

## **Research into relationships between teacher professional learning and teaching standards: Reviewing the literature**

### **Abstract**

Internationally and nationally there is an established discourse particularly in policy literature in which links between teaching standards and teacher learning are commonly taken to be generative for teacher learning. Standards are often seen as providing a framework for guiding the learning of teachers. Many teacher certification procedures use standards together with processes aimed to produce professional learning so that measures of professional learning may well result from these processes independent of any role that the standards might play. This small review aims to provide insight into the nature of the potential relationships between teaching standards and teacher learning through an examination of policy literature and empirical research. Although I find no absolute link between teaching standards and teacher professional learning, there is evidence of potentially complementary and catalytic possibilities between these two constructs.

### **Prelude: A brief history of the proliferation of teaching standards:**

In this first section the development of teaching standards nationally and internationally is very briefly outlined to provide a context for the timeliness of this review. Standards are a significant force in the field of education. The genesis of Australian standards arose from competency-based conceptions of standards in the 1980s and early 1990s and these standards were, in the main, developed by state educational jurisdictions (Louden & Wildy, 1999). Early standards were 'characterised by long lists of duties, opaque language, generic skills, decontextualised performances, an expanded range of duties and weak assessments' (Louden, 2000, p.118). Judged as inadequate as they fragmented and oversimplified teachers' work (Hattam & Smyth, 1995), such competency models risked diminishing professionalism (Mulcahy, 2002).

Generic entry-level or graduate teaching standards are currently in use or in the final stages of development in Victoria (Victorian Institute of Teaching), New South Wales (New South Wales Institute of Teachers), Queensland (Queensland College of Teachers), South Australia, (Teacher Registration Board of South Australia), the Northern Territory (Teacher Registration Board of Northern Territory) and Western Australia (Western Australian College of Teaching). Similar trends in standards-based reform internationally include graduate teaching standards developed by Britain's Training Development Agency (TDA), Ontario's College of Teachers, United States National Council for the Accreditation of Teacher Education (Reynolds, 2005) and the General Teaching Council of Scotland (McNally, Blake, Corbin, & Gray, 2008). Generic graduate standards' chief purpose is to accredit graduate teachers. Discursively these mandatory policies are gate keeping tools designed to regulate those entering the teaching profession.

Both generic advanced teaching standards and field specific advanced standards are a fertile area of development. In the United States, the National Board for Professional Teaching Standards (NBPTS) which was formed in 1987, has since developed 30 field specific standards. The NBPTS has been a significant influence in the direction of developments of standards in Australia (Ingvarson, 2001). Commissioned by *Teaching Australia*, recently published research on advanced standards for teaching comprised four case studies (Scotland, USA, Britain and WA, Australia) found that it was only the NBPTS standards that were field specific rather than generic, making possible significantly more detailed examination of the subject and pedagogical content knowledge of each field (Ingvarson & Kleinhenz, 2006b). In contrast, countries such as Scotland, Britain and the Netherlands appear to have no need of field specific standards. In Australia, specialized advanced teaching standards are burgeoning and include standards for teaching of Mathematics, Science, English/Literacy, History, Special Education and Music (Hayes, 2006). In most jurisdictions the use of advanced teaching standards are voluntary.

### Introduction

This review is situated within a backdrop characterised by a proliferation of teaching standards. The discourse linking teaching standards to teacher improvement through professional learning is prevalent in Australia and in the Western world (Cosgrove & Mildren, 2006; Ingvarson & Kleinhenz, 2006b; Mayer, Mitchell, Macdonald, & Bell, 2005; Meiers, 2006; Meiers & Ingvarson, 2005; Reynolds, 2005). Such standards are increasingly used for the certification, promotion and development of teachers. For example, in Australia, the recent federal senate inquiry into teacher education *Top of the Class* which received almost 200 submissions and conducted 29 public hearings concluded that

Many submissions highlighted the potential of the national professional standards for teaching to provide a means of linking on-going professional learning to career progression. This is evidence of the readiness of the profession to adopt a standards-based approach to teacher registration and to career-long teacher professional learning.

(Commonwealth of Australia, 2007, p 98)

This report identifies a prevailing discourse which links teacher professional learning to teaching standards. The most common coupling is that of standards' utility in *guiding* professional learning (Ingvarson & Semple, 2006). As stated, guiding might mean to gently steer in a particular direction but some standards are serving much more regulatory purposes as they are prescribed rather than used to guide.

This paper explores and troubles the linkage between teaching standards and teacher learning through an analysis of policy literature and empirical research. I contend that there is no direct link between the use of teaching standards and teacher professional learning although much of the policy literature makes an assumption that there is a link. That said, there is evidence of potentially complementary and catalytic

possibilities between these two constructs, and, as well, research which asserts links but does not effectively investigate those links. Moreover standards used for certification are often attached or indeed 'locked' to processes aimed to produce professional learning so that measures of professional learning may well result from the processes independent of any role that the standards might play. For example, when a recent graduate applies for full registration from the Victorian Institute of Teaching, they complete mandated components including collegiate classroom activities undertaken with an experienced teacher who acts as a mentor, and analysis of teaching and learning using professional teaching standards which are specifically designed to facilitate learning (Cosgrove & Mildren, 2006).

In reviewing the literature, firstly perspectives on teacher professional learning are briefly outlined; secondly professional teaching standards are considered particularly to explore the view of standards as expressions of knowledge before exploring the relationship between the two key constructs through an analysis of literature in which links have been made between teacher learning and professional teaching standards.

### **Teacher professional learning**

There is no single or contained conceptual map of teacher professional learning. With many theoretical subfields including sociology, cognitive psychology, social psychology and occupational psychology, there are a disparate range of perspectives on the field of teacher learning.

The terms professional development, teacher development and continuing professional development were in common use over the last two decades. More recently however, there has been a shift to the use of terms such as professional learning and teacher learning. I take professional development, staff development, teacher professional learning, teacher development, professional learning and teacher learning to be broadly synonymous, even though they might be used to signify some overlapping differences in the literature, as each term cannot be clearly differentiated. I do not work Parr's distinction between notions of professional development as something 'done to teachers' and professional learning to describe the 'diverse ways in which teachers construct their knowledge and develop their skills' (2004, p.69-70) because the terms are used interchangeably in the literature, particularly internationally, where, for example, in the United States of America, there are professional development schools (Darling-Hammond & Bransford, 2005). The terms professional development and teacher learning are fluid and overlapping in meaning in the literature so that the binary of teacher initiated or imposed on teachers is not apparent.

There is a paucity of definitions of teacher development (Day & Sachs, 2004; Evans, 2002). I define teacher learning as the result of processes by which teachers maintain and improve the quality of their work to improve the learning of students (Day & Sachs, 2004).

Day & Sachs' extended definition of professional development acknowledges the complex elements of teacher learning:

Professional development consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school and which contribute, through these, to the quality of education in the classroom. It is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purposes of teaching and by which they acquire and develop critically the knowledge, skills and emotional intelligence essential to good professional thinking, planning and practice with children, young people and colleagues through each phase of their teaching lives. (2004, p. 34)

I propose to structure what follows discursively, that is, arrange the research evidence in terms of the discourses that circulate in it. Accordingly, I will treat established discourses and approaches to teacher learning and development via an examination of the research evidence surrounding collaborative activities (Parr, 2004), teacher-based inquiry (Cochran-Smith & Lytle, 2001), teacher self-study (Fuller, 2006), close and sustained connection to teachers' work (Gore & Ladwig, 2006) and reflective practice (Shulman & Shulman, 2004). With respect to emerging discourses, the place of reflexivity will be discussed.

In the field of teacher learning, *managerial* and *developmental* meta-discourses prevail. Graham Parr (2004, p. 64) claims that 'managerial discourses are proliferating across the western world as part of moves to *ensure* that teachers are learning'. This controlling agenda is rationalised in the quest for 'continuous improvement' and 'quality education'. In developmental discourses, teachers advocate the importance of ongoing professional development but seek autonomy in identifying and executing their own learning. Nevertheless, boundaries between these two discourses are blurred.

Within managerial discourses, professional development was – and for some still is – conceived as a matter of *skills and strategies* or 'enhancement of teachers' content and pedagogic knowledge' (Guskey, 2003, p. 749). Teachers attend what Mockler derides as 'drive-by or spray-on' professional development (Mockler, 2004) where an expert presenter 'delivers' the latest knowledge/skills but infrequently works at the level of teachers' attitudes and beliefs (Hoban, 2002). Regularly, this model is simplistically ridiculed as resulting in limited implementation in the classroom. This discourse of derision ought to be moderated as not all 'one-shot' professional development is useless where the aim of the teacher professional learning is content renewal. It is important to understand that teachers self select according to their needs; accordingly, this model can serve a purpose. However, this model may assist teachers in improving their practice by updating knowledge it may not support deep transformative change.

Crossing managerial and developmental discourses but most strongly evident in the latter, four key discourses that circulate and overlap within the teacher professional learning literature are:

1. collaborative activities and collegial exchanges.
2. teacher self study and teacher-based inquiry
3. close and sustained connection to other teachers' work.
4. reflective practice.

Each of these is notable because all purport to situate agency with the individual teacher and, to varying degrees, underpin teacher learning models as diverse as mentoring, case discussions, peer observation and coaching. There is an implicit emphasis on practice in most of these discourses although collaborative activities and a collegial exchanges discourse is encompassing of practice and theory orientations. Key components which underpin the discourses of teacher professional learning are notions of active trust, and, concomitantly, a view of teachers as autonomous professionals (Hargreaves, 2000; Mockler, 2004) in which risk-taking is an accepted part of work.

### **1. Collaborative activities and collegial exchanges**

'Effective professional development provides opportunities for teachers to collaborate with colleagues and other experts to improve their practice' (Loucks-Horsley, 2003, p. 44). As illustrated in this quote, the benefits of collaborative activity are commonly reported in the literature on teacher professional learning. Collaborative structures such as study groups, learning circles, action research teams, community of practice (Henderson, 2006), lesson study, partnerships, learning communities and learning networks – and each of these terms may be prefaced by the term professional – are common. Writing from the perspective of academic discourses on school-based teacher collaboration, five discourses are identified attesting to the contradictions and tensions in this approach to teacher learning (Lavie, 2006).

Findings from a number of studies confirm the benefit of collaborative activity in teacher professional learning (Baird & Mitchell, 1997; Butler & Lauscher, 2004; Guskey, 2003). Nevertheless, while it is widely accepted that collaboration may lead to teacher learning, there are said to be dangers of group think, contrived collegiality (Hargreaves, 1994) or non-productive teams where groups can powerfully collaborate to retain the present situation and so block potential improvements. Professional learning communities which use collaboration and collegiality as a key element need to be seen as sites of power relations and influences (Kelchtermans, 2006).

Fruitful lines of enquiry can be derived from Loucks-Horsley (2003) who draws from her long term research on professional development in the context of teachers of Science and Mathematics and identifies four key benefits of collaborative structures, namely:

- contextual factors can be more easily accommodated through group composition;
- teachers are striving to learn and are trusted to guide their own professional learning;
- learning is active and situated;
- participants have agency.

## **2. Teacher self study and teacher-based inquiry**

There are many forms of self study that have been investigated in the research literature. It is characterized by teachers aiming to improve their practice by systematically studying their own teaching and their students' learning (Day & Sachs, 2004; Fuller, 2006). Action research (Kemmis & McTaggart, 1988) is the most widely known category of self study incorporating a research cycle that works sequentially to observe, reflect, plan and act. Whilst action research can be an individual activity, it is often undertaken collaboratively, and draws on the previous discursive element. Practitioner research is closely aligned to action research (Burton & Bartlett, 2005; Day & Sachs, 2004). Studies that have been conducted using this suite of allied approaches have demonstrated positive outcomes for teacher professional learning (Cochran-Smith & Lytle, 2001; Samaras, 2002).

## **3. Close and sustained connection to other teachers' work**

Various studies indicate the importance for teacher professional learning of giving close and sustained attention to teachers' work. For example, Ingvarson (2002) argues for the need to deprivatise teaching practice through teachers attending to each other's work either in absolute terms with class visits, via watching video or through detailed reporting. Gore & Ladwig (2006) report that close to half of teachers involved in the Systemic Implications of Pedagogy and Achievement project in NSW public schools research study (SIPA) had observed and discussed class lessons of a colleague in that year, a significant increase to one decade earlier when only one-third of teachers reported had this experience. In this research which analysed 900 teachers' self reports on the effectiveness of professional learning experiences over two years, this increase in close and sustained connection to teachers' work and collegial exchanges was identified as important for professional learning.

A locally grown and internationally adopted example of teacher professional learning model which builds in the elements of deprivatising practice, reflection, collaboration, teacher self-study and close and sustained connection to teachers' work is the Project for Enhancing Effective Learning (PEEL). This collaborative action research project aims to develop teacher learning that is more purposeful, intellectually active and independent. Networks of autonomous teams of teachers work together for a sustained period to develop improvements in their teaching practices (Baird & Mitchell, 1997; Mitchell, 2006; Mitchell & Mitchell, 2005). A key element of connections with teacher's work is the capacity to include contextually specific understandings.



#### 4. Reflective practice

Commonly drawing on Schon's propositions of reflection-in-action and reflection-on-action (1983), reflective practice is an important and a widely accepted process in teacher learning (Clarke & Hollingsworth, 2002; Day, 1993; Higgins & Leat, 2001; Orland-Barak, 2005; Shulman & Shulman, 2004). It is generally expected that reflective practice will have beneficial effects. Reflection may operate at a range of levels which are categorized variously in the literature (for a sound synthesis of such work, refer to Pierides, Lemon, Weare, Knowles, & Fiford, 2006). Educational psychology tends to characterise reflection as an individual process. Conceiving of reflection as a personal process however, is limiting as individual reflection encourages incremental change – not significant shifts in practice (Convery, 2001).

Drawing on workplace research, Boud, Cressy and Docherty (2006) claim that *productive* reflection is required. This type of reflection is generative inasmuch as it emphasises nesting reflection within context and opening up possibilities rather than closing down to one 'solution'. Said to be developmental, productive reflection leads to better professional work and most of all it moves beyond individualised views of learning (2006).

A recurring thread throughout the literature is the need for a *critical* approach to reflection—that is critical reflection (Korthagen, 2005), 'critical collegueship' (Wilson & Berne, 1999, p. 194) and critical inquiry (Burton & Bartlett, 2005). Such critical approaches are evident in activities designed to promote professional learning including the use of critical incidents (Tripp, 1993) and case writing (Shulman & Shulman, 2004) which ask practitioners to reflect on practice in ways that go beyond descriptive and technical analysis. This points the way to an emerging discursive element of reflexive practices.

#### Reflexivity

Reflexivity is emerging as an important theme in the literature on teacher professional learning. In a recent account of a collaborative inquiry group, Parr (2004) identifies reflexive practices as central to transgressive teacher learning. Promoting reflexive practice includes and goes beyond reflection to consider the impact of the teacher attending to their own biases and surfacing structural and historical influences on their work.

What requires further investigation to this point is the alignment of school vision and teacher individual learning as much of the literature focuses on individual learning without attending to the role of school and their interrelationships. This process involving teachers, school administration and linkages beyond the individual workplace, which may well be viewed as potentially iterative, constitutes fertile ground for further research.

The key discursive elements outlined in the preceding section do not represent a chronological development of professional learning. Rather they overlie each other, more often viewed as complementary. Both intrapersonal and interpersonal learning are valued. Professional learning which includes working with other teachers, inquiring into one's own work or that of other teachers including opportunities for reflection is a common composite of the discourses identified. Encapsulating major components of developmental discourses, Cochran-Smith writes 'There is a remarkably consistent image of the professional teacher as a knowledgeable and reflective practitioner willing and able to engage in collaborative, contextually grounded learning activities' (2004 p. 206).

## Teaching standards

### Overview

Standards are representations of knowledge – arguably limited representations. Conceived in performative terms, standards are commonly described as what teachers know and can do (Ingvarson, 2002) and sometimes what teachers know, believe (or value) and can do. Calls for the teaching profession to develop and use professional standards are a common discourse (Hayes, 2006). Indeed the slogan for the development of advanced standards promoted by *Teaching Australia* in 2006 was 'by the profession for the profession' suggesting that standards are of benefit to teachers and that they should be centrally involved in their production and use. Is some of the complexity and, in particular, the interrelationships between what teachers believe, know and do unapparent or indeed, invisible, in standards? When standards are viewed as a comprehensive map of teaching there presents a risk that limited conceptions of teaching will be accepted (Thomas, 2004). These conceptions are necessarily underpinned by views of the knowledge base of teaching. There are many different views of what constitutes professional teaching knowledge including teaching as commonsense; teaching as a craft comprising a repertoire of skills; teaching as an art; teaching as reflective practice; teaching as a profession comprising holistic judgments built out of a theoretical base; and teaching as a science comprising an input-output model (Hoban, 2002; Squires, 1999). This multiplicity of views maps directly on to how one views teacher professional learning. For instance, if teaching is viewed as a craft then coaching the teacher in a new skill can lead to teacher learning – just show the teacher how to do it and the teacher will implement the new technique. If learning about teaching is seen as reflective practice alone, then tools which facilitate reflection such as individual journal writing will be central to the development of knowledge.

Standards may serve to fix knowledge and conceptions of teaching, risking fossilizing them, although revising standards may help to retain some fluidity. Professional teaching standards are, at best, partial representations of the teaching knowledge-base and are shaped by beliefs about the nature of teaching and learning.



## **Connecting the dots (or not): Standards and teacher learning**

In the quest to document the intricacies of the knowledge base of teaching, professional teaching standards have proliferated. Their purposes are contested and their capacity to achieve their intended aims is debated (Doecke, Locke, & Petrosky, 2004). Standards are viewed as a means of enhancing teacher quality by providing signposts for learning, and for some they offer hope to drive systemic change in education. The impact of standards on teacher professional learning may arise in three main ways: for those who engage in the development of standards, through informal use by teachers as a guiding map of teaching and during assessment using standards (Brown, Chadbourne, & Thwaite, 2004; Louden, Wallace, & Groves, 2001).

The Australian College of Educators (2003) describes standards as tools for measuring one's own performance to improve the teaching and learning in schools and resoundingly rejects their use in controlling teacher quality in this statement:

... standards are tools for action – tools with which the profession can exercise greater responsibility for the quality of teaching and learning in schools. Use of standards must primarily be about professional learning. It would be contrary to the spirit of professionalism if they were used for punitive or non-developmental purposes. Teachers should use them to create and monitor their own professional learning programs, either individually or as members of learning communities.  
(Australian College of Educators, 2003, p.3)

Implicitly or explicitly, the intentions of designers, developers and diffusers of standards are embedded or realized in standards frameworks and documents. Maps, guides, signposts, tools for action are discursive constructions that suggest that agency resides with the teacher and that that standards are able to do productive work for teacher learning. Yet standards are also conceptualized as yardsticks, hoops that must be jumped through — devices that control (Sachs, 2003).

In the following section, I report on empirical literature which investigates teaching standards and teacher learning. They are structured into two types of possibility: complementary and catalytic for teacher learning.

### **Complementary possibilities – standards structures guide professional learning**

The acceptance that teaching standards are useful as a guide for professional learning is prevalent. In an evaluation of the Queensland Government's generic professional teaching standards, it was found that they are a valid tool for teacher reflection on professional practice and unequivocally useful to plan for professional learning goals in order to enhance learning (Mayer, Mitchell, Macdonald, Land, & Luke, 2003).

Dutch standards developed through a distributive process of backward mapping—described as 'teacher-derived standards' (Storey, 2006, p. 221) were part of a wider

policy shift to a devolved education structure. Storey's account of the development of teaching standards by teachers in the Netherlands is noteworthy because the subjects of her interviews 'said they felt empowered and professionally enhanced: the standards they and their colleagues had produced were *meaningful to them*' (emphasis in original) (Storey, 2006, p. 231). These teachers confirmed their use for guiding their professional learning. Overwhelmingly teachers wanted to use standards for professional learning, not for performance measurement.

Although teacher attitudes and dispositions towards the Dutch competency standards were positive, there is no indication of the effect of the use of the standards to guide teacher learning as the research is reporting on the development phase. The Dutch Inspectorate plan to use these standards to assess schools and expect that each teacher will align their mandated professional development plan to the standards. This significant shift from bottom-up development to a top-down implementation phase that has yet to be evaluated.

There is a strong body of evidence that teachers have significant impact on student performance (Darling-Hammond, 2000; Hattie, 2003; Wenglinsky, 2000) and that teaching standards provide important tools for improving teaching through professional learning (Cumming & Jasman, 2003; Mulcahy & Jasman, 2003) by directing the focus explicitly towards improvements in student learning. Empirical research concerning the relationship between teaching standards and teacher learning suggests that the model of standards development used by the US National Board for Professional Teaching Standards (NBPTS) is particularly effective. There are reports of teachers undergoing significant professional renewal through engaging in the processes of certification that characterise this model (Haynes, 1995).

Bean's (2006) small scale evaluation of the STELLA (Standards for Teachers of English Language and Literacy in Australia) Professional Learning Pilot Project also suggests that standards provide a useful framework to guide the thinking of teachers and promote reflection on teacher learning. The pilot incorporated mentors, reflection and the provision of teacher release, each professional learning element working in combination.

As Popkewitz (2004, p. 246) so ably puts it, 'standards are fictions created to simplify and enable action... Paradoxically they narrow our view of the complex nature of teaching but also open up new views'. In accordance with this view, standards provide a framework which teachers can use to investigate their practice, their knowledge base and their beliefs to enhance their learning. I hold to the view that such frameworks can only ever be partial and perspectival and thus viewing standards as a comprehensive account of teaching is worrisome.

### **Complementary possibilities – shared language is central to collaborative work**

Set within a developmental discourse which emphasizes reflective and collegial elements, two evaluations of professional development which aimed to strengthen

professional practice using standards as a framework are notable as they work with accomplished Mathematics and English standards respectively. Bishop, Clarke & Morony (2006) conducted an evaluation of Mathematics teachers regarding their self-reported professional development arising out of project in which clusters designed their own professional learning programs. Fifteen teachers completed the pre and post surveys and thirty teachers were interviewed in their cluster groups. Although the evaluation is working with relatively small numbers, the following tentative conclusions are worthy of reporting in some depth. They found that the use of the *language* in standards may assist in developing shared meanings and that standards provide a *structure* that may provide a tool for individual and team auditing and in the development of teacher learning programs. In investigating the relationship between professional teaching associations and professional standards, Hayes (2006) claims that these associations want to develop a common language for their members which would enable them to link professional learning and professional standards.

### **Catalytic standards' elements**

Lustick and Sykes' significant and recent empirical study (2006) investigated the National Board for Professional Teaching Standards' (NBPTS) assessment process and found quantitative evidence that National Board certification leads to significant learning in teachers undertaking the process. One hundred and twenty candidates for the Adolescent and Young Adult Science (AYA Science) Certificate were studied over a two-year period using a quasi-experimental methodology drawing on cross-sectional and longitudinal data. Transcripts of structured interviews with each teacher were scored by multiple assessors according to the 13 standards of NBPTS' framework for accomplished science teaching. Of the 13 NBPTS' standards, learning related to assessment and scientific inquiry was substantial. The process of Board certification appears to have been a transformative experience for at least some teachers on some dimensions of their practice' (Lustick & Sykes, 2006). Caveats still apply as not all candidates demonstrated learning. What aspects of the certification process are aligned to teacher learning? Candidates elect to be part of the process, pay \$2300 (US), complete an extensive portfolio that documents their work with students, school and community, and complete an exam on their content knowledge. Reflection is an integral part the process. The elements of standards which may catalyse learning in this study were attention to assessment and scientific inquiry. Exploring scientific inquiry challenges teachers to validate or adapt the epistemological foundations of their practice.

### **Catalytic learning conditions – dialogue and deprivatisation of practice**

Koster and Dengerink's (2008) research analysed interviews, questionnaires and portfolios to investigate the use of the Dutch teacher educator standard and its accompanying procedures which have the triple goals of self assessment, professional learning and registration. They report that the process involving professional dialogue with peer assessors had strong utility for individual professional development. The collegial dialogue was a catalyst for learning.

I turn now to an Australian research project in which twenty teachers elected to undergo a process to obtain certification of practice for accomplished science teaching using science standards previously developed over three years by the Australian Science Teachers' Association (1999–2001). The key features of the project were six, three-hour group sessions to support the identification and development of five portfolio entries (these entries are similar to those used in the NBPTS accreditation process). The project design was 'guided by what research tells us about best practice in professional development' (Semple, 2005, p. 51) as the sessions grew out of the premise that teachers discussing their practice will promote teacher learning (Semple, 2005). Teachers who participated in this program reported an increased sensitisation to students' needs and changes in their teaching practices, particularly in monitoring and assessing learning. However, although there were ambitious efforts to link the program to improved student learning outcomes, using pre and post testing of three types — an attitudinal survey, a concept task and an international benchmark test — there was insufficient data to support this link. The report concluded that the

'Science Standards and Portfolios Professional Development Program (SSPPDP) has provided a strong example of a standards-based professional development initiative that involves teachers in sharing their teaching experiences and expertise, engaging in deep analysis and reflection on their practice within the context of their school and wider professional community, and demonstrating their accomplishments through completing a portfolio entry.' (Semple, 2005, p.69)

Certainly the program was designed to draw on the four key discourses of professional learning identified earlier in this paper, and the role of collegial dialogue and the deprivatisation of practice were identified as centrally important features of the program (Semple, 2005). This report also claims that the standards provided an organising structure that teachers could use but it seems that the structure was largely determined by the design of the program as the structured portfolio entries were intended to provide evidence of practice in different domains of teaching. It is not evident in the report of this program that the standards of themselves significantly impacted on teacher professional learning.

Many standards advocates base their beliefs in professional teaching standards on two linked assumptions: firstly, that standards are a comprehensive road map of the knowledge base of teaching, and secondly and relatedly, that their use in framing teacher professional learning will lead to improvements in teaching and learning. Needless to say standards of themselves do not lead to teacher professional learning. However, commonly standards development processes have incorporated collaboration and reflection. It is the opportunity to work collaboratively and reflectively around the substantive questions that will lead to teacher professional learning. Certainly, Fuller (2006, p. 43) in a practitioner based study of the contribution of the Standards for Teachers of English Language and Literacy in Australia (STELLA) to teaching practice, suggests as much: 'STELLA also provided

a passage through which I could converse with my wider peer group in a professional dialogue to sustain and nurture my teaching practice’.

### **Catalytic learning conditions – portfolios as tasks which require teacher self study and teacher-based inquiry and reflective practice.**

Commonly teachers are asked to demonstrate their performance in relation to standards by preparing portfolios (Angelico, 2005; Bishop, Clarke, Doecke, & Prince, 2004; Cosgrove, 2007; Lustick & Sykes, 2006). Portfolio is a portmanteau term but characteristically portfolios contain artifacts, annotations and reflective elements. This task is framed as the work of an *individual* teacher albeit that some standards frameworks include a standard on collaboration. In the Catholic Education Sector, aspiring leaders developed a collection of evidence for their professional portfolio guided by a leadership standards framework. Participants reported that this process facilitated learning (Angelico, 2005). Bishop, Clarke, Doecke & Prince’s ARC linkage-funded research (2004) was designed to remove the high stakes of using standards for career promotion and sought volunteers to develop portfolios based on national standards frameworks. However, they found that teachers documenting their practice is never low stakes as the teachers harboured concerns about how the audience – in this case the “assessors” – would judge their documented practice. They claim that the nature of the process of working with standards encourages the development of ‘cover stories’ (Clandinin & Connelly, 1996) where some of the complexities and challenges of teaching may be neglected. Standards, and indeed portfolios, have become the *lingua franca* of managerialist policy – they are embedded in the discourse. Further research on teams of teachers who work together to develop a shared portfolio is of interest to this researcher although this may well be common where collaboration is built into the processes rather than the product. Although the particular requirements of any portfolio should be analysed, two key professional learning discourses will likely be present: teacher self study and teacher-based inquiry and reflective practice.

### **Catalytic learning possibilities – from dialogue to learning communities**

Teacher professional growth is now recognised as ‘an inevitable and continuing process of learning’ (Clarke & Hollingsworth, 2002, p. 950). It is also recognised that teachers learn best when working in a dialogue and action community (Schlager & Fusco, 2003). Recently, teacher learning has been studied as informed participation in communities of practice (Chalmers & Keown, 2006; Sim, 2006) and communities of learning (Borko, 2004). Research investigating learning communities working in tandem with standards was not encountered in reviewing the literature, this may be a potential area worthy of research.

### **Conclusion**

In this review, four professional learning discourses are identified and these are frequently connected to activities such as voluntary or mandatory accreditation procedures in association with teaching standards. Collaborative activities and collegial exchanges, teacher self study and teacher-based inquiry and reflective practice featured strongly and close and sustained connection to other teachers' work was present to a weaker extent.

The literature supports the claim that standards can *complement* the work of professional learning by providing a structure that teachers use to analyse their work and that working with standards facilitates the development of shared language which underpins collaboration.

Specific elements which emerge that show promise as *catalysts* for teacher learning are: firstly, activities that require close attention to student assessment and those which probe teachers beliefs about knowledge (Lustick and Sykes, 2006); secondly learning conditions which include dialogue and deprivatisation of practice, thirdly the use of portfolios as tasks which require teacher self study and teacher-based inquiry and reflective practice; and finally, that developing situations which go beyond dialogue to learning communities may enhance professional learning.

Within Australia, there are only a relatively small number of studies (Bean, 2006; Bishop, Clarke, & Morony, 2006; Ingvarson & Kleinhenz, 2006a; Meiers, 2006; Semple, 2005) in which conceptual development or other empirical research has been undertaken on the contribution of teaching standards to teacher professional learning. Reporting on a recent Teaching Australia project on advanced standards, Ingvarson and Kleinhenz (2006, p.77) claim that it is primarily by engaging more teachers in more effective professional learning that advanced standards can make a major contribution to improving student learning. The nature of this engagement, such as what counts as effective professional learning and how standards might serve to support this learning however, remains under-researched.

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