually in the trenches who are doing the hard yards because they're in touch with the same reality as you, because you can have really brilliant facilitators, and I'm not saying they weren't brilliant, they were, but they're a little bit out of the realms of what happens day to day. (Data source: Interview 1 – Claudia, p. 2)

Achieving a contextual connection, required speakers to acknowledge the demands that teachers face while explicitly valuing and effectively attending to the complex aspects of professional expertise that teachers require to make sense of and work through such challenges. The capacity of a speaker to do this effectively ensured that teachers recognised the speaker had a good understanding of the reality of their work. In so doing, they also tended to be successful in providing an alternative perspective on familiar routines and teaching situations, which assisted teachers in recognising the learning possibilities embedded within their own teaching context. As a result, they were encouraged to re-examine their practice and their contextual reality in an attempt to understand their own professional thinking and knowledge. Helen's interview (below) captures her appreciation of speakers who established a contextual connection because she was able to find and value similar challenges in her own situation. In this way, Helen began to recognise the professional learning opportunities that potentially resided in her own teaching reality.

> Helen: Definitely Drew (primary principal) talking about taking on that leadership role and combining the two schools, I just thought what a remarkable person and he seemed to have a lot of the qualities I like in a leader; being open, being accepting but in the end the buck stops with him. So sometimes you have to make those decisions and just wear it and other people have to wear it, but he seemed to do it in a very diplomatic and open and approachable way … Robyn's talk it made me feel inadequate not engaging [laughing] I just thought she is just amazing she's done so much and done so much because sometimes we think oh I've got so much on my plate and then I look at someone like her who has just achieved amazing things and having the energy and enthusiasm to do it, she was just remarkable.
>
> Interviewer: That's interesting you've chosen two speakers there; do you think that listening to other teachers' stories in particular is really powerful in your own professional learning?
>
> Helen: Oh definitely, because you know where they're coming from and even if it's not exactly the same track you're on there are so many similarities and things resonate with what happens and how it happens. (Data source: Interview 1 – Helen, pp. 1–2)

The value of alternative perspectives, when presented in ways which acknowledged and built upon the contextual realities of teachers' work, appeared to enable them to see familiar things differently, and they began to value their own teaching situation as a rich context for personal learning. They also came to see opportunities for alternative actions – a measure of professional learning that has impact.

Technical Connection

Another condition, which determined the value teachers placed on the experience of working with a guest speaker, was the speaker's ability to deal with the technical dimension of teaching. This required speakers to share alternative action that was practical and useful to teachers. If speakers were able to do this effectively, then teachers were more inclined to think about their teaching differently and consider the place and value of new behaviours or approaches in their practice.

To achieve this, it was important that speakers did not assume that complex problems could be solved with simple solutions or to suggest that one solution would attend to a range of issues. For example, Helen (below) explains the importance of a speaker acknowledging that teaching constantly presents many frustrating challenges, which cannot be addressed with a 'one size fits all' approach.

> Helen: Yes it can be done it's not just pie in the sky. I've been to a lot of PDs where they've said this is what teaching should look like and you sort of sit there and go well that's lovely but how do we get there? But these speakers are saying this is how I got there……I don't like the one size fits all [approach] because we know from grade to grade things can differ within the one level, let alone from school to school and situation to situation, and yes we'd all like that perfect end product where the students are presenting an expo to the whole community and it's wonderful but the reality is that's not going to happen every time. There was a speaker at one of the Curriculum Coordinator meetings about Inquiry and she was hands on and she said this is what I actually do with my students and she said I'm not going to achieve this every year. I'm showing you this is the best I ever did and this is how I got there, she was not saying this is how your teaching should look every time. That to me was just the most powerful thing for her to say; this is what this one looked like at this time with these students and I'm so proud of it. It's just a totally different way of presenting it and I don't sit there and go well that's way beyond me or I'm going to bust a gut and try and get there and then be disappointed because it doesn't happen. (Data source: Interview 1, Helen, p. 3)

A number of teachers valued the willingness of speakers to share the personal challenges they experienced when attempting to work towards change; teachers assigned credibility to these stories. By contrast teachers were unlikely to value the input from speakers whose stories conveyed only easy and assured success because in their experience, success in teaching did not happen without effort and frustration.

> Keith: As much as you want to be successful all the time, even if on the outside it looks successful, there has got to be things that you achieve and things that you don't achieve in everyday life. So I think that you can have the majority of successes but I don't think that you necessarily value your successes unless there have been failures in the past. (Data source: Interview 1 – Keith, p. 3)

Participants appeared to associate struggle, uncertainty and frustration as inevitable aspects of the change process, and wanted these challenges to be recognised as a part of their everyday work. In so doing, this added a sense of value to their overall achievement. Speakers who themselves were teachers, appeared to be able to explore and convey that notion of success effectively by readily drawing on their

own experiences. Their stories were immediately recognisable and valued by the teacher participants. However, teaching experience alone was not the reason for successfully achieving a technical connection; a number of speakers who worked outside teaching were also able to engage teachers successfully with the technical aspects of their practice. Georgia's comments (below) highlight how Peter's session on data, not only had an impact on her thinking at the time but also influenced how she began to think about the changes she was hoping to achieve through her action plan. This thinking enabled her to undertake purposeful reflection in action when she returned to her school setting.

> Georgia: The other thing that was really interesting was how to measure success and what success is and that whole idea that if you want to improve something where are you when you start it? What are you going to do? How are you going to measure that? It gave some structure to that idea of change in a place. Why are you changing something? What are you going to do when you change something? To me it had never really been concrete in my mind how to go about doing something like that, and that gave me some steps and I found that really interesting. (Data source: Interview 1 – Georgia, p. 1)

The guest speaker dealing with the topic of difficult conversations did not receive such positive feedback from participants, largely as a result of the techniques and approaches used throughout the session. Little time was made available for teachers' questions; the PowerPoint presentation dominated the flow of the session (the pre-established sequential slide presentation was not responsive to teacher comments). The ideas or strategies being suggested (i.e. the technical dimension of practice) were often exemplified in contexts to which teachers were unable to relate. As a result, participants' contextual realities were disconnected from the exemplars in the presentation, and they became disengaged with the approaches being discussed. When asked about moments when they felt disengaged in the programme, their comments often focused on this particular session. The following transcript is indicative of the types of comments represented in the data.

> Interviewer: So have there been moments that haven't been as interesting that have been confusing or where you've felt quite disengaged, where you've turned off?
>
> Keith: I think some of the managing up stuff that was done, although it was interesting I could see, having worked corporate, I could see that it was very relevant to corporate and I see how it's relevant, particularly later on, to some of the way some structures work in schools. I would have liked to see a lot more school-based examples like managing up within the school as opposed to the corporate based stuff. (Data source: Interview 1 -Keith p. 1)

Although the presenter had a recent background in school-based teaching, it is interesting to note that the style this speaker adopted was not one that resonated with most teachers. Little effort was made to build a personal rapport, the speaker did not draw on personal professional experiences to contextualise information, and technically the approaches used in the session physically and professionally distanced the speaker from the teacher participants.

Guest speakers who successfully represented and explored technical information in practical and useful ways created conditions which encouraged teachers to think

about their practice and find ways to work differently. The data suggests that under these conditions some teachers moved beyond thinking only about actions and began to intellectualise and engage with what might be described as the potential drivers of action. Joanne (below) provided a succinct example of this thinking through her recounting of Drew's stories which created a new way of thinking about teacher behaviours. This alternative perspective enabled Joanne to articulate new understandings which may contribute to new teacher actions.

> Joanne: I know when Drew [Primary Principal] was saying he painted the whole school to make it feel like it was new for everyone and I thought gosh people get possessive over things in schools because that's probably all they've got. You know they probably have been here for eight hundred years and the principal has changed five times and … we've put in computers and we've taken out computers and we've put in lap tops and we've done all this stuff but all they've got is their desk – they don't want to lose their desk, it is important to them. So it made me think about what's important and what matters to some people. (Data source: Interview 1 – Joanne, p. 2)

Participants also indicated that the session dealing with Action Research conducted by James, an academic professor, impacted their practice in practical ways. Teachers explained how the experience of working with James had shaped the type of action they initiated in their leadership roles or the ways that they chose to design their plans of action.

> Maree: I found in the first session it was very interesting listening to the idea about the research project and how data should really be collected at the beginning. As a result of that I went back to school and threw a questionnaire at the science staff and then a couple of weeks later did a questionnaire with the staff who participated in a PD that we ran in relation to the use of a flip camera. I don't think I would have been able to conduct that survey or do that PD if it hadn't been for the encouragement and the ideas that we were given in the first session. (Data source: Free Talk Transcript – Maree, p. 1)

The following transcripts capture Georgia's emotional and intellectual reactions to the experience.

> Georgia: I've been really engaged in the programme several times, in fact quite a lot. The days when we were working together, all of the sessions, I think the ones that stand out really clearly for me from the first session was James talking about how to go about change in a school or research in a school. He gave a really good picture of what scientific research is compared to the type of research that goes on in schools and it was very clear and I've thought about that since. (Data source: Interview 1 – Georgia, p. 1)

The experience seemed to be particularly significant in terms of developing self-efficacy as the data indicates that Georgia felt empowered to actively work to explore the value and potential place of such thinking within her own school context.

> Georgia: For me it (the programme) started, I wasn't really sure what I wanted to get out of it and James' session had a particular impact on me because it made me strip everything back and find out what it is that is driving me and what I really wanted to set out to achieve. I thought that at the end of that session I had a fairly good understanding of where I wanted to go but I've changed that and I've changed it a lot. (Data source: Free Talk Transcript – Georgia p. 1)

Georgia wrote to James following his session with the group, thanking him and seeking further assistance in relation to further school-based action. Taking such initiative provided evidence of the impact of this learning experience in terms of self-directed learning; Georgia was initiating action and in doing so was actively building a sense of her own professional identity. The following data is taken from my facilitator journal and captures my response to this action and also outlines the email Georgia sent to James.

2nd November 2009

Today I was Cc'd into this email, it is written by one of the participants to James re his session on Action Research. Obviously this session was a really powerful learning experience for Georgia and the fact that she has taken the initiative to seek out James' contact details and continue with the thinking that his session provoked, is very interesting. So far so good, this feedback indicates that the sessions in the programme to date have, in the main, been very useful, so it is interesting to start noticing why this is.

Email Sent: Monday, 2nd November 2009 7:07 pm

To: James (Academic Professor)

Cc: Kathy

Hello James,

I would like to firstly thank you for presenting such a thought provoking and useful workshop session during the Leading Science in Schools project. It has stayed with me and is already influencing how I think when leading others.

It is for this reason that I tracked down your email from Kathy.

Our school St **** College is setting up a whole school literacy programme. 14 teachers have already completed ongoing workshops with [consultant's name]. These teachers [facilitators] will lead staff in small groups to implement recommended teaching techniques. The facilitators are a mixed bunch of experienced and inexperienced teachers with only a few holding leadership positions. The facilitators are desperately looking for guidance on how to lead teachers to change classroom practice!

I was hoping you could suggest some useful resources to guide us, or point us in the direction of assistance. I understand you are extremely busy making it very difficult for you to be personally involved so we would also appreciate if you had any suggestions for quality presenters who may be willing to come to our school [early December].

I am in the fortunate position of having been to the STAL programme so I feel very excited about the prospect of facilitating the literacy programme. This is largely because the programme, in general, and your workshops were structured for me to find 'my answer', giving me great confidence. I would love to see my fellow facilitators have at least a taste of that.

I look forward to hearing from you,

Thanks again,

Georgia. (Data source: Facilitator Journal – p. 1)

Most teachers valued engaging with guest speakers, but learning was influenced by the speaker's capacity to establish a relationship and be credible. Interactions were meaningful when speakers utilised strategies and techniques to engage participants in terms of the personal, contextual and technical dimensions of their professional experience. Teachers valued guest speakers who acknowledged complexity and difference in participants' diversity of teaching realities and who worked in ways which encouraged and supported each teacher to construct personal meaning from the experience. By doing so, speakers created learning conditions which nurtured teachers' sense of professional identity and enabled them to align their personal reasoning with their professional action.

Teachers Talking with Other Teachers: The Programme Experience

Throughout the programme, time was specifically allocated for participant teachers to talk among themselves and share their perspectives on leadership, science teaching and student learning. Often these opportunities were structured around activities designed by the facilitator to prompt thinking. These activities included constructing values continuums, sharing action research plans, watching and responding to video clips, examining issues emerging from school-based meetings and occasions where participant teachers shared personal digital diary entries.

In all these situations, teacher talk was encouraged to follow teacher interests. As the programme progressed, teachers requested further time be set aside, free of agenda items, to allow them to specifically sit and talk together. Arrangements were made for teachers to have unstructured time allocated in the programme and participants used this time to share their digital entries, engage in discussion with other participants and generally share their views and experiences of their challenges. Data analysis indicated that, through these sometimes structured and unstructured conversations, participants began to recognise the expertise that existed within the cohort. They also began to recognise that expertise was not something exclusive to external facilitators.

Participants valued the time the programme provided for teacher talk and various data sets offered insights into why they valued teacher to teacher talk as a learning experience and how such experiences contributed to their thinking about teaching and personal practice. Analysis indicated that teachers felt they rarely received the opportunity to engage in professional conversations at school with their colleagues or as part of a professional learning programme. They valued the opportunity to remove themselves from the 'busyness of teaching' (Loughran and Northfield 1996) and take time to listen to other teachers' experiences.

Providing opportunities for teachers to talk together was significant for teacher learning because it provided participants with time to stop and listen to the expertise of other teachers, establish a shared understanding of effective school-based change, share useful ideas and consider familiar situations from new perspectives. This experience supported teacher self-directed learning because it enabled participants to align reasoning with action and value emerging expertise.

Talking together allowed participants to move beyond their particular teaching situation and hear about what teaching looked like in different contexts, e.g. at different levels of schooling, particularly primary and secondary levels, and from the perspective of professional experience. These conversations often enabled participants to reflect on their professional experience and use this as a context to make sense of their own professional thinking.

> Carol: Being able to listen to current ideas that young people have, different ways that people think and talk about things that I sometimes have a one way of looking at, it's made me more open minded and I guess I've become more flexible in the way I think about things. I've become more positive in what teachers can do and what students can learn. I guess that happens just from talking professionally with other people. I've enjoyed talking

> with the secondary school people a lot because I see the enormous differences in secondary and junior. I think juniors have got a lot that they can give to enhance the work that secondary teachers do but I think we can gain a lot from the experiences they have in interacting with students that are a little bit older, we can see where our students have to go. (Data Source: Interview 1 – Carol, p. 1)

The data suggests that such conversations helped participants to question what they perceived as the traditional structural and cultural barriers that separate primary and secondary schooling. Through these 'sharing conditions', participants were able to talk about shared concerns, e.g. professional relationships and student learning.

By hearing other people's stories, teachers were effectively removed from both the personalities involved and the contextual politics that may have been embedded within the issues they were hearing. This separation from the players (but ability to identify nonetheless) enabled them to clarify significant elements that may have contributed to better understanding the nature of the given situation. Teachers could then re-examine their own situation to determine if similar elements contributed to shaping their understanding of their own events. They were then able to reconsider contributing factors, e.g. their colleagues' behaviour or intentions. In this way, discussion enabled them to think about their familiar routines and situations in new ways. In the following transcript, Joanne describes such an experience.

> Joanne: I think it gives you better empathy; listening to someone else complain about their cranky librarian…everyone has someone on staff that is cranky and you cannot look at them without clouded vision, every single thing they do annoys you. Yet when someone else talks about the person on their staff that drives them mad I don't know you get a different understanding you can transfer that back but you can't look at your own cranky librarian like that. It takes the personalities out of it and someone else tells their story and I think you empathise with them and they probably present it in the best light.
>
> (Data source: Interview 1 – Joanne, p. 2)

Maree described listening to other teachers as a way of allowing her to develop a new sensitivity to her own situation; without such an experience, she may not have realised the success and productivity of the relationships that existed within her own school.

> Maree: The other thing that I probably think about is that some of the most valuable sessions have been listening to other teachers who are actually taking part in the project but also the visiting teachers who have been in varying roles in leadership. It's just amazing listening to the kinds of things that other teachers are trying to introduce it makes me realise how lucky I am to be at my school where all the different ideas that I've tried to introduce have been so well received and teachers have really taken part enthusiastically and assisted me in learning to use ICT in the classroom and the flip camera and a number of other activities that I've been involved in as well … So overall it's been a really good programme I still believe the most useful being when we've shared ideas and heard the stories of other teachers in the programme. (Data source: Free talk transcript – Maree, p. 1)

Listening to other teachers talk about their experiences and their teaching realities appeared to assist teachers to think differently about their own teaching contexts and to notice and pay more attention to familiar routines in new ways. They began to value everyday events as potential contexts for learning more about their own

personal practice. As a result of these conversations, participants appeared better placed to identify issues of concern and recognise existing challenges within their practice.

Participants similarly indicated that they valued opportunities to talk with other teachers because such interactions encouraged them to realise that the intention of functioning under the auspices of 'teacher as leader', regardless of context, involved working to achieve similar outcomes, i.e. to create opportunities for change that would enhance meaningful learning. Carol's comments (below) are indicative of this particular theme.

> Carol: I like the fact that we engage in conversation with a mixture of people, some of them obviously from secondary schools some from primary schools, we've had the opportunity to listen to speakers from private schools and all along I marvel at the fact that we really all think the same way, we want the same things but we fight different battles. (Data source: Free talk transcript – Carol, p. 2)

In the following transcript, Maree indicates that opportunities to talk with other teachers enabled her to develop a realisation that although context influences the roles that teachers play, teachers can learn from each other.

> Maree: At our school it is starting to increase, the people are starting to realise the value of sharing what you do with other people, like these PLT (Professional Learning Team) presentations that we've done with the whole staff, even though we're not all art teachers or science teachers or maths teachers we can gain something from other people's experience. (Data source: Interview 1 – Maree, p. 3)

As a result of talking together, teachers began to determine what mattered for their own learning; they applied new perspectives to inform action in their working context (process that was ongoing and fluid). The following transcripts evidence such thinking. Sophie actively made decisions about the actions which might be appropriate for her specific professional context which was more informed through the experience of listening to other people share their stories.

> Sophie: Yes just listening and watching and listening to other people. That last session really the time just went so fast in the morning listening to what other people were doing and everyone was happy to give feedback. Just getting other people's opinions about what you were doing, that's what I really like, just getting the feedback from other people who were in the same position….I think it's kind of nice to hear that other people have got the same frustrations but also when you hear about what other good leaders are doing it sort of makes me go oh that's a good idea. Just things that I think ok yes I want to bring that into what I do as well. (Data source: Interview 1- Sophie, p. 1)

The following transcript builds on the idea (above) as Georgia discusses how she as a secondary teacher considers drawing on an idea of Carol's, a primary teacher, which she had shared in a programme session. These ideas explored ways of building relationships with colleagues.

> Georgia: I tried out a few things and I thought about the ways of other people, from other people talking about what they're doing….I think it was Carol [who] might have said about writing a letter to a principal to introduce herself and I thought that idea of beginning a relationship was a really interesting idea. She did it in a very formal way, I haven't done that

> but I've thought about it in the way I interact with people and opening up a relationship. (Data source: Interview 1 – Georgia, p. 2)

Providing opportunities for teachers to talk together appeared to have significant impact on their working as self-directed learners. The data suggests that overtime, as participants shared their plans and experiences and continued to do so, they built a commitment to learning about leadership and learning about the value of applying knowledge in different ways in different situations. The experience of working together established a collegiality. It became vital in my work, as programme facilitator, to purposefully ensure that habitual and unnecessary programme structures or requirements did not restrict these opportunities. It was part of my role as facilitator to support teachers to recognise that these conversations were more than just informal chats and that teachers themselves, in these moments, were engaging in critical professional conversations through sharing their professional expertise. Experiencing frustrations and successes together and providing time to talk about their experiences of leading, helped the teachers to make sense of information and determine action in personally meaningful ways.

Reflection: The Programme Experience

Throughout the programme, teachers were provided with activities that were designed to encourage them to make sense of new ideas through explicit personal reflection. The reflective activities used in the programme aimed to strategically assist participants in recognising the problematic nature of teaching and support them to articulate their insights and understandings through the lens of personal experience, knowledge, views or beliefs. Through these reflective activities, participants were encouraged to notice the moments in their practice when unexpected situations emerged and to then unpack or deconstruct those moments to determine why they found them curious, confounding, dissatisfying, rewarding or challenging, etc. Participants valued the reflective activities. Teachers also valued the action research plans they completed and their participation in school-based meetings. These experiences provided an insight about how teachers were thinking and working differently.

Some of these reflection activities were familiar to teachers, some were new and sometimes they found completing the activities challenging. For some, the thinking encouraged by these strategies seemed relatively straightforward, as they tended to analyse their observations further and articulate perspectives as an almost normal course of events. For others, undertaking reflective activities was not as initially satisfying as doing 'practical activities'; however, there was a shift in view over the course of the programme.

Reflection appeared to be a significant learning experience because participants valued the opportunity to take time to think about their practice, develop their personal awareness 'in action' (Schön 1987) and have time and support to clarify and

articulate the principles which underpinned their teaching. Based on the data, taking time to reflect and think about teaching did not appear to be a routine part of these teachers' day-to-day actions. Their comments revealed that they rarely had enough time in their day to get through everything they needed to do, and so finding the time to engage in reflection and capture their ideas was extremely challenging when they were back in a school. For some teachers, as evident in Sophie's comments (below), using digital technology was a useful and a manageable way of reflecting on experience, having the camera actually facilitated her reflection.

> Sophie: Yes I like all of it because it's making me sit down and think when I do my reflections. It's not something that I would normally do so to actually sit there and think about what I've been doing and doing that reflection has been really good and yes doing that group work where we're sharing it. (Data source: Interview 1 – Sophie, p. 2)

In one of her Free Talk digital entries, Sophie extended her thinking to provide evidence of her valuing of reflective thinking.

> Sophie: This is my reflection on how I found my experiences as part of the leading teacher programme. …..So I think what I've enjoyed has been meeting up with other teachers who are doing the projects and just hearing about the things that are going on at other schools as well. Thinking about what is going on at our school thinking about what I'm going to share with the rest of the group and thinking about what is important things like that I found really useful. Having to actually sit and reflect has been good too because it makes you actually sit down and do something which I think has been helpful as well because I wouldn't normally sit here and reflect perhaps on what I've been teaching or what I've been trying to do so doing that has been a good experience as well. (Data source: Free Talk – Sophie)

As the data suggests, over time, and with facilitator support, particular reflective activities enabled teachers to share understandings about pedagogy and their thinking about relationships and interactions that supported and enhanced their own learning. Focusing on reflection as a learning experience positioned teachers as decision makers in their own learning, particularly in terms of building a sense of professional identity and also clarifying personal professional principles of practice.

Building a Sense of Personal Professional Identity

Taking time to think about personal practice appeared to assist teachers to build a sense of professional identity. Reflection appeared to increase their awareness of the complex relationship between professional knowledge and professional practice, and as a result they began to value the professional knowledge they had developed through their own experiences. The following comments provide indicative evidence of awareness in action as a result of taking time to think about the professional behaviour and practice.

> Fiona: I think sometimes you want to jump in and just solve what's going on but you're right, people have to come to their own conclusions. I always just take deep breaths and as

you say just let it resonate and I think it is a difficult thing to do to know when to not say anything, it's something that you learn to do. (Data source: Final day transcript 2, p. 1)

Helen: Initially I thought I was on a science journey but as we've gone through the programme it's become much more about leadership, leadership in science but leadership generally. And looking at different styles of leadership and my own leadership style has been a real eye opener and part of the journey. (Data source: Free Talk – Helen)

Professional Principles: Reflecting on Reasoning

For many teacher participants, the provision of time for purposeful reflection in the overall programme design really enabled them to begin to clarify the principles which underpinned their practice.

Georgia: I've looked at how I've been led in the particular position I'm at in my school and taken my experience of that leadership, which I found I could articulate what it is I didn't like about the leadership I was receiving but it was harder to articulate what it was that I did like … So I spent a good amount of time looking at what other people were doing, how they were responding to me, what does support look like and does it look the same for each person, where on that continuum of micromanaging to complete freedom do people want you to be and does that shift?

I'm finding that it is a fascinating process because at the beginning I thought my project was about giving people support but I had no idea at the start of this process what support was. Now I'm starting to not really know what support is needed for different people, there aren't any rules but I'm getting much clearer about the cues that people give you and the cues that allow me to find out the type of support that someone might need and initiate the conversation, develop the relationship, have a good understanding and mutual respect. I think all of these things come from really spending time thinking about that leadership and having someone else come in and talk to you about it has been invaluable in refining what it is that you are doing in I guess making you that little bit accountable as well, it refocuses you. (Data source: Free Talk – Georgia)

As the data illustrates through these indicative quotes, reflective activities focused participants' attention less on the 'doing of teaching' and more on openly valuing and attending to teachers' professional knowledge; teachers were supported to articulate and explore their thinking in explicit detail, and in so doing, they began to value their own thinking as a way of knowing teaching and understanding the complexity of professional practice.

Chapter Summary

A range of learning activities were used in the *LSiS* programme, and many were overtly valued by teachers because they enabled them to think differently and/or see their contextual realities in different ways. Guest speakers were valued by teachers if they successfully established a personal connection and if they understood that teachers faced a diversity of teaching realities. Guest speakers who connected to the

contextual dimension of teaching and successfully represented and explored technical information in practical and useful ways, created conditions which encouraged teachers to think about their practice and find ways to work differently. Listening to other teachers talk about their experiences and their teaching realities appeared to assist participants to think differently about their own teaching contexts and to notice and pay more attention to familiar routines in new ways. Reflection activities were also valued when they moved teachers beyond thinking only about actions and began to encourage teachers to intellectualise and engage with what might be described as the potential drivers of action.

Chapter 9
The Facilitator Perspective: The Decisions and Actions That Strategise Teacher Self-Directed Learning

Abstract This chapter examines the facilitator actions that actively positioned teachers as self-directed learners enabling them to explore the potential learning enmeshed in learning experiences within an in-service programme. All learning experiences within this programme were supported by purposeful and considered facilitator action designed to maintain the programme learning intentions and effectively position teachers as self-directed learners. Therefore, each learning experience cannot be separated from the programme's overall philosophical underpinnings; meaningful professional learning is derived through actively positioning teachers as producers of professional knowledge and expertise. As a consequence, the facilitator worked to ensure that the learning experiences not only provided teachers with rich opportunities for personally meaningful learning but that these experiences also built teacher capacity to recognise, value and share their own expertise and professional knowledge.

Introduction

This chapter examines facilitator actions that supported teachers to work as self-directed learners and explore the potential learning enmeshed in learning experiences within the *LSiS* programme. All learning experiences within the programme were supported by purposeful and considered facilitator action and all such actions were designed to maintain the programme learning intentions and effectively position teachers as self-directed learners. Therefore, each learning experience cannot be separated from the programme's overall philosophical underpinnings; meaningful professional learning is derived through actively positioning teachers as producers of professional knowledge and expertise. As a consequence, my work as the programme facilitator had to ensure that the learning experiences not only provided teachers with rich opportunities for personally meaningful learning but that these experiences also built teacher capacity to recognise, value and share their own expertise and professional knowledge.

This chapter examines how strategic facilitator actions explored the full potential of programme learning experiences and enabled teachers to work differently and develop learning behaviours demonstrating self-directed learning in action.

K. Smith, *Teachers as Self-directed Learners*, Self-Study of Teaching and Teacher Education Practices 18, DOI 10.1007/978-981-10-3587-6_9

Facilitator Actions: The Programme Experience

As programme facilitator my role in creating the teacher learning experiences was defined by and interconnected with three key elements: the in-service programme design, learning experiences and teacher behaviour. As represented in Fig. 9.1, each of these elements aimed to develop a necessary aspect of teacher self-directed learning. Meaningful teacher learning was the overall aim, and that was envisaged as being achieved if all elements worked effectively together.

As facilitator I constantly attempted to work in strategic ways to ensure the programme provided learning conditions that supported the intention of self-directed teacher learning. This required me to undertake a role different to that usually expected in traditional PD programmes.

In this programme, my role was to provide learning experiences which enabled teachers to become less dependent upon facilitator control and develop a growing sense of ownership over programme content and development. I worked to build teacher confidence; to share personal stories, ideas and insights; to develop an appreciation of the potential learning that resided within their own teaching context; and to develop a willingness to explore these situations to construct deeper understandings about professional practice and teaching expertise. Essentially my facilitator actions developed three key areas of teacher learning: ownership of professional expertise, recognition of personal professional knowledge and the relationship to awareness in action and the capacity to link developing understandings with professional practice. These key intentions provided a clear pedagogical purpose for my action throughout the programme and as a result created conditions in which teachers demonstrated learning behaviours that characterised self-directed learning. Table 9.1 provides a strategic frame of reference for identifying the specific facilitator action that contributed to teacher self-directed learning. The table is divided into three major sections, each representing the key intentions for teacher learning.

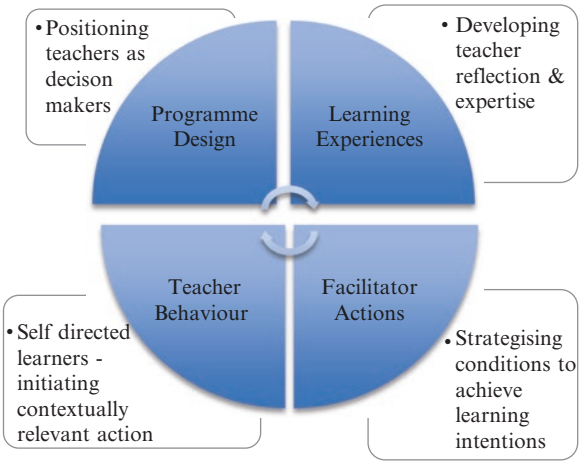

Fig. 9.1 The interconnectedness of programme design, facilitator actions, learning experiences and teacher behaviour

Table 9.1 Exploring the relationship between purposeful facilitator action and teacher self-directed learning

Exploring the relationship between purposeful facilitator action and self-directed teacher learning	
Facilitator action:	Teachers learning behaviours:
Reframing the ownership of teaching expertise	
Asks questions without knowing answers	Shares ideas, strategies and experiences
Accepts and builds upon a variety of ideas and approaches	Determines and articulates how new ideas and experiences fit with existing understandings
Invites teacher feedback and purposefully responds to teacher concerns and suggestions	Makes suggestions and requests regarding personal learning needs
Constantly analyses impact of personal behaviour in terms of intended professional relationships, programme design and teacher learning	Recognises that teaching expertise develops from working through challenging situations, e.g. not knowing what to do
Teachers recognise personal professional knowledge and develop attention to awareness in action	
Notices and attends appropriately to teachers' expressed learning needs	Recognises teaching is problematic
Values purposeful teacher talk: encourages teachers to consider overlooked details of professional experiences	Reflects to determine how new information and experiences link with existing thinking
Strategically builds upon a variety of ideas and approaches	Values and shares personal thinking
Contextualises content in ways that are meaningful for teachers	Openly shares professional challenges and successes
Develops effective strategies to prompt and capture for teacher reflection	Utilises personal professional experience as a context for personal learning
	Seeks less facilitator approval
	Willingly shares and considers alternative ideas and viewpoints
Teachers meaningfully link thinking with teaching context	
Strategically responds to teachers' expressed learning needs	Allocates time to work and talk with facilitator
Strategically uses school-based meetings to support teacher learning	Values personal professional expertise and demonstrates a genuine interest to explore personal practice
Uses electronic media to maintain ongoing communication	Constructs and shares new perspectives and understandings
Utilises a variety of ideas and approaches to focus teacher attention on how and where new information links with personal practice	Articulates tensions between new thinking and present practice
	Articulates personal principles of practice

Information is provided about specific facilitator actions that created conditions enabling teachers to focus on these aspects of their professional practice. Also listed are associated teacher learning behaviours that emerged. These behaviours evidenced self-directed learning.

Maintaining the Learning Intention

Creating a sense of ownership of learning with the participants inevitably meant they had to undertake active roles as learners and engage emotionally, behaviourally and intellectually with new ideas and information. The learning experiences that many participants stated they explicitly valued, were those that required them to make decisions, initiate action, and share their ideas. However, for some participants such activities were initially difficult.

While I worked to support teachers and allow them to attend to what they valued in their learning, this did not necessarily diminish the challenges that many teachers faced. As facilitator I purposely worked in such a way as not to lead teachers to make sense of new information by directing them towards a common learning outcome; for many participants, it took time to find direction and purpose in relation to their own learning. The role of the facilitator was therefore not to save teachers from these challenges but to work with them and help them notice the types of support they needed. This ensured teachers did not become bogged down and they were actively positioned to find a way to make sense of situations and move forward with their thinking.

The following transcript from my Facilitator's Journal captures my thinking about how to assist Megan with her fear of using the flip camera to capture her thinking. Megan graphically conveyed the challenge this programme presented for her own learning as she struggled to find a way of working that suited her.

> 26th July 2010.
>
> I've just come from a session with a teacher and I'm quite fascinated with some of the issues that have emerged from that meeting. This teacher was quite distressed about how she couldn't operate the camera; she hadn't captured any reflections. Nothing she had done was successful. In her words, being in this programme was like she had discovered a scab and she'd scratched it and she wished she had never touched it because 'all this puss was oozing out and the problem had got bigger', all of these other issues had emerged. She wasn't happy, she wasn't doing anything right – it's been a disaster.
>
> Now we talked at length about what was happening with her, I said forget about the camera, the camera was there to support with reflection to get you thinking about some of these things to help you identify what are the things you value what you don't value, it's not meant to be an added pressure.
>
> What was coming out of this meeting is the fundamental thinking about professional learning, which drives teacher behaviour and I find this really interesting and this is an observation that I have made from a lot of these meetings. Teachers perceive professional learning [in terms of what I think is PD] producing a successful product, and so [their view of] professional learning is about following a series of steps, which produce something very successfully. Alternatively, [another view is] it's about turning up in the last session and being able to say look what I did and it all worked out really, really well. Professional learning isn't viewed as a process; professional learning isn't viewed as thinking about your practice and the person you are in teaching. Professional learning is about going to a programme that has an end point and the end point is that you actually affect a difference with something.

The reality in my view is that the teachers who are a part of this professional learning experience will in fact find that leadership is much more difficult than they thought it was, or than it has ever been described to them. I think in reality they will start to feel that they themselves have a set of principles and values, which they bring to their position which is sometimes compromised or pressured or constrained by the expectations of other people around them. The dilemma, the tension which I think will emerge for them from this programme and the approach of this programme, is how they make decisions about finding a balance, if that's even what they want to do. It's about how they find a balance between what they value and see as important in leadership and what the system demands of them or what the system expects or the way the system has always operated, not because it's the way everybody is happy with but it's just the way that it's always been done. So the insight for me is that when teachers start to take control of their professional learning they start to model behaviour on what they've experienced before, even though they don't really like it, it's the only behaviour they know. When they try to fit old behaviours within this programme it really frustrates them because these old behaviours don't fit. (Data source: Facilitator's Journal, p. 22)

8th November, 2010

I just had a meeting with Megan and I'm always nervous when I go to see her because she is a person who is never overly positive and this always intrigues me because when we started this programme she was so enthusiastic to be a part of it and yet all the way through the programme I've been getting signs that it's too hard or it's not as structured as what she would like it to be. It seems to me that she is used to going along and playing the traditional role of PD where, as a teacher, you go along and things are presented to you and you go home and you come back. Of course this programme isn't structured like that, this programme actually relies on teachers articulating their challenges, how they are dealing with them, and they are expected to be prepared to look at alternative ways of thinking about issues in their context.

For all these reasons I guess it has been a totally different experience for Megan from what she expected and I've noticed that she has really struggled. She has not been doing the filming, she is resenting having to use the camera and I find she always needs lots of enthusiastic encouragement. Also, she is not a person who I think is even prepared to celebrate success. I'm not even quite sure, when I listen to her, how she defines success, even though I ask her and even when I listen to her story and I hear that she has had real success she doesn't even acknowledge it, it's like 'oh its nothing'. So in reality I don't go in to see her expecting her to be positive because I've learnt that I'm not going to see it.

Today however, she has achieved all her goals, she set out on this project with a very clear purpose of starting a programme for the Year 10s. Her programme has moved away from the very traditional science content and has really focused on the areas of science that the students were interested in learning and her aim was to really leave them with a positive experience about science. She had hoped that if this programme was successful it would continue next year with another cohort, a wider cohort beyond those students who were planning to continue their studies in science. She has been successful; it is going to run next year. Developing and implementing her programme has been a hard road but she has had moments of real success.

What has she learnt about leadership? From my observations I would say that she still only thinks about her teaching in the classroom and has difficulty distilling from teaching what she is learning about leadership and that is what I find really frustrating. I can't move her away from the activities and the 'doing' of teaching. …… Megan sees her digital story as exactly that – it's only her story she can't see that there might be things about her story that resonate with other people outside her context, these might be issues about leadership in general. Sharing this story is going to be really important and so too are the discussions that emerge as a result of her story. Maybe then she will start to see the value of her experiences.

(Data source: Facilitator's Journal, p. 30)

Building Productive Professional Relationships

In pursuing self-directed teacher learning and to ensure that the full learning potential of each learning experience was explored, the facilitator and the teacher need to work together to establish individual professional relationships. Such relationships in this programme were about continually nurturing trust, equity and acceptance. As outlined in the transcript (above), this was not always easy to do. Relationships were strategically supported by school-based meetings, and as the facilitator I worked to develop and maintain open communication with participants.

Within school-based meetings and programme sessions, my actions were purposeful – supporting teachers to notice their practice and articulate their personal professional learning needs. This required me to find ways of assisting teachers to see their thinking and experiences from alternative perspectives. School-based meetings provided teachers with much needed time to talk about situations and to go beyond 'finding solutions' so they were able to explore challenges and understand the implications of context and experience in dealing with new ideas. Ultimately this required teachers to engage in critical reflection and to develop an awareness of themselves as professionals.

The following entries taken from my Facilitator's Journal capture my concerns about one teacher's capacity to recognise and value the intended connection between programme design and teacher learning in a school context. The entry describes a meeting, which took place at Sophie's school – the intention was to conduct this meeting with a member of the school's leadership team. My concerns related to the appropriateness of the staff Sophie had chosen to attend the meeting. I felt initially concerned that perhaps the teacher was not making a wise choice in terms of supporting her own learning but decided to 'let go' and trust that Sophie was more than capable of making effective decisions. At the school-based meeting that followed, Sophie shared her digital diary entry which illustrated that on reflection Sophie had reached a similar conclusion.

> 27th November, 2009
>
> Who should attend these meetings and how do teachers decide who are the most important and or suitable staff members to attend? What does this say about the teacher's valuing of the programme; the teacher's ability to identify those who hold the power to change conditions within the school; the teacher's ability to improve the likely success of the project?
>
> These questions went through my mind recently as I attended one of these school-based meetings which involved the teacher participant, the school's Curriculum Coordinator and the school's Science Coordinator. There was no sign of the Principal or Deputy Principal and so I just accepted that the teacher had chosen the staff most suitable to ensuring the success of the project. However, the Curriculum Coordinator appeared very disengaged with the meeting and the Science Coordinator was called out to assist with Year 7 orientation. Following the meeting the teacher explained that the Curriculum coordinator was leaving the school at the end of the year (therefore had no real interest in what was taking place in this meeting). So I wondered why she had chosen that person to attend the meeting? The meeting was brief and pretty light hearted and I left wondering how this meeting was intended to convey a shared value for the project and a sense that the project should be

viewed as a priority in school planning. I felt I was working hard to convey this but with no real sense of equal support from the participating teacher.

Was this meeting just held for the sake of having the meeting? Even at this stage of the programme teachers need to be making decisions about what they need in their professional learning. Since this meeting I have had to reconsider the value and purpose of these meetings, so that I am better able to advise other teachers on decisions regarding the support staff they need at these meetings now or in the new year or at all?? My purpose was very much to put the project on the school agenda to ensure that the teacher received the support that he/she needed to enable the success of the project, i.e., have the difficult conversations with the support of a 'sector' representative but I am left wondering about the issue of accountability and value.

Decision making concerning who should attend these meetings was important, if staff are chosen only because they are 'easy' to work with, does this eliminate or remove, to a degree, a level of accountability and importance from the project? What does this convey in terms of the teacher's thinking about the place of the project in their present workload? (Data source: Facilitator's Journal, pp. 2–3)

10th March, 2010

I feel exhilarated today because I met again with Sophie and she shared with me some of the footage she had captured of her reflections to date. The one that I was thrilled with was her reflection on our last meeting together when the Curriculum Coordinator, who was soon to leave the school, and the Science Coordinator left the meeting…..in her reflection Sophie said she was unhappy with the meeting and felt that there was a level of disinterest that she was concerned about. She hoped that a new Curriculum Coordinator would provide inspiration and help her to build on the strengths of her plan. What I was so pleased with was that it was evident that this experience was shaping Sophie's learning; she was taking control and was really thinking about her experiences. In practice she had continued this year to build on the plan, she had started working with teachers from the other campus of her school, had initiated school visits and had put a lot of things in motion. She was pleased with what was happening. I left feeling that maybe this idea of teacher led professional learning is possible, and that it was evident through reflection which then leads to action. The camera was capturing this well. (Data source: Facilitator's Journal, p. 11)

Teachers Aligning Reasoning with Action

The most powerful outcome of my work to support learning experiences was demonstrated when teachers actively linked discussions and observations from learning experiences to issues within their personal teaching context. Such links assisted teachers to identify and articulate their personal principles of practice.

The data set that most powerfully evidenced this outcome were the 'free talk' digital entries where teachers described their thinking. This data evidenced how their thinking was evolving and changing as they continued to notice and think differently about her practice. Such thinking was often not only prompted through experiences in the programme sessions but also as a result of school-based meetings. As a result, teachers were able to clarify what they valued in their practice and the knowledge gained assisted them in deciding upon appropriate actions for their teaching, their understanding of leadership and the complexities of their own professional learning.

In this way teachers appeared to build a sense of professional identity by using professional reasoning to clarify their personal professional principles of practice.

Critical reflection enabled participants to identify the specific tensions that arise between these principles of practice and the reality of contextual action. The emotional investment required to realign action with professional thinking became evident. Sharing new thinking and exposing the complex process of meaningful professional learning became possible in part because such learning was shaped by facilitator action that was purposeful, supportive and focused with the intention of catalysing teacher ownership. The teacher–facilitator relationship was defined by respect and supported through time for deep learning.

Chapter Summary

When the programme facilitator's actions worked to maintain the intention of self-directed learning for each teacher, it provided clarity of pedagogical purpose. As the programme facilitator, I adopted a range of behaviours and actions that were consistently intended to place the ownership of the learning and expertise in the hands of the teachers, assist teachers to recognise personal professional knowledge, develop attention and awareness in action and assist teachers to meaningfully link new thinking and understandings with their own teaching context. My actions paid particular attention to the importance of trusting and supportive relationships and strategised approaches in response to each individual teacher's learning needs. The impact on teacher learning outcomes emphasise how important it is that programme facilitators pay attention to such areas of their practice. In this programme, facilitator thinking and behaviour created conditions that actively positioned teachers to become self-directed learners.

Chapter 10
Teacher Learning: The Challenges of Passive and Intentional Disconnection

Abstract This chapter examines both the challenges associated with the provision of learning opportunities that actively position teachers to be active learners and how these challenges may influence the ways teachers come to understand and respond to a range of learning opportunities. The chapter addresses the difficulties that arise when teachers demonstrate both passive and intentional disconnection to the demands associated with becoming an active learner. The chapter examines potential reasons for passive disconnection and suggests that this may sometimes result from expectations of maintaining a passive approach to learning and an acceptance that control resides in direction from external expertise. At other times the disconnection may be strongly influenced by embedded school expectations about the nature and purpose of in-service teacher professional learning opportunities. Teachers may confront school-based disinterest in the learning and insights they are developing, and this lack of school support challenges teacher confidence.

Introduction

The data in this chapter indicates that while the *LSiS* programme provided opportunities for learning which enabled teachers to explicitly explore and understand more about their professional knowledge and the complex interconnected dimensions which shaped their practice, such experiences were at times difficult because some teachers demonstrated both passive and intentional disconnection to the demands associated with becoming an active learner. At times passive disconnection resulted from expectations of maintaining a passive approach to learning and an acceptance that control would reside in direction from external expertise. At other times the disconnection appeared intentional and was strongly influenced by embedded school expectations about the nature and purpose of in-service teacher professional learning opportunities. Some teachers confronted school-based disinterest in programme intentions and indifference to the learning and insights they were developing. This lack of school support challenged teacher confidence. These expectations were difficult to shift and influenced how teachers understood and responded to a range of learning opportunities.

K. Smith, *Teachers as Self-directed Learners*, Self-Study of Teaching and Teacher Education Practices 18, DOI 10.1007/978-981-10-3587-6_10

The Challenges

As fully detailed in the previous chapters, a number of fundamental operational features for the *Leading Science in Schools* PL programme were important for creating conditions which helped to position teachers as decision makers about what mattered for their personal professional learning. Time was provided for teachers to come together and explore ideas, and the programme design was deliberately formative so that teachers could determine the focus of their learning experiences. Open access was provided for facilitator support throughout the programme, and programme evaluation was ongoing. In these ways the programme actively positioned teachers to think and work differently. However, not all teachers or schools initially embraced the opportunity to be active self-directed learners and found alternative approaches to teacher learning (i.e. from being passive to very active), quite confronting and uncomfortable.

The Challenge of Passive Disconnection

The data suggests that being a self-directed learner relies not only on supportive learning experiences but also upon a willingness of the learner to 'buy into a new role'. For the teachers in this programme, such learning required them to establish a mindset of openness in relation to their role in a range of learning experiences. As evident in the data, some teachers actively embraced the opportunity to step outside of the traditional passive role of PD programmes and utilise the range of learning experiences to make active decisions about their learning. Others struggled as they sought direction and, in particular, how to please the facilitator by delivering a product that might be viewed as successful. For these teachers, it appeared as though the comfort of being a passive learner gave solace and predictability as it was familiar; they knew what was expected and needed to be completed, for these teachers in-service education was about an ability to manage a task.

For some teachers the lack of standardised compliance created a sense of uncertainty, producing two main challenges: teachers sometimes demonstrated a passive disconnection with learning experiences and also an unwillingness to completely recognise and take ownership of their own professional expertise. These challenges appeared to be connected.

In some instances, some participants quietly, yet consistently, waited for someone else to make the decisions about what they should do and how they should do it, a behaviour that could have been interpreted as a passive resistance to owning personal professional expertise. For example, some talked about themselves as professionals but rarely acted in ways that reflected a personal belief in their capacity to work as an independent, confident and autonomous professional. It appeared that by not completely embracing the idea of personal professional expertise, it was possible to remain non-committal to aspects of self-directed learning (i.e. not feel

compelled to accept responsibility to personally develop professional skills and thinking in ways that were personally meaningful).

This notion of passive disconnection was most evident in some teachers' comments about the effectiveness of information delivery. On occasions, the data sets indicated that some teachers were of the view that because of their professional background, they had a right to expect information to be shared in ways that were immediately engaging. If that was not achieved, it was then acceptable for them to lose interest and disengage. In the following transcript, Maree specifically discusses the considerations that must be addressed when working with teachers, and she openly discusses this notion of immediate engagement.

> Maree: …we have to consider the fact that we're presenting to teachers and so we have to be short, to the point, interesting and not go off the point or take too long.
>
> Interviewer: And so do you think that is the criterion that is also important for you in your professional learning?
>
> Maree: Yes I do. If it goes on for too long, I talk to my colleague and he's really bad 'cause in five minutes if it's boring he's finding something else to do. I can concentrate much longer than that but it is interesting probably with a younger male sitting with me, the different ways we react to things, but that's good because there are plenty of younger people or people with his kind of personality that I would have to work with. So becoming aware of that has probably been valuable as well.
>
> Interviewer: So what about moments in the programme where you didn't feel so engaged or you were a bit bored or you didn't enjoy it quite so much?
>
> Maree: Well the one that really stands out in my memory, and I don't remember the lady's name from the Sector and she was talking about leadership but it sort of goes against all of the points I said before about when you are speaking to teachers you need to think about the kind of professional they are and that they are not going to put up with a presentation that is long winded, disorganised. I can't remember everything but it just didn't speak to me about anything that I thought would be useful. (Data source: Interview 1 – Maree, pp. 2–3)

Waiting for speakers to engage them or connect with them represented behaviour that could be described as exemplifying the notion of passive disconnection. If engagement was not achieved, then failure was attributed to the guest speaker. Such comments suggested that it was not a universally accepted notion that professional responsibility involved being an active learner in these situations.

While comments relating to the guest speaker dealing with the topic of difficult conversations conveyed harsh criticism of presentation techniques, much of the session (referred to in the quote above) focused on the importance of effective communication, and yet there was no evidence in the data sets to suggest that any teachers considered this information from the perspective of the colleagues they were leading (i.e. the difficulties their colleagues may face in managing up or finding ways to approach them for assistance). The following comments are indicative responses to this session.

> Megan: I found the lady who talked about managing up, quite frustrating because my issue isn't managing up my issue is managing down. And at the end of her session or the next day or something I got the sense that other people also were having problems managing the faculty as opposed to managing or working with the hierarchy within the school. So I found her frustrating because it was like OK well I wanted strategies of the down bit and not the up bit.

> Interviewer: Did you feel it was more the content of what she was saying?
> Megan: Yes it wasn't an issue for me so it wasn't as relevant as the other direction. (Data source: Interview 1 – Megan, p. 3)

Teachers sometimes appeared to be unwilling to enter into a situation where they were expected to find the learning opportunities for themselves. Such a mindset is interesting as it provides a potential insight into some teachers' expectations of learning in PD programmes; rather than seeing the experience as an opportunity to initiate their own learning, sometimes the default position of passive learner emerges, and the responsibility for motivation then tends to reside with someone else (e.g. a speaker's responsibility to engage a passive audience). Such behaviour at times presented challenges for the facilitator as evident in the following journal entry in which it was noted that uncomfortable experiences may have a place for participants in programmes working to position themselves as self-directed learners. It may be through such experiences that teachers begin to step outside of the passive learner role.

> December, 2009.
> Another interesting observation was that teachers often clarify what they like or need by experiencing what they don't like. This seems to be common knowledge to others I have spoken with however it is not what I had imagined. I began to think that it is important to deliberately include sessions or information presented in a way that is counter intuitive just to ensure that it wakes teachers out of the passive participant role … perhaps these teachers are so practiced at playing the passive learner role that it is actually very difficult for them to step outside this. How will I use this to think about the coming sessions? (Data source: Facilitator's Journal, p. 6)

It also became clear throughout the programme that while passive disengagement was observed, there were also times when teachers intentionally disengaged with learning experiences due to lack of school-based support. Embedded cultural expectations about the purpose of teacher learning and the limited contribution of such learning towards school-based change often ensured that teachers did not find the support they needed from their school to become active self-directed learners.

The Implications of Embedded School-Based Expectations About Teacher Learning

While as facilitator I actively worked to ensure that the learning environment in all programme sessions was supportive and learning experiences were purposeful and differentiated, essentially school-based support was a critical enabling factor for meaningful teacher learning. Working as self-directed learners required teachers to be secure in the knowledge that their school would support them as they began to experience professional learning differently, reconsider school culture, and think differently about their role within the school.

In this programme learning was understood as a nuanced and fluid process rather than something predetermined or finite as often represented in other in-service pro-

grammes. Teachers were required to think and work in ways that were personally meaningful, and throughout the programme the facilitator supported them to consider ideas and experiences from a number of different perspectives, in particular in terms of the influences and needs of their specific contextual reality. By recognising the importance of each school's uniquely contextualised situation, I was able to provide learning experiences that fostered open and honest dialogue where a range of alternatives and possibilities were exchanged. Teachers worked to find their place within existing school structures and attend to what they valued in terms of effective leadership. They made decisions about how to make sense of new information knowing that the changing needs of, and interactions taking place within, their school-based circumstances positioned their practice as something that was understood as problematic.

For teachers to begin to value the understandings they were developing about their practice and to explore the full potential of the learning experiences available to them, they needed to see that the place of their work was recognised and valued within the complex culture of school operations. Schools, in particular school leadership, needed to actively invest in the work these teachers were undertaking and recognise their individual professional learning as potential opportunities for whole school professional growth and development. To do this effectively, schools needed to reconsider 'useful' or 'relevant' knowledge of practice as something beyond accepted expectations about obtaining, or gathering up, activities and strategies that work.

Participating teachers needed to know that their school valued their growing capacity to understand and effectively respond to the changing nature of school context and that the associated skills and thinking they were developing would be considered as useful and relevant within their school setting. However, it became clear that some teachers were not receiving this type of school support, and when they returned to school, there was little demonstrated interest in their experiences. Consequently, for some, their ideas were met with indifference; they worked hard to justify their ideas and had to actively seek support for their work.

It seemed that schools generally expected in-service programmes to provide definitive professional practice that aligned with, rather than invited, an appraisal of school-based practice; it was acceptable for personal practice to be considered as problematic; however, taking this stance with school-based culture was another matter. For teachers working in these conditions, there appeared to be little reason to buy in to an alternative approach to teacher professional learning, and as the facilitator worked to create conditions to enable them to make decisions about what mattered for their own learning, some felt that the outcomes of these decisions didn't really matter in the scheme of their workplace.

> Carol: And we're in an awkward situation now because we've built up a lot of relationships with a lot of people and there's a lot of trust in us and in our guidance and now most of the people or many of the people who we've had relationships with for a long time are leaving and a whole lot of new people are coming in. So we would virtually have to start again and the only way you could do that is if the new people could see that the people above you give

you the trust and we don't see that at the moment, so we are beating a drum that is not likely to make a nice sound. (Data source: Transcript 4 of final session, p. 2)

Without such support, self-directed learning was risky business. Not only was such learning demanding in terms of emotional and affective engagement, it also was demanding in terms of self-esteem, challenging a sense of self-worth and confidence and a high professional price in the demanding regime of school operation. The following comments convey the personal challenges teachers faced and the high cost to a sense of personal adequacy and programme commitment.

In her words being in this programme was like she had discovered a scab and she'd scratched it and she wished she had never touched it because 'all this puss was oozing out and the problem had got bigger', all of these other issues had emerged. She wasn't happy, she wasn't doing anything right – it's been a disaster. (Data source: Facilitator's Journal, p. 22)

Claudia: Knowing that someone believes that I can do something makes me want to do it and do it as best as I can. But feeling that perhaps you're not valued you're not trusted you start to reconsider a lot of the decisions that you make, things that you would have just done automatically knowing that you were working within that environment where you were valued you were trusted, that changes. (Data source: Claudia, Interview 1, p. 3)

This lack of school support has been discussed in previous chapters; however, it was a critical factor for enabling teachers to take full advantage of both programme learning experiences and facilitator support. Teachers potentially encountered these embedded expectations in the language used at their school. This is evident in the following transcript which captures a conversation following Anna sharing her digital story on the final day of the programme:

Sophie: One of the things that I noticed you said there was that you wanted to know where you were going with the project but it's all very well to introduce something new but you need to make sure that it keeps going. So there's no point in going right well let's do this and everyone gets enthusiastic for a couple of weeks and then it just dies off. You need to keep going and when other things come up you still need to keep going back to still sharing at every staff meeting.

Anna: That's like sometimes when you use the word 'project' like I didn't tell staff what I was doing because if I'd told them and used the word 'project' then they'd think that it was short term, they think you do it once and then that's it.

Maree: They think it is just about you.

Anna: They think it is just about me I'm only doing it because I have to do it not because I want to do it.

Facilitator: So language can sometimes become a challenge and you're noticing that these things are all inherently related because of the way that language has been used within that culture within that work place, it then starts to shape people's thinking and expectations … (Data source: Transcript 1 of final session, p. 2)

The actions of the facilitator were diminished when schools continued to consider in-service programmes as an individual teacher requirement rather than an opportunity for school growth and development. While schools had agreed to support the participating teachers, in general they made very little effort to open up discussions with teachers to learn more about the skills and knowledge being developed and how information and ideas could be applied to enhance school-based learning and teaching. That situation made it very difficult for teachers when they

returned to their school setting. As a consequence, at various times, teachers appeared to succumb to the doubts and indifference of their school-based culture by disengaging with the facilitator's efforts to provide support and/or question the value of programme experiences. This created challenges for the facilitator in terms of finding effective ways to facilitate self-directed learning and highlighted the importance of school support and active involvement in teacher learning opportunities.

Chapter Summary

The *Leading Science in Schools* PL programme strategized learning experiences, which supported a new purpose for professional learning, i.e. teacher self-directed learning. This new purpose provided a new identity for teachers as learners; however, the success of this new approach relied equally on teachers themselves being willing and ready to change their approaches to learning and find unexpected opportunities for new thinking and ideas. The capacity to do so defined their professional expertise and enabled them to utilise a range of learning experiences to develop their professional knowledge of practice. Teacher investment in self-directed learning was also enhanced when schools enabled them to position their professional knowledge and expertise in ways that enhanced school culture and action.

Part IV
Explicating Teacher Learning: Going Beyond Tasks

Understanding the Nature and Implications of Teacher Self-Directed Learning

This section attempts to clearly convey the nature of teacher self-directed learning by focusing on the processes and learning outcomes of the many decisions teachers undertake to inform their practice. This section seeks to understand the nature of teacher learning by moving away from the more traditional view of behavioural objectives being indicators of learning to a broader base that incorporates the processes of teacher decision making as a determinant of learning. The professional knowledge and expertise that emerges from teachers' decision making relates to the construction of new understandings, and this section examines how such thinking can be tracked, documenting learning and potentially adding value to school operations and student learning outcomes. In doing so, this section also outlines how teacher self-directed learning requires certain obligations from schools and education sectors to acknowledge and value the new knowledge teachers generate.

Chapter 11
Teacher Decision Making: Teacher Learning

Abstract This chapter provides insights into the nature of teacher learning, in particular the thinking and actions that characterise teacher self-directed learning. The chapter illustrates that when teachers are supported to work as self-directed learners, they are allowed to work in very different ways to accepted PD experiences. In these conditions, it becomes possible to capture changes in teacher thinking and actions over time revealing the tacit knowledge of practice that teachers use everyday. This knowledge becomes explicit in ways which illustrate how such thinking shapes teachers' practice and how they make sense of their experiences to construct professional knowledge.

Introduction

As evident in previous chapters, the teacher participants of the *LSiS* programme made decisions about the value of ideas and experiences they encountered in the programme. They also determined how they would translate new thinking into appropriate professional practice and made decisions about the relationship between personal values and expertise. The results of this study demonstrate that because participants were able to effectively engage with the experiences in the programme, these experiences influenced their decision making and produced deeply considered and valued learning outcomes in the form of new knowledge about, and new perspectives on, current practice and school operations. Interestingly, what became frustrating for these teachers was the lack of opportunity to position this knowledge in ways that could improve school practice and enhance learning outcomes. A school's perceived failure to capitalise on the potential contribution of their teachers' professional knowledge appeared related to the (previously noted) embedded cultural assumptions about PD programmes, in particular the potential operational benefits derived from personal professional learning. It is important to explore the nature of teacher self-directed learning and the challenges participants faced as they attempted to contextualise their learning because if schools and education systems could grasp these challenges, it could lead to a reconsideration of the potential contribution of teacher learning to school improvement.

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Attempting to Understand the Real Potential of Teacher Learning

In an educational climate of intense accountability, change in teacher practice, particularly sustained change, has become valued as a key indicator of effective and worthwhile teacher learning and development. Studies designed to determine the empirical relationships between teacher professional development, instructional practice and student achievement have largely predicated judgements based on behavioural objectives, i.e. what teachers do (Huffman et al. 2003; McBer 2001; Timperley et al. 2008, pp. 127–128). Utilising observable behaviours as a source of evaluation reflects a movement to create tangible operational definitions to bridge the often intangible and inaccessible divide between thinking and behaviour. Given the difficulty of directly observing people's thinking, observing behaviour is seen as providing an indirect expression of knowledge (Shakouri and Mirzaee 2014).

It would be fair to suggest that the underlying assumption related to the ideas (noted above) is that an easily definable relationship exists between behaviour and knowledge (Shakouri and Mirzaee 2014). As learning is a complex phenomenon, it is unreasonable to assert that behavioural objectives alone efficiently capture or enable the process of learning in an absolute sense. As outlined by Richards (2001), there are major criticisms of such movements including the reduction of teaching to a technical activity with a focus on efficiency, i.e. the most efficient means to an end is justified. The product-oriented nature of behavioural objectives trivialises the complexity of teaching practice and as a consequence trivialises teaching in the process. Behavioural objectives may be suitable for describing the mastery of skills, yet observations of behaviour alone do not capture the reasoning and critical thinking which informs and determines teachers' actual practice.

Another assumption that could be posited as underpinning such approaches is that the nature of learning is linear and uncomplicated, something ordered and sequential, 'made' or 'created' as a result of something else. Opfer and Pedder (2011) argued that using a process product model for teacher learning reduced the practice of teaching to a technical activity which conveniently enables the empirical to 'be' teacher learning; however, such observations provide very little insight into how teachers make sense of, and engage with, new information. What teachers actually learn, why this matters and how they determine the most effective ways to position new approaches within their practice, is often held as tacit knowledge bound up in the decision making and thinking that teachers engage in on a daily basis (Loughran 2010). The findings of this study have demonstrated that teacher thinking is complex, nuanced and fluid, and the process of capturing evidence of teacher learning in their actions alone provides an incomplete picture of this complex process.

To understand the nature of teacher learning requires a move away from the more traditional view of behavioural objectives to incorporate the processes of teacher decision making as another determinant of learning.

The professional knowledge and expertise that emerged from these teachers' decision making was related to key considerations that they worked through to construct new understandings, and the data showed, such thinking could be tracked across the programme. The outcome being that the documented learning could potentially add value to school operations and student learning outcomes despite the fact that through the project, this learning often remained unexplored at the school level.

Understanding the Fluid and Nuanced Nature of Professional Practice

In the programme, which was the focus of this study, teachers worked as self-directed learners, and they were supported to value and explore their teaching as a rich context for personal learning. They were also required to embrace the tacit knowledge that is so deeply embedded in their everyday practice. Teacher participants articulated and clarified their ideas and thinking to engage in the social construction of professional knowledge. As facilitator I worked strategically to capture and share the emerging understandings across the cohort and mirror these back to participants for critical analysis. Doing so was difficult work for the teachers and myself; however, the process enabled the explication of how their knowledge of practice informed their teaching. In so doing, programme content became less about effective teaching actions and more about the important role of critical reflection in understanding and enhancing practice. Opportunities for differentiated learning emerged as teachers interrogated and articulated the relevance of proposed ideas and viewpoints in relation to the contextual reality of their teaching situation. Participants considered new ideas in light of their personal professional knowledge and determined contextually relevant actions as a consequence. As they did so, they began to distil and articulate what could well be described as essential principles about their professional practice.

The previous chapters demonstrated that one aspect of the PL process that was problematic for teachers was the realisation that their practice was not fixed or predictable but rather nuanced and fluid as they responded to changing needs and situations. This study has characterised teachers' practice as being intrinsically related to their individual professional knowledge, shaped by the complex and changing context in which they work. Engaging in self-directed professional learning created opportunities for teachers to grapple with new information which, in some instances, created uncertainty and unanticipated tensions between thinking and action.

The data illustrates well the intellectual rigour teachers engaged in as they struggled with decisions about how to determine the value of new ideas, position new ideas within current practice, recognise the interconnectedness of contexts and practice and articulate personal principles of action. In so doing, participants confronted the problematic nature of practice and recognised that through the many

dilemmas they consistently managed, they made judgements about that which they considered to be appropriate action in response to varying pedagogical situations.

As the data consistently demonstrated, teacher thinking and personal learning was evident through exploring the how and why of adjustments in their practice in a constant process of seeking to align developing understandings of needs and demands within the constraints and opportunities in teaching. The relationship between the approaches they adopted and adapted in their practice, and their deeply held personal principles about effective professional practice, became increasingly evident. Over time, amidst the ongoing fluctuations of teaching realities and changing teacher confidence about personal professional practice, participants clarified their principles and articulated that which mattered to them as professional educators. Participants did not arrive at this point at the same time or by following the same path.

Teacher Decision Making and Teacher Learning

Personal self-directed learning required a high level of intellectual engagement. Teachers attended to a number of key considerations which focused their decisions about what mattered for their learning. How teachers attended to these considerations became key determinants of teacher learning, in particular how they:

- determined the value of ideas and experiences;
- worked to understand and manage the complexity of translating new thinking into appropriate professional practice; and,
- identified the important values underpinning practice.

As teachers continually attended to these considerations, their level of intellectual engagement appeared to deepen. Thinking moved from initial concerns around the technical aspects of practice to more complex interconnections between the realities of their work context and how that shaped their thinking and the options they chose to explore and implement in their practice. When teachers attended to these considerations they talked about their practice in ways which revealed interesting insights about their learning, they were able to articulate the thinking that characterised their learning.

How teachers attended to each consideration will now be discussed in terms of the distinguishing characteristics learning.

How Teachers Determined the Value of Ideas and Experiences

Unlike many other professional learning opportunities, this programme did not predetermine for teachers a value or application for any of the ideas and experiences explored in the programme sessions. Each teacher was required to actively

determine if and how they would engage with the information being presented. Teachers were supported by purposeful and strategic critical reflection and were encouraged to talk about why and how they each engaged with ideas and experiences. The data illustrates that over time, teacher thinking shifted from initially valuing information in terms of strategic approaches to enhance existing teaching to a personal commitment to ideas as principles of practice. This change indicated a deeper consideration about the complex nature of their professional work, and considerations of teaching in this way became an indicator of teacher learning.

Initial reasons teachers engaged with new ideas and experiences generally related to what could be described as 'obvious' links, i.e. teachers recognised and responded to information that immediately connected to their teaching. Such connection was based on similarity or meeting a need, e.g. if teachers found immediate application of ideas in their teaching or they could recognise a strategy to enhance their existing professional practice, they then engaged with the information.

Over time participants began to describe personal challenges in their practice and a desire to draw on new ideas as a means of developing alternative ways of working. That changing mindset about the nature of their professional practice, recognition of both the problematic nature of teaching and the important role they played as decision makers, illustrated a change in understanding about practice. Teachers began to see a need to examine deeply embedded issues within their own practice and engage with information to think differently about everyday problems or issues. They recognised a need to personally adapt and respond to the changing nature of their teaching context. Engaging with programme information provided an opportunity for participants to examine alternative perspectives, and those experiences enabled them to delve into some deeper underlying issues.

Participants began to see ideas and experiences beyond the technical application and became more focused on understanding the interconnectedness of the personal, interpersonal and contextual dimensions of practice. These shifts in teacher thinking together with the range of diverse actions they came to recognise and develop, became indicators of teacher learning.

Maree demonstrated such a change in thinking. While initially focused on learning about how to use the flip camera as a way of assessing student learning, her thinking moved beyond that to exploring bigger issues around the contextual dilemmas of leadership within her school as the following quotations demonstrate.

> My excitement came from the idea I had that I could actually use a camera to help with my assessment particularly in relation to practical skills that when you are running a really busy classroom if you could record it in some way, it would be easier to see what students were actually doing for more of the time. I also thought it would be useful to record demonstrations that were difficult to set up or that were one offs so that students who were absent would actually not miss out and also so that it could be reviewed to think about ideas and concepts that we were trying to develop. (Data Source: Free Talk. Maree)

Overtime Maree became engaged with other issues in the programme, in particular ideas around leadership and the role of effective relationships. Her contributions to discussions indicated a shift in focus from a technical perspective, i.e. the use of the flip camera in the classroom, to exploring the interpersonal and contextual

dimensions of leadership within her teaching context. Through these new perspectives, aspects of professional practice became problematic and illustrated to her that there were no easy solutions.

> Maree: As we sit here and talk about all of these leadership things I think about the school where Keith and I are at and our leadership team. We have this massive school and I just think defining what makes leaders good with nearly 1500 (students) on one campus and over 2000 on two campuses that our principal is in charge of. How can he build relationships? I would never want to be a leader of a school that big because the relationship thing is important. (Data Source: Transcript 4 final session, p. 4)

Towards the final stages of the programme, Maree articulated a shift in her values, ideas and experiences within the programme. While she still held the use of the camera as a valuable teaching tool, she explained that 'thinking about thinking' and making her digital story required her to contemplate many aspects of her practice and determine what she valued.

> Maree: So it makes me sort of think well maybe I can do this and I think one of the things I value the most about any kind of PD though still is about getting things that can be used in a classroom and so that's my focus and I've been able to identify more things about myself than I ever have before so I think that's the thinking about thinking. Doing this film forced me to do that even more than just being on the days that we've had because I've really had to select things and make decisions about what I thought was important to me in the end and what wasn't. (Data Source: Transcript 5 final session, p. 1)

This data (above) illustrates the type of shift in thinking that was evident among many teachers in the programme. Initially reasons for engagement with new ideas and experiences were driven by an immediate and obvious connection to teaching. With time and support, teachers became more focused on understanding the interconnectedness of the personal, interpersonal and contextual aspects of practice and drew on new ideas as a means of developing alternative ways of working.

Translating New Thinking into Appropriate Professional Practice

Teachers made decisions about how new ideas and information influenced their thinking about their existing teaching context. Comments repeatedly highlighted issues about the credibility of approaches based on 'ease of implementation'. Initially, such talk was technical – essentially about doing things or initiating actions to produce immediate observable, and therefore successful, change. However, over time a growing awareness emerged that illustrated how their actions were situated within and shaped by a number of sometimes complex, contextual factors. They did not work in isolation, and decisions they made became part of the social fabric of their own contextual reality. As they explored ways of positioning new thinking in their practice, they also articulated their ideas about that which mattered in their professional practice. They inevitably experienced tension between the ideas they valued and the accepted culture of school-based practice.

Self-questioning became an indicator that they were working through a learning process marked by a significant shift in how they positioned themselves to be part of the process of school-based change. To understand how that process was evidenced, the following sections of data have been collated to convey the type of learning Joanne experienced as she worked through these learning processes. The data is presented as a 'joined up' set through Joanne's story.

Joanne's Story

In the early stages of the professional learning programme, Joanne described how she was going to implement immediate and successful action. Joanne talked about the need to break down information into smaller sections and translate ideas into 'little things'. Her language was technical as evident in the following comments where she talked about appropriate action.

> Maybe if I took just one or two little things maybe rather than a massive whole picture. I think that's the way I look at it. (Data Source: Interview 1, p. 1., Joanne)

A shift in Joanne's thinking became evident when her talk changed to identifying a new challenge – changing the mindset of her colleagues about the role and importance of science within her school. Joanne's talk demonstrated a growing awareness that her actions were situated within a greater context of the school-based culture. She tried alternative strategies and appealed to the shared values, which she believed teachers in her school held as important, i.e. the development of student oral language. Joanne recognised a range of contextual elements, including time, curriculum priority and teachers' attitudes to sharing success, and saw that these were aspects of practice that she needed to consider if she was to attempt to lead change constructively.

> Joanne: I think my greatest challenge is having to be a little bit clever about it because the programme is leading science in schools and no one cares about science, that is my role no one does anything about it, so how do we get the others on board? Well I did try a little bit and I did try and use science as the vehicle to show how you could assess hands on learning and that was no good so then I think I just took a step back and went ok I'll come on board with what you want - oral language. Oral language we'll just do it the way that you want it so I just went with that a little bit more. Yes I think it's having to be a little bit clever and try and make what I need to do fit with what they want to do. (Data Source: Interview 1, p. 5*)*

Joanne acknowledged that a substantial amount of personal energy and commitment was actually required to shift accepted school-based practice, in particular shifting structures she herself had established within the school. The needs that once determined accepted practice within the school had changed, and Joanne began to question the structures that were in place and the purpose they now served in terms of student learning.

To Joanne, achieving meaningful change was not just about finding a successful action to implement; it was about working with others to establish a shared vision

and aligning actions to that clearly stated, shared purpose. Her comments provide evidence that she had reframed and developed her thinking in ways that were personally meaningful. It appeared that her initial confident ideas about affecting change had become less certain.

> Listening to the speakers today and listening to the other teachers there I think they've got the passion and they want to make a change and my big change is probably to hand over that science role, not to be the only person in the school that's doing it. I think 6 years ago our rotation programme really met the needs of what we wanted to achieve. We wanted to engage the boys, we had a high population of boys and we wanted to engage them and we wanted to provide hands on learning opportunities. We wanted to have the students in gender groups so it strengthened up their friendships, especially the girls because we felt that they didn't have the numbers in their own class groups, so by putting them together on alternative days we would strengthen their friendships and I think we've done all of that. At times I think that we are just locked into this structure and we keep trying to make things fit to the structure. We started with just Grades 3 to Grade 6 then we moved to whole school and as the schools got bigger and as the staff has changed I think that we've just tried to shove things in and we've moved from that hands on focus to that oral language focus and at times it frustrates me because I don't know if we're just trying to find an outcome to meet a programme that the students and the parents really value. I think in terms of teacher workload it's huge, it's a very different focus to what you plan for the rest of the week for your class and at times that's frustrating. I think originally when we started 6 years ago I'm the only one left of the original teachers that were there, others have retired or become the principal or curriculum coordinator or something like that and a few people have changed subject areas but I haven't changed subject areas. I think that I'm probably ready for a change and to move onto another challenge. (Data Source: Free Talk. Joanne p. 1)

Joanne's story demonstrates that teacher learning was evident when she reconsidered the entrenched and accepted routines of teaching and when she became aware that actions were directly impacted by, and were connected with, the work of others. Her growing awareness of her 'professional self' indicated that she was developing an understanding of the complexity involved in translating new thinking into contextually relevant action in ways that were manageable to achieve the outcomes valued.

Identifying the Important Values Underpinning Practice

As teachers became more aware of the complex contextual connections that shaped their practice, they had to determine that which was 'worth holding on to' and the aspects of their personal thinking that needed to change. That was clearly a challenging task, and participants were encouraged and supported to articulate their thinking in terms of the principles they believed underpinned their practice.

Initially as teachers engaged in thinking about issues in their teaching, they often talked about feeling overwhelmed by the challenges they faced, and the indicators of success became more difficult to describe or achieve. At these times, it was repeatedly observed that many teachers experienced a decline in personal confidence. Their practice, which had previously been certain, became less certain in the

face of influences that appeared to be beyond their control. Part of the tension they experienced appeared to be linked to their personal expectations, i.e. they had expected that the application of new ideas would be easy and would produce sustained and consistent school-based action.

As participants began to understand the fluid and nuanced nature of teaching, it became evident to them (e.g. as in Joanne's story) that they experienced overwhelming frustration along with a realisation that in order to effectively implement new thinking, many contextual elements needed to align and that was often very difficult to achieve. Achieving a personally desired outcome required teachers to take time, think carefully and clarify that which they valued.

A very powerful example of teachers working to identify the values that became important in determining their practice was evident through Claudia and Carol. In a similar vein to Joanne's story (above), Claudia and Carol's stories illustrate the type of teacher learning that emerged when participants worked to articulate their values.

Carol and Claudia's Story

Claudia and Carol worked at the same school and had done so for many years. Both were experienced teachers with established and productive working relationships with previous principals whom they respected enormously. In previous years, both had enjoyed school leadership support and received acknowledgment of their expertise and professionalism. They assumed that under any change of leadership, their work would continue to be valued. When a new principal was appointed to their school midway through the programme, the conditions within the school changed dramatically and these changes created new challenges. The demands they now faced from leadership required them to determine the aspects of their practice which were most valuable, i.e. what was 'worth fighting for'. Both described frustration with the school's communication and support strategies that had been put in place by new leadership, they considered these to be inconsistent and inadequate. The changes that occurred in the school impacted profoundly on their capacity to maintain existing approaches which they valued and/or to implement new ideas as leaders.

Interviewer:	So what do you think has been the biggest issue for you with your leadership within the school?
Claudia:	Having a voice and actually feeling that my voice is valued. That's been a big challenge.
Interviewer:	And that has changed?
Claudia:	Yes that's changed.
Interviewer:	So are there certain conditions that are required in order for you to have that voice? Are these things missing, things that have changed this year?
Claudia:	Yes and then that impacts on how empowered you feel in your role and wanting to go with the flow but also knowing that a lot of things were working well and perhaps they didn't need to change.
Interviewer:	So what role do you think trust has in leadership?

Claudia: It's huge, huge. It comes back to that building the relationships so that trust can happen.
Interviewer: Does that trust empower you?
Claudia: Definitely, yes definitely. Knowing that someone believes that I can do something makes me want to do it and do it as best as I can. But feeling that perhaps you're not valued you're not trusted you start to reconsider a lot of the decisions that you make. Things that you would have just done automatically knowing that you were working within that environment where you were valued you were trusted, that changes. (Data Source: Interview 1, Claudia, pp. 3–4)

Both teachers described changes in their feelings of personal adequacy working as school leaders; they moved from feeling confident and self-assured to feeling deskilled and inadequate and demonstrated a loss of focus.

Claudia: The new structures within our school and the new style of leadership has at times inhibited my own confidence in being a leader and made me less sure of my own capabilities and what my colleagues think of me. It's been difficult with such a new staff with a diverse range of experiences and expectations to build the relationships that I would have liked to build with some people but relationships are a two-way street and being part-time is really challenging when trying to build relationships, especially when you're not really put out there by the leaders in the school as someone that new people could go to or contact via email or phone. (Data Source: Free Talk. Claudia)

For both teachers, their efforts to affect the types of school-based change they wanted were continually challenged by specific contextual factors. Frustrations emerged as both expressed the unsettling experience of moving from feeling that aspects of their practice were reliable and certain, i.e. being able to control and direct school-based change and receive acknowledgement and respect from colleagues and leadership, to suddenly feeling that these areas of their practice were now uncertain and unpredictable. The wider circles of influence came into perspective, and the sector expectations and ethos along with the political imperatives of the education system as a whole, appeared to impact their personal values and sense of initiative.

Claudia: They [the staff] have to live it, they have to live it and there's no one size fits all and we had to place a lot of trust in them [the staff] and we are not there to give them any answers but then there is a push from leadership that we need to make them more accountable for what they are doing. Our documentation needs to be better and then that's kind of taking away their voice in the process. (Data Source: Final day transcript 2, Claudia p. 8*)*

For both teachers, their views (above) highlighted a realisation that they did not work as sole agents of change; their action was situated within, interconnected with and dependent upon many other factors within their workplace context. As a result of the appointment of a new principal, Claudia and Carol were required to attend to different, and for them uncomfortable, styles of leadership involving principles of practice that were clearly different to their own. Previous conditions had been comfortable and had not required them to explicitly identify that which they valued as essential principles of professional practice, but as a result of intense discomfort and

frustration, both teachers came to see a need to characterise themselves as different to the leadership they were experiencing.

Both teachers began to realise that their ideas about practice were still important, but how they applied their thinking needed to be re-evaluated. The interplay of contextual dynamics caused them to accept that change would take time. Sometimes professional behaviour and actions needed to change depending on the situation, and that was not an indicator of weakness as a leader but rather an indicator of deep understanding about the conditions necessary to produce effective change.

> Claudia: Although I have been challenged what it has done for me is strengthen my own beliefs in pedagogy, in student voice, in action that matters, in teacher voice. So although I have been challenged by new structures, new leaders, new relationships it has only strengthened my own personal and professional views and values. So I guess that is something I will take with me after this experience and also to never undermine the relationships in schools and the trust you put in people because when you put that trust in them they will always rise to the occasion and go beyond what you ever thought possible. (Data Source: Free Talk. Claudia, p. 1)

> Carol: So if nothing else happens we leave a legacy of something that students of the future will learn an enormous amount from and will gain an insight into the environment and what we have to look after, what we have to be proud of and hopefully it will make better citizens of students as we go along. (Data Source: Free Talk., Carol, p. 1*)*

The *LSiS* programme intentionally sought to create opportunities for both teachers to reflect upon and articulate the principles which guided their practice. On the final day of the programme, teachers shared their digital story, and together with the group they explored embedded issues.

> Claudia: Building relationships is essential. You need to know your team - their strengths, challenges and goals to be able to move them forward. You need to build trust with people to get the best from them. Once you achieve this they will move with you. (Data Source: Final day Transcript 2, p. 8)

The major principle of practice (relationships) Claudia stated (in the above quote) illustrates what she had come to value as important. Her quote powerfully captures her learning in terms of the values underpinning her practice.

Indicators of Low Engagement

How teachers worked through each key consideration and the thinking and actions that emerged as a consequence became indicators that they were working, often very rigorously, to make sense of information in meaningful ways. However, there was also evidence of low levels of engagement; these included:

- teachers demonstrating a constant and unwavering state of acceptance, certainty, self-assurance and confidence in the validity and value of all new ideas they encountered;

- teachers who continued to perceive their professional practice to be unproblematic;
- teachers who continued to immediately dismiss any new ideas;
- avoidance behaviour, e.g. teachers who did not make themselves available for involvement in programme support strategies, e.g. school- based meetings
- unexplained or repeated absence throughout the programme;
- inability to identify and articulate what mattered in personal professional practice, after investing ongoing time; and,
- generalised statements demonstrating little or no personal perspective.

The list (above) initially reads as quite stark and confronting. However, there was no evidence that any teacher consistently demonstrated all of these behaviours throughout the entire programme. More so, and perhaps as would be expected, nearly every teacher demonstrated some of these characteristics at different times throughout the programme. The list draws attention to the fact that for each teacher levels of engagement shifted across the programme and this sometimes made it difficult to determine the personal commitment they had to the programme experience. The following transcripts, taken from the Facilitator's Journal capture the inconsistency of Anna's behaviour.

> 3rd November 2010
>
> I just finished an interesting meeting with Anna I find these meetings very thought provoking because she is very good at being 'very good' at meetings, she is always organized and tells me what she's learnt and it's almost like we tick all the boxes but I'm never quite convinced about the depth of learning that is actually happening in her professional practice or her professional thinking. The last time I came out to the school, which was quite a distance to travel, I got there and she was not there, she was absent from school that day and she had unfortunately forgotten to contact me. Then when we had our session together, the day before she contacted me and said she was unable to come to the programme because there were far too many things happening at school. So when I came out to see her today I expected her to be interested in what had taken place and some of the issues and experiences of other people in the group . But it was almost as if she didn't need that workshop to be able to participate in today's meeting. She immediately went on and told me that she had nearly finished making her film, there were issues that had emerged for her, these were the things she was thinking about and I'm not really convinced that they are anything different to what she was thinking about early in the year. So how genuine these conversations are and how much of an impact they have had on her thinking I'm not sure. I am really sceptical and believe that maybe she tells me what she wants me to hear. I'm left with a lot of questions. (Data Source: Facilitator Journal, p. 28)

At the completion of the programme, Anna emailed the facilitator expressing her thanks for a very worthwhile learning experience.

> Thanks so much for a fantastic session yesterday. I had a meeting with the curriculum coordinator this morning and showed her my video; she was really impressed and loved what the project and programme was all about.
>
> I'll be showing and talking about the programme at our next curriculum meeting, feeling a little bit nervous about it, but I am looking forward to the opportunity. Again, thanks so much!!! Anna (Data Source: Facilitator Journal, p. 31)

Inconsistency in teacher behaviour and reactions, as illustrated by perceptions of Anna's engagement, made it difficult to track consistent change in every teacher's thinking and therefore learning.

Chapter Summary

If teacher action alone remains the prized outcome of professional learning, then understanding teacher learning will remain focused on the tangible, observable outcomes. However, the *LSiS* programme demonstrated that it is possible to develop new ways of talking about and identifying teacher learning by paying attention to how teachers seek to make sense of information and experiences. Under the programme conditions, teachers demonstrated a capacity to make decisions about a number of key issues for their own learning and began to notice their professional thinking and behaviours in new ways. The experience of professional learning allowed and supported them to be aware of what they were attending to as they developed meaningful and contextually relevant approaches to their practice.

Chapter 12
Implications for Approaches to Teacher Learning

Abstract This chapter explores the implications of this type of professional learning for sectors and schools. The knowledge that teachers develop about their professional practice could be used by schools to shape and guide effective school-based leadership; however, there appears to be little opportunity for such application to occur at the school level – or more widely beyond programme cohorts. As such, this situation raises important considerations about what it might mean to value teachers as professionals in ways that recognise and meaningfully employ their developing professional knowledge and expertise.

Introduction

This chapter explores the implications for education systems, sectors and schools when developing understandings of teacher professional learning. The *LSiS* programme provided insights about leadership which teachers developed as a result of their experiences in this programme. The knowledge that participants developed could have been used by schools to shape and guide effective school-based leadership; however, there seemed to be little opportunity for that to occur at the school level – or more widely beyond the *LSiS* cohort. As the learning in this programme focused less on the action of teaching and more on understanding the professional thinking and principles which underpinned participants' professional action, the documented learning outcomes challenge school preparedness to do something as a consequence of supporting teachers' developing expertise. As such, it raises important considerations about what it might mean to value teachers as professionals in ways that recognise and meaningfully employs their developing professional knowledge and expertise.

Shifting Expectations

Changing the intention of teacher professional learning did not always fit with existing mindsets and experiences about what professional learning should entail. Previous chapters have indicated that some teachers experienced difficulty

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undertaking new roles as active learners. It was also difficult for some participants to find opportunities to apply their new understandings in their school context. It seemed that, in some instances, schools were not prepared to 'make room' for the expertise teachers were developing. It appeared that schools perceived that professional learning, because of its personal nature, had no immediate application or use in terms of school improvement. Therefore, the biggest challenge experienced in personalising teacher learning appeared to be in effectively positioning the knowledge participants were developing within their school context to enhance professional practice. Limited opportunities were provided for the programme participants to articulate and share their learning with others in their school setting or use their knowledge to reshape structures and/or practices in ways that might enhance their given workplace context. Learning about professional thinking was not perceived as being of value to improving school operations.

Valuing Different Learning Outcomes

In the *LSiS* programme, teachers developed shared understandings about the aspects of practice they determined as important for effective school leadership in the area of science education. Their thinking culminated on the final day of the programme with participants producing a list of attributes they considered to be the most important for effective educational leadership. (The list was extensive and the attributes are listed in Table 12.1 to demonstrate the depth of thinking.)

Following the activity that led to the list of attributes (Table 12.1), participants then completed a 3, 2, 1 activity[1] to determine the three most important attributes derived of the list. The three principles of leadership voted as most important by the cohort were:

1. Building relationships (overwhelmingly the most valued principle)
2. Leading by example – enthusiasm/passion/taking responsible risks (extremely highly valued)
3. Big picture clear vision (a wider spread of support)

There is no doubt that the attributes of effective leaders (Table 12.1) listed by teachers in the LSiS programme illustrate some highly sophisticated knowledge about teaching and leadership. Schools could have effectively used these insights to review, reshape and guide effective school-based actions around leadership. However, teachers were continually faced with little opportunity to apply their thinking at the school level let alone more widely beyond the *LSiS* programme.

[1] The 3, 2, 1 activity was a simple sorting strategy to identify the most valued principles across the cohort. Each participant was required to select from the group list the three principles they believed to be the most important for effective leadership. Each participant then had to rank these principles from 1 to 3 where 1 = most important. Each participant then shared his or her top response and another list was created.

Table 12.1 List of attributes of effective school leadership

Attributes of effective leaders
Builds relationships
Sees challenges as ways to develop leadership skills
Nurtures leadership skills in others, creating opportunities for others to lead
Leads by example – demonstrates enthusiasm and passion and takes responsible risks
Is true to personal priorities and values
Knows how to keep redefining success
Practices critical reflection – reflecting on needs and values of the members of the team
Challenges accepted thinking
Sets clear goals
Demonstrates perseverance
Is willing to see a need to act
Asks appropriate questions
Listens to what is said and not said and provides constructive feedback to empower other people
Is dynamic and always changing
Sees the vision and the importance of the subject and/or project
Maintains a big picture and clear vision
Finds out what motivates
Places an importance on identifying and celebrating success
Is creative and finds alternative approaches
Maintains momentum
Is flexible
Has credibility
Demonstrates an awareness of existing cultures and how this relates to future direction (e.g. teaches voice/leaders' voice)
Emphasises the value of working together (teamwork)
Identifies competing priorities
Knows him/herself and uses this knowledge to seek out support and opportunities to debrief (e.g. mentor/critical friend)

The problem of applying their learning outcomes within their school context was a general concern shared by participants and was not unique to individual schools but evident as a cultural issue across the sector. (It could perhaps be argued that it is representative of an accepted mindset about the expected outcomes of in-service education.)

The lack of school-based opportunities for change following on from the *LSiS* programme may well have provided little motivation for persisting with what was a different and sometimes difficult learning process. What would participants do as a consequence of their professional learning?

As previously noted, at times, Anna found the experience of self-directed professional learning challenging. In her school, she was already recognised as a successful leader, and at no time were links made between the ideas and experiences she was undertaking in the programme and opportunities for school-based change. In reality that meant there was little incentive for her to engage in ways which required

her to critically question her practice beyond the programme. As a consequence, a tension emerged between programme commitment and school expectations and responsibilities. While she worked to produce her digital story, she was absent for several sessions in the programme citing school-based demands as a reason for non-attendance.

The disconnection between school-based expectations and programme learning was certainly also an issue for Megan who struggled with owning and determining the worth and application of personal learning. The action that Megan undertook as a direct result of her learning and her action plan was to develop and implement a science programme designed specifically to cater for disengaged year 10 students. While the programme she developed proved a huge success, being oversubscribed in the following year, the school did not continue with the programme as it did not 'fit within existing programme structures'. That was a frustrating, and at times unrewarding, experience for Megan as both a learner and a school science leader.

The following entry in my facilitator journal indicates how I came to recognise the disconnection between the programme and schools. Even as early as the end of the first two sessions, the disconnection between the intention of personalised learning and the challenges raised was emerging as an issue in my mind:

> 7th December 2009
>
> This then raises another issue, how effective can a professional learning experience be which aims at building personal capacity for learning, in this case about leadership, when teachers have already established certain roles and relationships in a school and these then become part of the overall culture of that school. These behaviours and perceptions are hard to break and while the teacher may be willing to change and step outside the perception which defines them, others may not be eager to allow them to change because the implications are that they may also be required to see themselves in a different light. So does self-awareness facilitate or frustrate change? (Data Source: Facilitators Journal, p. 4)

These observations (quote above) raise questions about the type of support necessary to ensure that teacher learning is meaningful and valued and understood as a school's investment in building professional capital. Schools could do well to reassess the expectations that presently frame in-service teacher education.

It appears that schools face difficulties when considering how to embed in-service education programmes, and the learning that results, within school structures or operational approaches. Such programmes remain outside the day-to-day approaches to teaching and learning. Positioning teacher learning as an extra or as a set of 'boxes' to be 'ticked off' fails to capitalise on the value-added nature of teacher learning.

To support and further develop teacher professional knowledge and expertise, education systems and sectors could do well to seek to play a more active role in promoting teacher learning by positioning teachers as educational leaders both within schools and across the sector as a whole. Professional learning should be such that it encourages teachers to generate knowledge that contributes to a wider discourse in education; the resultant knowledge therefore needs to be valued, accorded status and somehow rewarded. A simple yet achievable model for so doing is hypothesised in Fig. 12.1 which is designed to draw attention to the need to

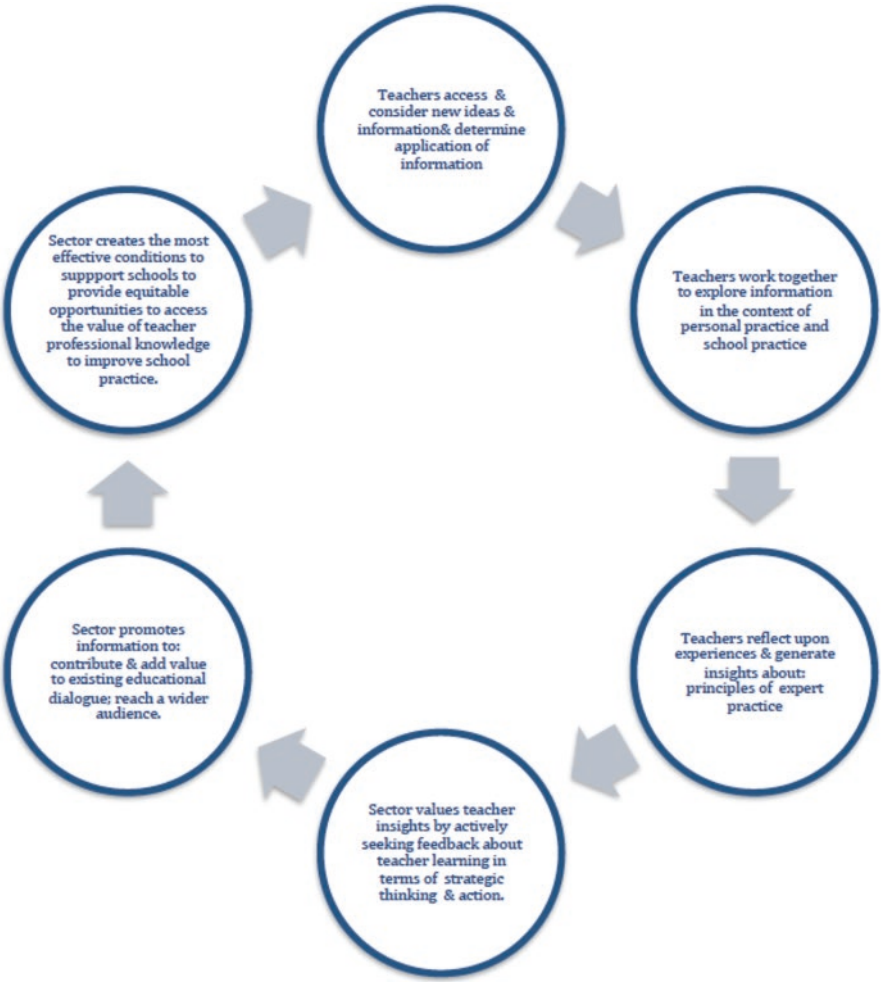

Fig. 12.1 The roles and responsibilities supporting teacher professional learning

provide opportunities for teachers to share their learning with a wider audience, thereby contributing to a wider educational discourse.

Chapter Summary

Education systems, sectors and schools have an obligation and responsibility to create conditions that acknowledge the expert knowledge teachers develop as a result of self-directed professional learning. Opportunities need to be provided that allow teachers themselves to value their personal professional knowledge, 'own' their

learning and feel comfortable enough to share their thinking and professional expertise.

The implications of changing both the purpose and the intention of in-service teacher education in line with the approaches inherent in the nature of professional learning as considered in this study cannot be understated for schools and the education sector more broadly. Professional learning needs to be less about being a 'programme' and more about becoming a process of learning. The school context needs to become meaningfully connected and interwoven with professional learning in order to encourage and enable teachers to grasp the importance of individual learning but also to seek to influence the nature of collective professional growth through knowledge development.

Chapter 13
Teacher Self-Directed Learning: Further Insights

Abstract This chapter reiterates the benefits of in-service education opportunities that actively position teachers as self-directed learners. Creating the conditions for such learning is a worthwhile and productive pursuit which requires teachers and facilitators to invest a high level of intellectual engagement as they find ways to think and work differently. The professional knowledge which emerges from the experience should be valued at both a school and sector level. Realizing this type of teacher learning is possible, to do so requires professional learning to be less about the construction of a 'programme' and more about conceptualizing a process of learning.

This study has revealed that teacher self-directed learning is possible when teachers are actively positioned by specific conditions for learning. The teachers engaged in various degrees of intellectual rigour as each struggled with decisions about how to determine the value of new ideas, position ideas within current practice, recognise the interconnectedness of contexts and practice and articulate personal principles of action. In so doing, participants confronted the problematic nature of practice and recognized that through the many dilemmas they consistently confronted and managed, they made judgements about that which they considered to be appropriate action in response to the varying pedagogical situations they experienced.

Three overarching analytic categories helped to explain the nature of teacher self-directed learning; these included:

Category 1: Self-efficacy that essentially involved teachers working to build a sense of professional identity.

Category 2: Aligning reasoning and action required teachers to reflect on their professional reasoning to clarify personal principles of practice and use this information to identify tensions between these principles and their existing actions.

Category 3: Valuing emerging expertise required teachers to realign their action with their professional thinking and also share new professional knowledge.

As the participating teachers attended to these considerations, their level of intellectual engagement appeared to deepen. Their conversations moved from initial concerns around the technical aspects of practice to more complex interconnections between the realities of their work context and how that shaped their thinking and

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the options they chose to explore and implement in their practice. Teacher talk began to reveal insights about personal learning, articulating the thinking that characterized their learning.

If professional learning is to be meaningful, then it must enable teachers to realise the importance of their professional thinking, in particular the value of their ideas about effective practice. It must also support teachers to understand the continually changing interplay of contextual dynamics that is their teaching reality. Professional learning of this nature builds teacher belief and confidence in personal ability to exert control over one's own motivation, behaviour and teaching practice and, in doing so, helps to develop a deeper understanding of change as a necessary professional response to contextual demands.

When teachers are supported to articulate their professional reasoning, notice what they are attending to and align reasoning with professional action, then they develop meaningful and contextually relevant approaches to their practice. Self-directed professional learning is productive because it supports teachers to experience the complexity of this process and enables them to accept that meaningful change takes time and is dependent upon a level of expertise that grows from personal knowledge of practice. Self-directed learning creates conditions which allow teachers to convey a deep understanding about the conditions necessary to produce effective educational change and display a capacity for professional decision making and a high level of professional awareness about the relationship between professional thinking and practice.

Moving Forward: A Summary

The categories of description used to characterise teacher self-directed learning demonstrate that it is possible to develop new ways of talking about and identifying teacher learning. These categories pay attention to how teachers seek to make sense of information and experiences when professional learning is genuinely grasped and there is a shift beyond PD as a form of programme construction and delivery. The experience of self-directed professional learning allowed and supported teachers to be aware of what they were attending to as they developed meaningful and contextually relevant approaches to their practice. Teachers clearly understand that teaching involves many competing demands which challenge the notion of one way of doing teaching, pushing back against simplistic and/or transmissive views of practice. Under the conditions of the *LSiS* programme, teachers demonstrated a capacity to make decisions about a number of key issues for their own learning and to notice and attend to their professional practice in new ways.

Teachers have the capacity to intellectually engage in learning experiences that focus less on the activities of teaching and more on understanding the complex relationship between the problematic nature of teaching, professional thinking and action. The insights teachers could potentially develop about their professional knowledge from engaging in such an approach to professional learning could be

used to enhance practice at an overall school level and potentially could enable teachers to experience meaningful professional growth. Unfortunately teachers are rarely given opportunities to engage in such professional learning and rarely have the chance to explore such possibilities for their own learning.

A number of 'traditional' cultural assumptions about teacher professional learning need to be reconsidered, in particular 'accepted' thinking about the purpose and nature of existing in-service teacher education. Professional learning needs to be less about the construction of a 'programme' and more about conceptualizing a process of learning. When designing in-service opportunities, there must be an explicit focus on professional learning rather than professional development matters; more so, it is important to ensure that all operational features align with the theoretical intention to actively recognize, value and attend to the centrality of teachers as active participants and their context in terms of planning, learning and action. Operational features actively contribute to pedagogical intent and so require ongoing scrutiny and assessment.

The facilitator role in professional learning that is designed to enhance teacher decision making and ultimately self-directed learning needs to actively position teachers as 'best placed' to determine their own contextually relevant responses rather than be directed by an external expert with a generalized 'one-size-fits-all' solution. Facilitators need to work more closely with teachers and schools so that the connections between context and personal learning can be meaningfully developed. Therefore a willing investment in the development of new skills and expertise to enhance teacher learning is needed.

Teachers themselves must also play a different role in their own professional learning and be prepared to invest time and intellectual and behavioural engagement in order to develop a deeper understanding of their professional practice and to recognize and value the rich and valuable context for personal learning. When such an approach to learning is recognized and grasped, it is also valued as an investment in growth that is both personally and professionally rewarding.

It is also essential that education systems, sectors and schools find ways to actively value the ideas teachers develop about contextually relevant and meaningful school-based change. This knowledge potentially serves student needs and therefore finding ways to actively create conditions that support the explication of teachers' professional practice – in fact, it should be a high priority.

The implications of changing both the purpose and the intention of in-service teacher education cannot be understated for teachers, schools, sectors and education systems more broadly. The school context needs to become meaningfully connected and interwoven with each teacher's professional learning to encourage and enable teachers to grasp the importance of individual learning and also influence the nature of collective professional growth through shared knowledge development. Systems as a whole must find ways to not only build teacher capacity and expertise but also actively share the resulting professional knowledge so that teachers can productively contribute to the overall educational discourse of teaching and learning. This study has demonstrated what might be possible when teachers are empowered to own and develop their professional knowledge; now that we know how to tap this potential, there is no going back.

Appendices

K. Smith, *Teachers as Self-directed Learners*, Self-Study of Teaching and Teacher Education Practices 18, DOI 10.1007/978-981-10-3587-6

Appendix 1: Participant Autobiographical Data

Pseudonym	School type	Years of teaching	Position	Further information
Claudia[a]	**Primary**: Inner city suburban catholic primary school. Enrolment: 300 students Staff: Approx. 25	10 years teaching experience	Working part- time (2 days per week) as School Teaching & Learning Coordinator	As the school's Teaching & Learning Coordinator, Claudia works with teachers across all levels of the school to support their planning and teaching in all curriculum areas. At the time this research was conducted the school was working to raise the profile of science education, therefore positioning science effectively in multi domain approaches to planning was an area of concern and attention in her work.
Carol[a]	**Primary**: Inner city suburban catholic primary school. Enrolment: 300 students Staff: Approx. 25	30 years + teaching experience. Carol had been at present school for 20 years	Working part time in a co-teaching role as Grade 1 classroom teacher. Level leader in school.	As a school Level Leader, Carol was responsible for ensuring that all of the Grade 1 and Grade two teachers were attending to school curriculum and were implementing teaching approaches that were in line with school priorities and goals.
Helen	**Primary**: school located 37 km northeast of Melbourne, on a 17acre bush land setting. Enrolment: 300 students Staff: Approx. 18	20 + years teaching experience	Grade 1 classroom teacher & also School Curriculum Coordinator	The role of Curriculum Coordinator involved leading staff in curriculum matters, organizing some P.D, running P.D as a part of staff meetings & overseeing curriculum developments & any other emerging sector and education initiatives.

Joanne	**Primary**: school situated in Southern region of Melbourne. Enrolment: 160 students Staff: Approx. 12	7 years teaching experience	Grade 4 teacher & School Science Coordinator	Joanne was responsible for the development of science across the school. Prior to this research, Joanne had been satisfied with science being presented as a stand-alone subject but increasingly she was seeing the need to integrate the teaching and learning of science as part of inquiry unit planning in all classrooms. This new thinking was not gaining traction in school & this was frustrating for her, as she wanted to relinquish the ownership of science so that it would become an area of learning shared by all teaching staff.
Keith[b]	**Secondary**: year 7–12 Catholic coeducational secondary college. Enrolment: 1900 students Staff: Approx. 150	8 years experience. One school prior to present appointment	General science years 7–10	At the time of the research Keith was experiencing some tension with school leadership. He had tried to develop an initiative to raise the profile of science in the junior school & provide an opportunity for student learning beyond the classroom. This initiative had been meet with little interest by school leadership. The lack of support became a source of frustration for him & as a result he had disengaged with leadership opportunities for some time. Keith described how he wanted to see himself in terms of a leader within school, didn't know to what capacity, yet he was realizing the difficulty involved in gaining an official position of leadership.

(continued)

Pseudonym	School type	Years of teaching	Position	Further information
Maree[b]	**Secondary**: year 7–12 Catholic coeducational secondary college. Enrolment: 1900students Staff: Approx. 150	20 years experience presently teaching senior chemistry.	General science to years 7 & 9. Year 11 Biology	Maree was an experienced teacher who had volunteered to enrol in the research project however she was extremely nervous about the use of technology within the programme, in particular the use of the flip camera to record personal ideas and reflections. Therefore the programme involved lots of personal risk taking.
Georgia	**Secondary**: year 7–12 metropolitan Catholic secondary boys' college. Enrolment: 1300 students Staff: Approx. 105	9 years	Year 12 science teacher also KLA coordinator on senior campus	The College operates as two campuses (Years 7–9 and Years 10–12). Georgia was working as KLA (Key Learning Area) coordinator in the senior campus and this involved working with junior school KLA coordinator to ensure that performance across both campuses was consistent and satisfactory across all areas of the curriculum. This role also required her to work closely with the school's Curriculum Coordinator.
Anna	**Secondary**: year 7–12 metropolitan Catholic secondary girls' college. Enrolment: 1000 studentsStaff: Approx. 100	8 years	Senior science teacher and Science Coordinator	The role of Science Coordinator involves working to budget, maintaining curriculum – ensuring documentation is up to date, looking after the labs and the lab technicians, promoting science in the school and enhancing the teaching and learning that happens is science.

Megan	**Secondary**: year 7–12 metropolitan Catholic secondary girls' college. Enrolment: 1200students Staff: Approx. 100	15 years + Presently teaching year 9 and senior classes.	Science teacher and Science Coordinator	At the time the research was conducted, the College operated as two campuses (Years 7–10 and Years 11–12). Science Coordinator role involves a strong focus on the development of curriculum, establishment of teamwork at all levels & consistent implementation of curriculum across all levels. It was the second year of Megan's appointment to this position. The move to this school and this position had been personally very challenging. At the time of the research, student assessment and engagement was a particular focus of school-based development.
Sophie	**Secondary**: year 7–12 metropolitan Catholic co-educational secondary girls' college. Enrolment: 1200 students Staff: Approx. 100	10 years + teaching experience	7–10 science teacher. Has position of transition coordinator	4 years prior to this research, a primary school and secondary school had amalgamated to form the present P – 12 college. The college maintained the 2 campuses, i.e. P-6 and 7–12. At the time of the research, the school was once again in transition as the 7–12 campus was in the process of being relocated to a new site. Sophie had been given the role to ensure that the transition for students was a smooth process & to ensure that there was some consistency in science teaching between the primary campus and the secondary campus. This role involved meeting with primary teachers and opening dialogue between the teachers at both campuses.

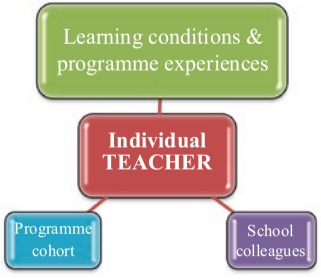
(continued)

Pseudonym	School type	Years of teaching	Position	Further information
Elizabeth	**Secondary**: year 7–12 metropolitan Catholic co-educational secondary college. Enrolment: 1600students Staff: Approx. 120	30 years + teaching experience.	Senior science teacher and Science Coordinator	Elizabeth has held the position of science coordinator for a number of years. At the time the research was conducted the school was working towards being accredited for the International Baccalaureate, this appeared to add more work to her position. Elizabeth missed day 2 of the programme due to illness.
Kathy (real name)	Professional Learning Facilitator	20 years + experience in teacher professional learning	Science Resource Officer Catholic Education Office	Originally a primary school teacher, Kathy has extensive experience working with teachers across the catholic sector in Melbourne facilitating professional learning programmes and working with individual schools to support planning and teaching. Also undertakes Critical Friend role visiting all teachers in the STaL programme.

[a]*Claudia and Carol*: Both teachers worked together at the same school and had done so for many years. Both teachers worked together to develop a shared action research project for this study, which focused on building teachers' awareness of and confidence in developing authentic learning opportunities for their students. It is important to note that at the time the study was conducted the school underwent a significant shift in leadership with the appointment of a new principal. This presented significant challenges for both Claudia and Carol in terms of their individual responsibilities as leaders within the school, also as members of a staff that had worked closely with the previous principal and had developed a number of initiatives in science education that had received sector wide acclaim. The new principal did not appear to hold these initiatives as important priorities within school planning and action, and over the course of this research study both Claudia and Carol witnessed the removal of the infrastructure that had been put in place to sustain the practices which supported these initiatives.

[b]*Keith & Maree*: Both these teachers worked together at the same school. While both teachers worked at the same school each developed their own action research plan.

Appendix 2: Code Definitions

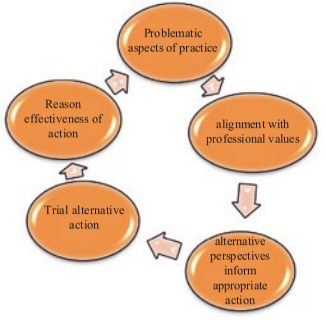
<table>
<tr><td colspan="4">CATEGORY: Self efficacy</td></tr>
<tr><td colspan="4">Subcategory: Building a sense of personal professional identity</td></tr>
<tr><td>CODE:</td><td></td><td></td><td></td></tr>
<tr><td>Characteristics</td><td>Evidence</td><td>The Connections</td><td>Catalyst</td></tr>
<tr><td>Characterized by:</td><td rowspan="2">Initially general observations across cohort: evidence captured describing what teachers saw, did, etc.</td><td rowspan="3">Building a sense of personal professional identity appears to be essentially a personal experience albeit constructed within a shared programme experience. The programme operational structures initially facilitated an alternative perspective for teachers about the relationship between teaching and professionalism. Teachers then began to value the potential place of such thinking within their own school context. Teachers began work to emulate these conditions in their schools, in their personal interactions.</td><td>Quality Venue</td></tr>
<tr><td>Explicit recognition and value of personal expertise</td><td>Selected entry</td></tr>
<tr><td>Awareness of the complexity of the relationship between professional knowledge & professional practice</td><td>Individual interviews & reflections identify experiences that were personally significant: comments capture emotional responses, teachers emphasize; value, trust, empowerment, ownership.</td><td>Learning experiences that were explicitly mindful of teacher knowledge & experience</td></tr>
<tr><td>Valuing professional knowledge derived from the contextual reality of teaching</td><td rowspan="2"></td><td rowspan="2"> 
</td><td>Professional interactions that continually attend to and are respectful of teacher concerns and experience</td></tr>
<tr><td>Actively sharing professional knowledge</td><td>Teachers articulate expected conditions for learning in particular that their ideas, experiences and insights are overtly valued at a school level. Evidence in a range of data sets demonstrating teacher decisions about:
The relationship between personal self-esteem, trust, respect & meaningful learning
Effective school based support for their learning.</td><td>The ongoing personalized support of a purposeful, teacher centered programme facilitator.</td></tr>
</table>

(continued)

CATEGORY: Aligning reasoning and action			
Subcategory: *Reflecting on professional reasoning to clarify personal professional principles of practice*			
CODE:			
Characteristics	**Evidence**	**The Connections**	**Catalyst**
Characterized by:	Teachers valued programme information that was personally & contextually relevant; essentially this meant they found it useful to their teaching. Evidence in a range of data sets of teachers drawing on personal teaching context to exemplify issues. However many experienced conflict between workplace demands & achieving clarity of thinking and learning about their practice. Evidence in a range of data sets demonstrated teachers articulating concerns about:	The teacher works as a learner to build personal awareness. Learning experiences & professional interactions support teachers to notice & value their practice. Support structures enable teachers to notice the thinking, which drives their action. Teachers identify issues of concern or existing challenges within their practice.	Selected entry
Recognizing that personal teaching practice provides a valuable context for examining professional thinking			Formative programme design Extended timeline for learning
Drawing on a range of diverse perspectives to make sense of familiar routines and topics			Learning experiences that were explicitly mindful of teacher knowledge & experience
Articulating personal principles of practice which underpin professional action			The ongoing personalized support of a purposeful, teacher centered programme facilitator
Noticing tensions between stated principles and reality of practice	The interrelatedness of intellectual engagement, professional practice and contextually relevant actions		Facilitator action that reframed the ownership of teaching expertise & assisted teachers to recognize personal professional knowledge; develop attention to awareness in action; meaningfully link thinking with teaching context.
	The need to build effective relationships to enhance practice		
	The value of alternative perspectives - seeing things differently and therefore thinking differently		
	The importance of redefining success		Embedded, ongoing diagnostic programme evaluation ensuring programme actively responded to teacher learning needs.

Subcategory: *Identifying specific tensions between personal professional principles of practice and the reality of action*

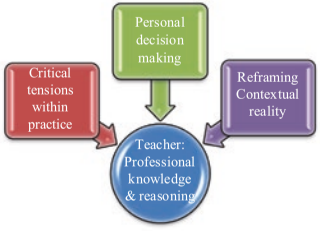
CODE:

Characteristics	**Evidence**	**The Connections**	**Catalyst**
Characterized by: Focusing on a specific tension between stated principles and an inconsistent & therefore problematic aspect of teaching practice	There is evidence of strong individual teacher learning as a result of teachers interacting with each other to discuss implications of ideas & issues raised through learning experiences. Teachers began to determine what mattered for their own learning, in terms of applying new perspectives to inform action in their working context. This process was ongoing and fluid, not linear.	Teachers utilize learning experiences & professional interactions to notice their practice and begin to identify the professional knowledge that drives their teaching within their contextual reality. Teachers check consistency between principles and action.	Formative programme design Extended timeline for learning
Re-examining personal reasoning about purpose to define tension			Learning experiences that were explicitly mindful of teacher knowledge & experience
Drawing on a range of diverse perspectives to inform & scaffold alternative action	Evidence demonstrated teachers recognized: Personal thinking changes over time The importance of having a flexible learning focus Flexibility provided opportunities to refocus their learning needs and think & work differently		The ongoing personalized support of a purposeful teacher centered programme facilitator.
Owning decisions about appropriate action			Facilitator action that reframed the ownership of teaching expertise & assisted teachers to recognize personal professional knowledge; develop attention to awareness in action; meaningfully link thinking with teaching context.
Trialing alternative action			
Evaluating effectiveness of alternative action			Embedded, ongoing diagnostic programme evaluation ensuring programme actively responded to teacher learning needs.

(continued)

Subcategory: *Realigning action with professional thinking*

CODE:

Characteristics	**Evidence**	**The Connections**	**Catalyst**
Characterized by:	Evidence across data sets demonstrated that teachers believed 'success' in teaching did not happen without effort or frustration. Teachers wanted to hear about challenges experienced when working towards success. In teaching, the degree of difficulty experienced was an important indicator of the degree of success that was achieved (teacher interviews). Evidence that programme-learning experiences (guest speakers in particular) enabled teachers to undertake purposeful reflection in action. Taking time to reflect and think was not a routine part of teachers' day-to-day actions. (Free talk, final day transcripts). Taking time to think about personal practice assisted teachers to develop awareness of action and in action.	Teachers continually work to reframe problematic aspect of practice within their contextual reality. Throughout this sometimes interrupted and shifting process, teachers are actively supported to assess consistency of personal reasoning in action.	Selected entry
Valuing tensions in practice as markers for personal professional learning opportunities			Formative programme design
			Extended timeline for learning
Acknowledging personal professional responsibility to determine & initiate contextually relevant & meaningful practice			Learning experiences that were explicitly mindful of teacher knowledge & experience
Applying professional reasoning to inform decisions and affect appropriate actions			The ongoing personalized support of a purposeful teacher centered programme facilitator.
Reframing conditions within professional context through alternative action and new perspectives			Facilitator action that reframed the ownership of teaching expertise
			Facilitator action that assisted teachers to recognize personal professional knowledge & develop attention to awareness in action
			Facilitator action that assisted teachers to meaningfully link thinking with teaching context.
			Embedded, ongoing diagnostic programme evaluation ensuring programme actively responded to teacher learning needs.

CATEGORY: Valuing emerging expertise			
Subcategory: *Articulating new thinking and sharing professional knowledge*			
CODE:			
Characteristics	**Evidence**	**The Connections**	**Catalyst**
Characterized by:	Evidence across data sets indicated that;		Formative programme design
Awareness of the complexity of the relationship between professional knowledge & professional practice	Teacher – teacher interactions clarified the role of teachers as leaders of change		Extended timeline for learning
			Learning experiences that were explicitly mindful of teacher knowledge & experience
Awareness of the contextual nature of professional practice	Teachers learn from each other		
Actively sharing professional knowledge	Teachers value the opportunity to; engage with someone outside their teaching situation; have the complexity of their work acknowledged by someone outside their teaching situation; listen to new ideas and construct personal meaning;		The ongoing personalized support of a purposeful teacher centered programme facilitator.
			Facilitator action that reframed the ownership of teaching expertise
			Embedded, ongoing diagnostic programme evaluation ensuring programme actively responded to teacher learning needs.

Appendix 3: Email to Robyn Re Information for Her Session

Email:

Hi Robyn,

As promised I have attached a sheet with some questions for you to consider when sharing your experiences as Science Coordinator and leader in schools. Of course we may not get through all of these and or much of this information may arise as you work through your ppt.

Leadership

The intent of this conversation is to allow the following to emerge:

1. Sharing both your successes and failures – warts and all.
2. Identifying and talking about specific challenges
3. The key issues/experiences from which you have learnt a great deal
4. How you deal with the complexities of issues such as - differing personalities, teacher identity and ownership.
5. How experience has contributed to the way you think about your role as a leader.
6. The structures or strategies that you use to build the capacity of people around you to share and take on the ideas that you see would be beneficial to enhancing learning?
7. How you determine success and progress.
8. Personal awareness – how you maintain this and use this to inform your leadership (muscle skills)

Intro:

PPT (as discussed) providing an overview briefly recounting your journey as Science Coordinator in schools particularly outlining the initiatives you have put into place and the strategies you used to do this.

Questions

1. What were the structures or strategies that you use to build the capacity of people around you to share and take on the ideas that you saw would be beneficial to enhancing learning?
2. In terms of your leadership what have been the biggest challenges?
3. How did you deal with these?
4. What approaches/strategies or ideas didn't work?
5. How do you determine progress/success?
6. What have you learnt about yourself and how has this shaped how you now undertake your leadership role?
7. Are there ever times when you just accept that something cannot be achieved?
8. What have you learnt about change and promoting change?
9. How would you define 'leadership'?
10. What knowledge and experiences have you drawn on to help you reach this definition/personal meaning of leadership?

Appendix 4: The Five Whys Activity

CLAUDIA: 5 Whys

Question1: Why did I decide to participate in this 'Leading Science in Schools' Program?

Answer: I decided to participate in this program because of our commitment to develop our 'scientific literacy' project, and for my own development as a 'leader'.

Question 2: Why..

Answer: It was time to 'take stock' as to where we were at with this project and to set direction for the future of it. To explore my own leadership style, to be challenged and motivated

Question 3: Why

Answer: To ensure its (the Projects) effectiveness from Prep - Six in terms of staff development, action learning and improving student outcomes. To re-consider my own role as a leader, especially in a new setting.

Question 4: Why

Answer: To review and build on the project to ensure success for all stakeholders. To continually challenge myself and explore effective leadership.

Question 5: Why

Answer: To achieve our goal of scientific Literacy as an educational outcome as it is highly valued. To contribute to the use of our new learning space. To be more effective as a leader.

GEORGIA: The 5 Why's

1. Why did I decide to participate in this 'Leading science in schools' programme?

   I was asked, I liked how the previous PD was run and it sounded interesting?

2. Why did it sound interesting?

   There is very little PD around that helps you prepare for leadership in your school. Leadership PD tends to be very general in nature. It sounded like this PD would give me an opportunity to explore and develop my own style of leadership, taking into consideration the school circumstances.

3. Why is there nothing much around?

   Good question? Is it because leadership is an assumed capability of teachers? Do schools underestimate the demands of leadership on teachers? Is it too hard/costly to tailor leadership PD?

4. Why is it assumed I'm capable of leadership in my school?

   Possibly because I prefer to listen/act/communicate rather than complain about problems. I can also see the big picture most of the time, so look for solutions myself.

5. Why are these things seen as leadership qualities/important by the school?

   I believe leaders look for solutions to problem or guide others to find their own solutions by asking the right questions.

   I think the school might see this as a desirable quality in a leader because it's working in a positive/constructive way.

Appendix 5: Listening to Learn Reflection Sheet

MAREE: Listening to Learn

Listening to Learn

The closer we look the more we can learn about ourselves. *Joan Richardson (2002)*

At the heart of reflection is the belief that educators possess the knowledge to improve their Practice; all they need are opportunities to consider their work. *Joan Richardson (2002)*

What am I learning about leadership?
Consider this question in terms of what you are hearing about aspirations, communication, relationships, personal & external expectations, action.

Listening - what stands out?	**Connecting:** Why did this resonate? What ideas are emerging for me?	**Learning about leadership:** What are the leadership attributes & actions I value?
Vertical leadership		Collaboration
	Managing up	Relationship building
P.L → Product VS Process		1. Relationship building
	Celebrating successes	2. Modelling listening + learning
		3. Value contributions, skills of others. Pinpoint.

GEORGIA: Listening to Learn

Listening – what stands out?	Connecting – why did these ideas resonate? What ideas are emerging for me?	Learning about leadership – what are the leadership attributes and actions I value?
Start collecting data to see what the situation is at present.	It is a way to be objective about the current problems in the school.	Listening to others.
	Issues might be resolved more productively if there is data from many voices, rather than concerns raised by a few.	Giving people the opportunity to be heard.
		Creating a safe environment to encourage critical evaluation/reflection
		Be open to critique
		Being able to see the big picture.

Quantifying what success looks like.	Wow!	Giving clear directions about expectations
Measuring success after asking what it looks like	I could use this to clarify my (new) role. I ask my Curriculum coordinator to determine what it looks like when I'm doing my job well. From this I can determine what tasks I can prioritise. (measurable outcomes)	Providing regular feedback
		Being interested in work underway and completed
		Acknowledgement
Using data to measure progress or inform change	In my role, collecting data from KLA leaders to present to a review of the assessment and reporting policy will help to make meaningful changes. It will allow decisions to be based on the thoughts of the people who will use it.	Being open to positive, considered change.
		Listening and being open to others, even if you don't agree
		Acting for or serving the interests and needs of people you are leading
The coordinator had a desk near/around the staff (even though she could have had an office.)	Understanding what is going on day to day is important. Taking time or being near people you lead is important, so you know when to ask for something and when to give.	Leaders know what is going on for those they lead. They develop and maintain a relationship that is going to benefit both leader and staff.
Acknowledging staff for the work they put in, not taking credit for 'the idea'.	How can I do this? What opportunities do I have in my role. This is important. As I am working out my role, I will try to make time and opportunities to do this.	Leaders can release ownership. They can develop skills in others by supporting them, rather than doing it all.

Appendix 6: Action Research Template

Project Title
This project aims to:
The reason I am pursuing this project is (rationale, why is project this needed) …
How does this project link to my school's priorities? (Does it need to? Why?)
The way I will implement this project is: (Map out the whole project, identifying each stage that you will design. If you plan to begin with a workshop or session, start to think about the design of your session).
How will I determine the impact of my project?
Timelines and milestones (this should be detailed enough to be helpful to you to know what needs to be done and when).

Thinking about yourself as a leader

What would <u>you</u> like to learn about/develop in yourself as a <u>leader</u> by undertaking this project?
How will you notice or reflect on your learning or development as a leader as you undertake this project?

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Index

K. Smith, *Teachers as Self-directed Learners*, Self-Study of Teaching and Teacher Education Practices 18, DOI 10.1007/978-981-10-3587-6