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Professional Teaching Standards: A Comparative Analysis of their History, Implementation and Efficacy.

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Abstract: Since the publication of results from the first iteration of testing within the Programme for International Student Assessment (PISA) and the ensuing media consternation and political rhetoric about teacher quality in education systems around the world, professional standards for teachers have been considered, developed and implemented globally in various forms. Justified by the argument that they raise teacher quality which in turn raises student outcomes, professional standards for teachers are being considered as an integral part of the solution to current deficits in education. This article explores the forces driving and restraining professional standards for teachers within international and Australian contexts and identifies ways in which initial teacher education programs can support their successful implementation.

Introduction

Professional standards for teachers can be traced back to the 1946 formation of the National Commission on Teacher Education and Professional Standards in the US. Their primary objective was to "...upgrade the status of teaching to a profession" (Cochran-Smith & Zeichner, 2009, p.74). This body might well have begun the Professional Standards Movement within education, but it appears that some 70 years later there is still debate over the place of professional standards for teachers. Discussions range from questioning their necessity, to debating their content and formats, all of which are often underpinned by questions of how they should, might or will be used by those within and outside the profession. Hudson (2009) and Tuinamua (2011) identify that there is lack of empirical evidence to demonstrate that professional standards will in fact raise the quality of teaching. Whilst conversely, professional standards have been considered by some as a way of providing learning and quality assurance in teaching (Tang, Cheng & So, 2006). However, Darling Hammond (1998) expressed that standards are not a magic bullet to solving educational issues and Hargreaves (2000) warns that:

...defining professional standards in high-status, scientific and technical ways as standards of knowledge and skill, can downgrade, neglect or crowd out the equally important emotional dimensions of teachers' work in terms of being passionate about teaching, and caring for students' learning and lives. (p.152)

Regardless of the sentiment, professional standards for teachers are being considered, developed and implemented globally in various forms and they are often justified by the argument that they raise the quality of teaching and that in turn raises student outcomes (Danielson & McGreal, 2000; Darling-Hammond, 2001). This article analytically and critically explores the current literature in this area, with a particular focus on the Australian context.

The first section of this article will discuss the connections between high quality teaching, international testing and professional standards for teachers. The article will then examine the approaches taken by the UK, Japan, US, China, Finland and Singapore whose current position of the 2016 PISA tables range from 1 – 27th. The article will then explore professional standards for teachers within the Australian context, before focusing on Initial Teacher Education (ITE) programs in Australian Universities. It will then propose future directions for research and possible methods of supporting the successful implementation of professional standards for teachers. Although this article does not claim to be a meta-review of scholarly work in this area it does provide a robust understanding of the driving and restraining forces for professional standards for teachers and places this topic in an historical context. To do this it focuses on research and literature that is highly relevant to both the past and present development of the topic, and in doing so argues for ways in which the proper implementation of professional standards for teachers can raise the quality of future teaching and learning in schools.

High Quality Teaching

Teaching in particular has long been a vulnerable profession. The play *Man and Superman* by George Bernard Shaw (1903) brought about the widely quoted phrase, *he who can, does; he who can't, teaches*. Fairly or unfairly, this phrase, coined at the turn of last century, underscores how, in the west, the position of a teacher can be undermined and devalued. In many so called first world countries there is little status afforded to teachers, they are often maligned in the media and by politicians who question the quality of teachers and blame them for “many social ills and national failures” (Block, 2009. p.135). In fact, recent surveys in Australia point to high quality graduate teachers making the decision not to enter the profession due in part to its poor status (Ingvarson, Reid, Buckley, Kleinhenz, Masters & Rowley, 2014). With the best graduates shying away from teaching, teacher aptitude witnessing a decline (Leigh & Ryan, 2008) and clear associations now made between low teacher quality and low student achievement (Darling-Hammond, 2000), it appears that there is a deficit in teaching that needs to be rectified. Professional standards and their potential to raise teacher quality, are being proposed as an important part of the solution.

Since the McKinsey Report (McKinsey & Company, 2007) used the subsequently widely quoted idiom, “The quality of an education system cannot exceed the quality of its teachers.” (p.19), high quality teaching has been adopted as an underlying principle in the development of top performing educational systems (Husbands, 2013). High quality teaching and its impact on improved student results is now a focus of countries who participate in international testing (Baird, Isaacs, Johnson, Stobart, Yu, Sprague & Daugherty, 2011). The Programme for International Student Assessment (PISA), is a triannual survey of students undertaken by the Organisation for Economic Cooperation and Development (OECD) that tests the competencies of 15 year olds in reading, maths and science. The OECD (2016) have stated that the aims of their international surveys are to provide reliable data on the knowledge and skills of students and their performance in tests of that knowledge and skill. When the first test was implemented in 2000, 42 economies participated. Since then there have been 5 further iterations with the number of participating countries now standing at 72. The increase in participation has been attributed to a variety of factors, from countries wanting to measure themselves against other OECD countries (Grek, 2009) to low and middle income countries being *forced* to participate as a means of accessing foreign aid (Lockheed, 2013; Chung, 2010). There is also empirical research by Addey (2015) that suggests participation is part of a global ritual of belonging. Whatever their motivation, more

and more countries are participating in PISA testing and politicians are using the results to drive educational reform (Baird, et.al. 2011).

After the 2009 PISA results were released the newly elected Conservative/Liberal government in the UK declared that the results were a consequence of "...the mess left by the previous government" (Baird, et.al. 2011, p.14). This sentiment was echoed in Australia, which was the only country to witness a significant decline in PISA results. The Minister for Education at the time, the Honourable Christopher Pyne, voiced concern that the Australian PISA results indicated that the previous governments *Education Revolution* had failed in its attempts to increase student outcomes regardless of the extra 44% funding that had been gifted to education over the previous decade (Pyne, 2013). In the midst of national media asking rhetorical questions about the quality of the Australian teaching profession, Pyne also asserted that improving the quality of teaching was a crucial factor in lifting student outcomes.

Pyne's analysis of the need for improving the quality of teaching was validated when in 2015 Andreas Schleicher, the Education Director of the OECD singled out Australian schools for falling behind international standards. Again, in March 2016, in his speech to the Global Education and Skills Forum in Dubai, Schleicher argued that Australia has made a mistake in not placing more emphasis on the professional development of teachers (Bagshaw, 2016). This message did not bode well for the 2015 PISA results, which when released in December 2016, caused a flurry of media consternation, public debate and political rhetoric. Australia again saw a decline in results both relative to other countries and in absolute sense (Thompson, Bortoli & Underwood, 2016). Dr Sue Thompson, from the Australian Council for Education Research (ACER) clarified that the results for Australia indicted a decline in both the strongest students and the weakest students (Hunjan & Blumer, 2016). Simon Birmingham, the current Federal Education Minister placed the blame firmly on teacher quality, and stated that Australia cannot afford to "continue to slip behind" other participating countries (Hunjan & Blumer, 2016, para.7).

The OECD (2016) insists that their results should be used to help achieve excellence in education, rather than create a type of educational league table. Unfortunately the global media tends to focus on who tops the table in test results in the above mentioned categories rather than on the rich data that is supplied about other educational outcomes, such as; satisfaction rates with the type of education students experience, group work and collaboration among students, problem solving and career aspirations. The OECD's concern with the unintended consequence in PISA results is that rather than inspiring teachers it can lead to teachers to focus on preparing their students for testing regimes and the recollection of facts, rather than on developing their deep understanding of subject matter (Ewing, 2012; Smeed, 2010). Furthermore, Dinham (2013) argues that national and international testing of students does not necessarily demonstrate the big picture of educational successes or failures.

As a result of Australia's declining PISA results for 2009, 2012 and 2015 significant focus has been placed on what Australia can do to increase its international educational standing. A number of researchers have analysed what top performing economies have in common and it appears that PISA success comes with placing greatest significance on recruiting, developing and retaining high quality teachers (Ingvarson, et.al., 2014). It is understood that those countries who have adopted stringent policies on high quality teaching correspondingly demonstrate high levels of student performance (Masters, 2015).

The increased focus on high quality teaching over the past two decades is a reflection of shifts in economic understanding. Whilst in the past economic growth was seen in terms of product, knowledge is now understood to be crucial to economic progress and power (Dowrick, 2002; Johnson, 1995). Countries must now focus on developing their knowledge economy, and ensuring high quality teaching is one way to achieve this. Both Darling-

Hammond (2000) and Hattie (2003) have shown the impact of high quality teaching on improved student outcomes. Hattie (2003) identified that whilst students have the highest impact on their own learning, teachers play the next significant role. This, he asserts, is where intervention should lie, a point reiterated by Ingvarson and Rowe (2007) who argue that investing in teacher quality and professionalism is essential for improved outcomes. With an increased focus on the quality of teaching and levels of professionalism, calls for definitions of professionalism and measures to demonstrate quality performance have increased the appetite and momentum for professional standards for teachers (Kleinhenz & Ingvarson, 2007; Delandshere & Petrosky, 2004).

Approaches to Achieving High Quality Teaching

The OECD's comparative study entitled *Learning Standards, Teaching Standards and Standards for School Principals* (OECD, 2013) provides an overview of the use of teaching standards within national and sub-national education systems. Here it identifies that Australia, along with England, Germany, USA and New Zealand have national standards for teachers whilst Canada, Norway and South Korea has not. New Zealand adopted a set of teaching standards in 2006 which teachers must use and evidence meeting when gaining and maintaining full registration to "protect the quality of teaching in new Zealand" (Education Council of New Zealand, 2017). Canada has a set of performance standards set at the provincial level, whilst South Korea have a national set of performance standards for reporting results from national testing of students, not their teachers (Clark, 2013). Norway does not have a national set of standards for their teachers and whilst the OECD (2011) state that there is strong political will to develop such a framework, there is as yet no evidence that it is to be enacted.

In contrast, the UK has adopted a national set of teaching standards that address teacher competencies and skills but also their attitudes and pedagogical practices (Department for Education, 2014). These standards apply to Initial Teacher Education (ITE), early career teachers leading up to induction as well as by practicing teachers. The Standards are used predominantly to assess teacher performance, but they are also used when hearing cases of serious misconduct (Department for Education, 2014). The UK government states that the introduction of teaching standards across England and Wales was expected to establish and ensure a minimum standard of teaching and conduct (Department of Education, 2014). However, according to a report from the *Daily Telegraph* some school principals have adopted a culture of fear in order to raise teaching standards (Paton, 2014). This authoritarian interpretation of the values underpinning teaching standards is certainly a cause for concern and such an approach could well be the undoing of all good intentions, with heavy-handed regulatory responses by leadership serving only to have a de-professionalizing effect on teachers (Leonard, 2012). As noted by Alexander (2010), "In many primary schools a professional culture of excitement, inventiveness and healthy scepticism has been replaced by one of dependency, compliance and even fear...and in some cases have depressed both standards of learning and the quality of teaching' (p.7). Tuinamuna (2011) argues that this *top down approach* leads to teachers "playing the game" (p.78). Whilst Thomas (2004) found that teachers silently sabotage leadership directives.

Conversely, Japan has high levels of regulatory practices related to ensuring high quality teaching but they do not have a national set of standards for teachers. Regardless of this, Japan has dominated the top levels of international assessment tables since participating in the First International Mathematics Study (FIMS) in 1964, when they "stood out as a leader in education" (OECD, 2012. p.36). They consistently rank highly in PISA survey

results and their focus on targeted funding, high expectations and quality teachers can in part be attributed to this success (OECD, 2012). Whilst their PISA position has been high, there have also been occasions where PISA outcomes, and the resulting media coverage, have resulted in the Japanese government abandoning education programs due to perceived decline in the PISA score (Takayama, 2008; Aoki, 2016). International test results were used as a way of legitimising a shift away from child centred pedagogical approaches and towards a back to basics form of education and a market driven neoliberal global norm of governance (Takayama, 2008). Through revisions to laws dating back to 1947, the Japanese government have set in place changes to their Educational Law that enables their economic demands to be inserted into their educational policy (Katsuno, 2007). For a country that lacks natural resources Japan has placed emphasis on ensuring that the Japanese knowledge economy has the best chance of competing both nationally and internationally (Katsuno, 2012). The focus on high student outcomes is reflected in the high expectations placed on the standards of teachers. As a highly respected profession only 14% of applicants are placed in ITE programs and only 30-40% of those who graduate gain employment as teachers after a rigorous post-graduation testing schedule. Teachers who gain final certification must then prove that their skills and practices remain contemporary through ten yearly testing cycles (NCEE, 2016). Whilst standards per say are not in place for practicing teachers, rigorous approaches to the quality of teachers entering and remaining in the profession certainly are.

In the US professional standards for teachers can be traced back to the 1946 formation of the National Commission on Teacher Education and Professional Standards. They established ideas about professional self-discipline, expertise and autonomy (Cochran-Smith & Zeichner, 2005). Yet by 1962 Don Davis, was calling for a shift from ideas to action (Davis, 1962) and in 2001 Darling-Hammond pointed out that there was no cohesive approach across the US towards professional standards for teachers (Darling-Hammond, 2001). At the ITE level, the Interstate New Teacher Assessment and Support Consortium (INTASC), adopted by almost 40 states, outlines the knowledge, dispositions and performance levels deemed essential for beginning teachers (Chung and Kim, 2010). For practicing teachers, professional standards are addressed at the state level through teacher licenses known as Board-certification. Countrywide, the National Board for Professional Teaching Standards (NBPTS) have developed a set of standards, based around five core propositions to improve the quality of teaching. However, acquiring Board-certification from the NBPTS is voluntary and currently only 3% of US teachers have opted to do this (NBPTS, 2017) and there appears to be little evidence that NBPTS certified teacher's impact on student outcomes (Harris and Sass, 2009; Chung and Kim, 2010).

In China, another consistently top PISA survey performer, teachers spend several hours a week in another teacher's classroom carrying out observations or engaging in professional learning (National Centre on Education and the Economy (NCEE, 2016). Teachers in China also participate in weekly research groups with a focus on teacher quality for improved classroom practice (Asia Society, 2006). The quality of teaching in China is judged by individual performance in tests and observations, and within a competitive environment of promotion and job security (Guo & Yong, 2013). China features in the top five PISA results for all three subject domains and since the 1980's their teachers have been considered within Chinese society and law to be professionals, a fact embedded into *Teacher Law* in 1993 (Guo & Yong, 2013). Whilst all teachers in China are bestowed with a high level of status within the community, becoming a Master Teacher is considered to be an extraordinary honour, with 0.1% of teachers sitting within this category. China places significant importance on life-long learning and define stages for teacher professional development (Zeng, 2008). However, it has been argued that the focus on professional development is usually about "...changing the knowledge, skills, beliefs, and attitudes of

teachers without necessarily expecting these changes to have a direct impact or immediate impact on their students” (Timperley, Wilson, Barrar & Fung, 2007. p. 19). In Shanghai teachers sit within a hierarchical system of professional levels; Novice, Intermediate, Advanced and Master Teachers. Transition from one level to the next is not automatic but rather it is bestowed by district leaders for distinguished practice.

Finland also regularly reside in the top echelons of the PISA charts and have done since its inception in 2000. In response to their demonstrated high levels of student outcomes in the 2009 PISA surveys the OECD identified that it was their approach to teacher development and creativity that played a significant part in their success (Bagshaw, 2016). Subsequently, countries have looked to this small nation to determine the reasons for their success. In his book, *Finnish Lessons: What can the world learn from Educational change in Finland?* Sahlberg (2011) identifies that their road to success began with a softer approach than has been adopted elsewhere. This relies heavily on their teaching community having a high level of professional knowledge from a high degree of training (Sahlberg, 2011). Finland has maintained that all of their teachers must have a teaching qualification at the Masters level and that this degree must contain a significant percentage of study that is related to the development of pedagogy (Sahlberg, 2010). Teachers have also been allowed greater freedoms and trusted to carry out their jobs, and whilst school inspectors may visit this is far from the heavy handed accountability practices that are seen in the UK and the US (Tuinamuana, 2011).

Singapore, currently leading the PISA league tables, introduced professional standards as part of their membership of the intergovernmental Southeast Asian Ministers Education Organisation (SEAMEO). Within this organisation Singapore has implemented the SEAMEO INNOTECH Competency Framework used to develop professional teaching standards that promote high quality teaching. Sitting within this framework is an Educational Professional Management System (EPMS) that “...spells out the requisite knowledge, skills and competencies a teacher should possess” (SEAMEO, 2010, p.26). Teachers within Singapore must demonstrate “subject mastery, analytical thinking, initiative and teaching creatively” (SEAMEO, 2010, p.26). This is perhaps made manageable by the fact that Singapore has a single teacher education facility, The National Institute of Education, which would impact on the way in which teacher education can be managed and controlled, providing uniformity and conformity in approaches to education across the small sovereign city/state. Whilst Singapore’s set of professional standards are applied to teachers, they are not embedded within law by the national government. This is stark contrast to the UK, where national standards are explicitly connected to education acts and the UK government provided a document entitled *Teachers’ Standards – Guidance for school leaders, staff and governing bodies* (Department of Education, 2011) to demonstrate where these connections lie.

It is clear that approaches to professional standards for teachers varies across countries. Sachs (2005) determines that they fit into two categories; either regulatory or developmental. Regulatory standards set out to standardise professional practice but run the risk of eliminating professional judgement (Sacks, 2005). Whilst developmental standards actively seek to develop a teacher’s professional judgement at the individual level, providing opportunity for pedagogy and classroom practice to be discussed (Sacks, 2005). Developmental approaches focus on lifelong learning and are student centred, regulatory approaches focus on accountability, monitoring performance and compliance (Sacks, 2005). When combined, an approach adopted in the UK, teachers and their leaders are theoretically provided with a roadmap for effective teaching (Mahony & Hextall, 2000). The potential issue here is that this form of regulatory control polarises teachers, “...into those who are good, right and strong and those who are bad, weak and wrong” (Hargreaves, 2003. p.138).

However Tuinamuana (2011) boldly asks “who would not want schools and universities to uphold professional teaching standards of some sort?” (p.74). Whilst most would argue that raising teaching standards is a good thing, for those countries embarking on developing sets of professional standards for their teachers, the task will be to ensure that they not only contain the desired components but that they are used as intended.

The Australian Context

In Australia, the task of raising standards in teaching can be traced back to the Hobart Declaration (1989) which promoted high quality schooling for all young Australians. In more recent times this agenda was exemplified in the 2013 Education Act which placed quality teaching and learning high on the agenda. With the aim of reaching a coveted top 5 position on the PISA league tables by 2025, the Education Act sets the tone for what the Australian Federal Government believes constitutes effective teaching. The emphasis on effective teaching is not new and is not limited to Australian political agenda. As nations vie for one of the top positions in the economic marketplace, so too must they look towards the skills and aptitudes of their future labour force (OECD, 2010).

Since the 1970's teaching standards have been a part of Australian teaching in some form or other. For example in 1974 the Queensland government introduced teacher registration based on certain standards (qualifications for example) to improve teaching and enhance the status of the profession (Aspland, 2006). However, in light of the international focus on educational rankings and in turn, the professionalism of teachers, Australia has placed its priority on improving student outcomes by ensuring the highest quality teaching occurs in all Australian Schools (AITSL, 2013). In 2009, and in part, as a response to continued political debate about deficiencies within the Australian education system the Australian Institute for Teaching and School Leadership (AITSL) was formed (Dinham, 2013). Their mandate was to promote excellence in Australian Schools and further professionalize teaching through the development and implementation of a set of professional standards. In 2011, after a process of consultation with stakeholders across all regional jurisdictions in Australia, AITSL introduced the Australian Professional Standards for Teachers (APST) (Rienstra, 2010). Their aim was to provide Australian teachers with a set of standards that would serve as a quality assurance mechanism to improve the overall quality of Australian teaching and that would have maximum impact on student learning (Timperley, 2011). The APST were designed to support teachers with a framework that guided their professional learning at each of four defined career stages, namely; Graduate, Proficient, Highly Accomplished and Lead (AITSL, 2013). Within each career stage the same three domains provide seven teaching standards (See Table 1). And within each standard a set of descriptors and focus areas provides teachers with a 37 point guideline for what they should know and be able to do (AITSL, 2013).

The introduction of the APST demonstrated the significant leap forward in developing a cohesive approach to teaching standards across Australia in order to achieve the best possible student outcomes no matter what state a student resided in (Timperley, 2011). This aim appears to be validated by the 4,141 teachers who participated in AITSL's 2013 survey of Australian teachers. A total of 83% (3,437) of teacher participants said that they thought the APST would improve the profession. However a more sobering statistic from the same survey showed that just over half of the same participant group (54%) stated that they use the APST to inform their teaching.

Professional Knowledge		Professional Practice			Professional Engagement	
Standard 1 Know students and how they learn	Standard 2 Know the content and how to teach it	Standard 3 Plan for and implement effective teaching and learning	Standard 4 Create and maintain safe and supportive learning environments	Standard 5 Assess, provide feedback and report on student learning	Standard 6 Engage in professional learning	Standard 7 Engage professionally with colleagues, parents/carers and the community.
Standards 1.1 – 1.6	Standard 2.1 – 2.6	Standards 3.1 – 3.7	Standards 4.1 – 4.5	Standards 5.1 – 5.5	Standards 6.1 – 6.4	Standards 7.1 – 7.4

Table 1: Australian Professional Standards for Teachers Domains and Standards Headings.

Whilst it appears from these figures that the APST are perceived by teachers to have a positive influence on their teaching, it also appears that getting all teachers to use the APST as intended might be more of a challenge. But the consequence of half of teachers not using the APST as intended would have ramifications on their success, and their success lies, as Ingvarson (2010) stressed, in “bringing the profession on board” (p.67). However, AITSL’s difficulty is in engaging teachers with the mandated APST whilst they are already preoccupied with issues of accountability, compliance and time constraints (Ingvarson, 2010; AITSL, 2014; Dinham, 2013). Teachers indicate that these issues hinder their ability to interact with teaching standards, with some admitting to merely “playing the game” to appease their leadership (Tuinamuana, 2011, p.78).

Teachers note that a hindrance to them using the APST as AISTL intended is a lack of time (Mayer, MacDonald, Mitchell & Bell, 2006). With a working week averaging 46 hours, with 23 of those hours devoted to direct teaching (Morris & Patterson, 2013), primary school teachers do not have time to familiarize themselves with the APST. For many teachers it is not yet clear how they will find this time (Tuinamuana, 2011). To develop their understanding of the relationship between themselves and teaching standards Doecke (2001) argues that teachers need to be given that time. This must be a meaningful process, as learning ought to be based on context and driven by the reality of the teacher’s own situation (Darling-Hammond, 1998). Release time for professional learning is required but this costs money and lack of money could compromise a teacher’s ability to develop the level of interaction with the APST that is required to make a difference.

For school leaders, requiring or asking their teachers to use the APST to guide their professional practice will be a challenge. To mitigate the *power* issue, empowerment approaches can be utilised. Collaboration and the use of teacher portfolios have all been suggested as ways and means of making the standards work (Mayer, et.al, 2006). However, it has yet to be fully articulated how creative and innovative ways will be formulated to help teachers navigate their already burgeoning workload when limited funding is available. Whilst Australian educational reform post PISA 2009 has placed great emphasis on teacher professionalism and the development of professional standards for teachers, it also seems that Australia has yet to adopt effective policies that specifically focus on building the status of teaching and professional conditions of work (OECD, 2011; Ingvarson et.al., 2014). Whilst the consensus is that professional standards are here to stay (Tuinamuana, 2011; Ingvarson, 2010; Hattie, 2011), it will be their implementation across all jurisdictions and relevant educational sectors within Australia that will define their success.

For the APST to be a success, Hattie (2011) states that teachers, at all of the career stages, will need to be nurtured within a culture that proclaims their achievements. However, the current climate promotes judgement rather than development and conformity rather than

empowerment (Dinham, 2013; Tuinamuana, 2011). Thus, efforts now need to be made to shift the focus away from blaming teachers and towards encouraging their professionalism and successful adoption of teaching standards (Dinham, 2013). School Leadership has a significant role to play in addressing how the APST are met and nurtured within their school and it will be their interpretation and approach which may ultimately enable or disable teacher's engagement (Timperley, 2011). However, one avenue for navigating this issue is through undergraduate education (Ingvarson, 2010). Pre-service teachers are well placed to be the drivers of professional standards for teachers, as it is this group of educators who are the most positive about the APST (AITSL, 2014).

Professional Standards in Australian Initial Teacher Education

Within Australia, universities have for some time had to align their programs with teaching standards (Walkington, 2009) and in recent times this alignment has been with the APST. For accreditation purposes universities must ensure that their graduate career stage teachers meet the APST in order to graduate and become registered as a teacher. That said, AITSL's *Accreditation* position paper (AITSL, 2015) makes a strong assertion that the current situation requires a firmer and more unilateral approach to demonstrating impact on student learning. Here they suggest two stages of accreditation for all Australian initial teacher education programs, with the dominant underlying feature being that the APST form the "backbone of accreditation" (AITSL, 2015. p.4).

The introduction of the APST at the undergraduate level has an ongoing impact on education policy across all jurisdictions and on all stakeholders within Australian education (Mockler, 2015). AITSL has ensured that universities are obligated to guarantee that pre-service teachers have a significant ability to interact professionally with the APST prior to entering the profession. There are encouraging signs that this is beginning to happen, with the interim report from AITSL's 2013 national survey of educators indicating that pre-service teachers were the most likely to take and use the APST to implement them within the next 6 months (AITSL, 2014).

The results from the 2013 AITSL national survey also incorporated questions relating to pre-service teacher knowledge of the APST. In this survey 37% or 81 pre-service teachers ranked themselves as either highly knowledgeable or considered that they have an expert level of knowledge about the APST (AITSL, 2014). However, only 220 pre-service teachers or 0.27% of the total Australian pre-service teacher population participated in the survey and it might be considered that those engaging in the survey are those who are already most engaged with the APST¹. That said, this data suggests that although universities are required to cover and document all of the APST for pre-service teachers within their program literature, more pre-service teachers need time to adopt and embed the APST in their professional practice. This will then ensure that national expectations on high quality teaching and improved student outcomes are met.

Whilst teaching standards should be a high priority (Tuinamuana, 2011), as mentioned previously, in practice teachers have little additional time to engage with them and in turn struggle to know and understand them (Tuinamuana, 2011; Mayer, Mitchell, MacDonald, Land and Luke, 2003). However, by introducing them at the undergraduate level

¹ The participant figure was estimated using the AITSL *Initial Teacher Education* Data Report (2014). Whilst no figure for total enrolments was provided, the enrolment figure for 2012 stood at 78, 212. The growth of enrolment from 2011 – 2012 stood at 5%. As such, an anticipated enrolment growth rate of between 0 -5% each year was assumed. At this rate, the participant number for the 2013 AITSL survey might have ranged from 78, 212 – 86, 229. Thus providing a participant range of between 0.2551 % and 0.2812%. With the average being 0.27%.

pre-service teachers are given the opportunity to see them as part of their professional learning process and not an addition to it (Walkington, 2009). Professional standards can be explicitly connected to course goals and provide a consistent and transparent approach to pre-service teacher preparation (Leech, 2007). Mayer et.al. (2006) assert that pre-service teachers must understand the relationship between their practice and teaching standards, as learning to teach is now seen as an on-going process which merely begins with pre-service teacher education and continues throughout a teacher's career. A construct that is mirrored in the organisation of the APST from *Graduate* to *Lead* teacher.

Ingvarson (2010) stresses one avenue that will help to achieve the successful implementation of the APST is through undergraduate teacher education. The Teacher Performance Assessment (TPA), is a new measure that AITSL hope will facilitate this process. With two consortia, led by The Australian Catholic University and The Melbourne Graduate School of Education, AITSL aims to introduce "...rigorous, valid and reliable assessment of teacher performance" aligned with the APST at the undergraduate level (AITSL, 2017. p.1).

With 60% of beginning teachers reporting that they did not feel adequately prepared for the classroom (Leech, 2007) and 63% of pre-service teachers classifying themselves as less than knowledgeable of the APST (AITSL, 2014) this current situation certainly requires improvement. Both these groups need better preparation for the classroom and more knowledge and practice of the APST. An important way to achieve this is through embedding teaching standards explicitly within university programs to ensure confidence is built and preparedness for the classroom is established (Walkington, 2009; Tuinamuana, 2011). However, Chung and Kim (2010) assert that the nature of teaching standards has high stakes outcomes for pre-service teachers, as their ability to graduate, gain registration and employment is based on their ability to comply with them. Within a 2010 study of US pre-service teachers and their perspectives of professional standards for teachers (Chung & Kim, 2010) pre-service teachers referred to teaching standards as a means of performance review and as a tool for regulation. Few understood how teaching standards might inform their practice (Chung & Kim, 2010). It is clear from the study that teaching standards were considered to be a part of an end product and not a part of what they considered to be the process to becoming teachers. A contradiction of their intention.

Conclusion

The consensus amongst educational researchers such as Tuinamuana (2011), Ingvarson (2010) and Hattie (2011) is that teaching standards are here to stay. The global education community strives to improve outcomes for students and look to PISA results to vindicate their efforts. However, if the APST are to be adopted as an integral part of professional development practices of pre-service teachers in Australia, it is essential that pre-service teachers connect them with their own practices and experiences (Doecke, 2001). With this in mind, the APST need to be an integral element within teacher education programs and expectations on pre-service teachers needs to be explicit. Pre-service teachers need to be supported to interact with the APST as a part of their practice and not in addition to it.

Tuinamuana (2011) highlights the need for a culture change if national standards are to be accepted and utilised effectively amongst the teaching profession. Sykes and Plastrik (1993) describe a standard as a precise tool for supporting the making of judgments and decisions but importantly, they contest that this includes the context of shared meaning and values. In support of this stakeholders argue that teachers need to have ownership of the

standards if standards are to do what they set out to achieve (Kleinhenz & Ingvarson, 2007). One approach that might support this is that of adopting a Communities of Practice (CoP) which utilises collaborative practices to enable reaching a common goal (Wenger and Lave, 1990). With the argument of time constraints as a hindering factor to the success of the APST (Mayer et.al, 2006), a collaborative approach might serve to enhance the appeal of interacting with the APST and expedite pre-service teacher's knowledge of them. Having pre-service teachers engage with the APST through a CoP might also enable them to develop a sustainable approach to using them as they transition into teaching.

Tools that promote knowledge building through collaboration, such as social media, and programs that support documentation of competencies, such as digital portfolios or Apps, can be utilised within this framework to support pre-service teacher's sustainable interaction with the APST. Mejias (2006) states that this form of e-learning utilises *the power of many* and exposes pre-service teachers to ideas and knowledge beyond what they could achieve on their own. This form of social constructivism promotes the learner in the educational journey from a passive role to that of an active and essential component of learning (Minocha, 2009) and has far reaching implications as collaboration can exist across institutions (Alexander, 2006).

Unlike other professions, pre-service teachers often begin their paid careers with as much responsibility as their more experienced counterparts (Brock & Grady, 2007). Because of this it is only right that they set out with the same framework of professional standards which they will utilise throughout their career. It is promising that the 2013 AITSL survey indicates some positive attitudes and approaches by pre-service teachers towards the APST. However, the situation for pre-service teachers is less than clear and requires further exploration if sustainable practice with them is to be achieved and if implementation is going to be a success.

References

- Addey, C. (2015). Participating in international literacy assessments in Lao PDR and Mongolia: a global ritual of belonging. In, *Literacy as Numbers: Researching the Politics and Practices of International Literacy Assessment*. M. Hamilton, B. Maddo and C. Addey. Cambridge: Cambridge University Press.
- Alexander, B. (2006). Web 2.0: a new wave of innovation for teaching and learning? *Educause Review*, 41(2), 32 – 44.
- Alexander, R. (2010, March 10). *The Perils of Policy: Success, amnesia and collateral damage in systemic educational reform*. Paper presented at the Miegunyah Distinguished Visiting Fellowship Program, Melbourne. Retrieved from; <http://www.robinaalexander.org.uk/wp-content/uploads/2014/05/Alexander-Miegunyah-lecture-FINAL2.pdf>
- Aoki, M. (2016). Japan's 15 year olds perform well in PISA global academic survey. The Japan Times. Retrieved from <http://www.japantimes.co.jp/news/2016/12/06/national/japans-15-year-olds-performwell-pisa-global-academic-survey/#.WKzeHE0cSuk>
- Asia Society. (2006). International Perspectives on U.S. Education Policy and Practice: What can we learn from High-Performing nations? Retrieved from <https://asiasociety.org/files/learningwiththeworld.pdf>
- Aspland, T. (2006). Changing patterns of Teacher Education in Australia. *Educational Research and Perspectives*, 3(92), 140 – 163.

- Australian Institute for Teaching and School Leadership (2013). *Annual Report: Promoting excellence in the profession of teaching and school leadership*. AITSL, Melbourne, Victoria.
- Australian Institute for Teaching and School Leadership (2014). *Insights - Evaluation of the implementation of the Australian Professional Standards for Teachers: Interim report on baseline implementation*. AITSL, Melbourne, Australia.
- Australian Institute for Teaching and School Leadership (2015). *Accreditation. Classroom ready: Demonstrating the impact on student learning of initial teacher education programs*. AITSL, Melbourne, Australia
- Australian Institute for Teaching and School Leadership (2017). *Teaching Performance Assessment – AITSL Grant Program*. Retrieved from https://www.aitsl.edu.au/docs/default-source/default-document-library/tpa-announcement--30-june-2017.pdf?sfvrsn=c862e83c_0
- Bagshaw, E. (2016, March 15). OECD education chief Andreas Schleicher blasts Australia's education system. *Sydney Morning Herald*. Retrieved from <http://www.smh.com.au/national/education/oecd-education-chief-andreas-schleicher-blasts-australias-education-system-20160313-gnhz6t.html>
- Baird, J., Isaacs, T., Johnson, S., Stobart, G., Yu, G., Sprague, T. & Daugherty, R. (2011). Policy Effects of PISA. Oxford Centre for Educational Assessment. UK. Retrieved from <http://oucea.education.ox.ac.uk/wordpress/wp-content/uploads/2011/10/Policy-Effects-of-PISA-OUCEA.pdf>
- Block, A. (2009). *Ethics and Teaching*. New York: Palgrave MacMillan. <https://doi.org/10.1057/9780230619777>
- Brock, B., & Grady, M. (2007). *From First-year to First rate: Principals guiding beginning teachers*. Thousand Oaks, CA: Corwin Press.
- Chung, H. (2010). Finland, PISA and the Implications of International Achievement Studies on National Education Policy. In, *The Impact of International Achievement Studies on National Education Policymaking*. A. W. Wiseman. Bingley, UK: Emerald Group Publishing, Ltd.
- Chung, H. & Kim, H. (2010). Implementing Professional Standards in Teacher Preparation Programs in the United States: Preservice Teachers' Understanding of Teaching Standards. *KEDI Journal of Educational Policy*, 7(2), 365-377. Retrieved from <http://eng.kedi.re.kr>
- Clark, N. (2013). Education in South Korea. Asia Pacific. World Education News and Reviews. Retrieved from <http://wenr.wes.org/2013/06/wenr-june-2013-an-overviewof-education-in-south-korea>
- Cochran-Smith M. & Zeichner K. (Eds.). (2005). *Studying Teacher Education: The report of the AERA panel on research and teacher education*. Washington, DC: American Educational Research Association.
- Danielson, C. & McGreal, T.L. (2000). *Teacher evaluation to enhance professional practice*. Alexandria: Association for Supervision and Curriculum Development.
- Darling-Hammond, L. (1998). Teachers and Teaching: Testing policy hypotheses from a national commission report. *Educational Researcher*, 27(1), 5-15. <https://doi.org/10.3102/0013189X027001005>
- Darling-Hammond, L. (2000). Teacher Quality and Student Achievement: A review of state policy evidence. *Education Policy Analysis Archives*, 8(1), 1-44. <https://doi.org/10.14507/epaa.v8n1.2000>
- Darling-Hammond, L. (2001). Standard setting in teaching: Changes in licensing, certification, and assessment. In V. Richardson (Ed.), *Handbook of research on teaching*. Washington: American Educational Research Association.

- Davis, D. (1962). Professional Standards in Teaching: Moving from Ideas to Action. *Journal of Teacher Education*, 13(2), 191-202. <https://doi.org/10.1177/002248716201300223>
- Delandshere, G., & Petrosky, A. (2004). Political Rationales and Ideological Stances of the Standards based reform of Teacher Education in the US. *Teaching and Teacher Education*, 20(1), 1 – 15. <https://doi.org/10.1016/j.tate.2003.09.002>
- Department of Education (2011). *Teachers' Standards: Guidance for school leaders, school staff and governing bodies*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/301107/Teachers_Standards.pdf
- Department of Education (2014). *Teachers Standards: How should they be used?* Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/2356Teachers_standards_how_should_they_be_used.pdf
- Dinham, S. (2013). The quality teaching movement in Australia encounters difficult terrain: A personal perspective. *Australian Journal of Education*, 57(2), 91–106. <https://doi.org/10.1177/0004944113485840>
- Doecke, B. (2001). Public and personal domains: Professional standards for teachers of English in Australia. *Educational Studies in Language and Literature*, 1(2), 163-177. <https://doi.org/10.1023/A:1012751714802>
- Dowrick, S. (2002). *Investing in the Knowledge Economy: Implications for Australian Economic growth*. Paper presented at the 2002 Economic and Social Outlook Conference, Melbourne Institute. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.194.4694&rep=rep1&type=pdf>
- Education Council of New Zealand (2017). *Graduating Teacher Standards*. Retrieved from <https://educationcouncil.org.nz/content/graduating-teacher-standards>
- Grek, S. (2009). Governing by numbers: the PISA 'effect' in Europe. *Journal of Education Policy*, 24(1), 23-37. <https://doi.org/10.1080/02680930802412669>
- Guo, K.L. & Yong, Y. (2013). Policies and Practice of Professional Development in China: What do Early Childhood Teachers Think? *Australian Journal of Teacher Education*, 38(6), 88-102. <https://doi.org/10.14221/ajte.2013v38n6.4>
- Hargreaves, A. (2000). Four Ages of Professionalism and Professional Learning. *Teachers and Teaching*, 6 (2), 151-182. <https://doi.org/10.1080/713698714>
- Hargreaves, A. (2003) *Teaching in the Knowledge Society: education in the age of insecurity*. Maidenhead: Open University Press.
- Harris D. and Sass T. (2009). The effects of NBPTS-certified teachers on student achievement. *Journal of Policy Analysis and management*, 28(1), 55-80. <https://doi.org/10.1002/pam.20402>
- Hattie, J. (2003). *Teachers Make a Difference, What is the Research Evidence?* Paper presented at the Building Teacher Quality: What does the research tell us? ACER Research Conference, Melbourne, Australia. Retrieved from http://research.acer.edu.au/cgi/viewcontent.cgi?article=1003&context=research_conference_2003
- Hattie, J. (2011). Maximising the Dividend of Professional Learning [video]. Retrieved from <http://visible-learning.org/2013/02/john-hattie-presentation-Maximising-the-impact-video-transcript/>
- Hudson, P. (2009). How can preservice teachers be measured against advocated professional teaching standards? *Australian Journal of Teacher Education*, 34(5), 65-73. <https://doi.org/10.14221/ajte.2009v34n5.6>

- Hunjan, R. & Blumer, C. (2016). Australian Schools are in absolute decline globally says PISA report. Retrieved from <http://www.abc.net.au/news/2016-12-06/australian-school-performance-in-absolute-decline-globally/8098028>
- Husbands, C. (2013, October 10). Great teachers or great teaching? Why McKinsey got it wrong. University College London. [Web log post]. Retrieved from <https://ioelondonblog.wordpress.com/2013/10/10/great-teachers-or-great-teaching-why-mckinsey-got-it-wrong/>
- Ingvarson, L.C. (2010). Recognising Accomplished Teachers in Australia: Where have we been? Where are we heading? *Australian Journal of Education*, 54(1), 46 – 71. <https://doi.org/10.1177/000494411005400105>
- Ingvarson, L.C. & Rowe, K. (2007). Conceptualising and Evaluating Teacher Quality Substantive and Methodological Issues. ACER. Retrieved from http://research.acer.edu.au/cgi/viewcontent.cgi?article=1007&context=learning_processes
- Ingvarson, L.C, Reid, K, Buckely, S, Kleinhenz, E. Masters, G.N. & Rowley, G. (2014). Best Practice Teacher Education Programs and Australia's Own Programs. *Teacher Education*. 1 – 91
- Johnson, T. (1995). *Governmentality and the Institutionalization of Expertise*, in in Dent, Bourgeault, Denis & Kuhlmann (eds) *The Routledge Companion to the Professions and Professionalism*. London: Routledge.
- Katsuno, M. (2012). Teachers Professional Identities in an Era of Testing Accountability in Japan: The Case of Teachers in Low Performing Schools. *Educational Research International*, 2012, 1-8. <https://doi.org/10.1155/2012/930279>
- Kleinhenz, E. & Ingvarson, L. (2007). Standards for Teaching; Theoretical Underpinnings and Applications. Australian Council for Educational Research (ACER). Retrieved from http://research.acer.edu.au/teaching_standards/1
- Leech, R. (2007). Stronger, Smarter, Sarra. *Teacher*, 178, 32-41 Leigh, A. & Ryan, C. (2008). How and why has teacher quality changed in Australia? *Australian Economic Review*, 41(2), 141–159.
- Leonard, S. (2012). Professional Conversations: Mentor Teachers' Theories-in-Use Using the Australian National Professional Standards for Teachers. *Australian Journal of Teacher Education*, 37(12), 46-62. <https://doi.org/10.14221/ajte.2012v37n12.7>
- Lockheed, M. (2013). Causes and Consequences of International Large-Scale Assessments I Developing Countries. *PISA, Power, and Policy: the emergence of global educational governance*. H. D. Meyer and A. Benavot. Wallingford/GB: Symposium Books.
- Mahony, P. & Hextall, I. (2000). *Reconstructing teaching: Standards, performance and accountability*. London: Routledge/Falmer.
- Masters, G. (2015). Raising the Professional Status of teaching. *Teacher Magazine*. Retrieved from <https://www.teachermagazine.com.au/geoff-masters/article/raising-the-professional-status-of-teaching>
- Mayer, D. Mitchell, J, MacDonald and Bell, R. (2006). Professional Standards for Teacher: A Case Study of Professional Learning. *Asia-Pacific Journal of Teacher Education*, 33(2), 159 – 179. <https://doi.org/10.1080/13598660500121977>
- Mayer, D., Mitchell, J., MacDonald, D., Land, R. & Luke (2003). *From Personal reflection to professional community: Education Queensland Professional Standards for Teachers, Evaluation of the 2002 pilot*. Retrieved from http://education.qld.gov.au/staff/development/pdfs/pilot_eval2002.pdf
- McKinsey & Company (2007). *How the world's best performing school systems come out on top*. Retrieved from <http://mckinseysociety.com/how-the-worlds-best-performing-schools-come-out-on-top/>

- Minocha, S. (2009). Role of social software tools in education: a literature review. *Education and Training*, 51(5-6), 353 – 369. <https://doi.org/10.1108/00400910910987174>
- Mockler, N. (2015). From Surveillance to Formation? A Generative Approach to Teacher 'Performance and Development' in Australian Schools. *Australian Journal of Teacher Education*, 40(9). Retrieved from <https://doi.org/10.14221/ajte.2015v40n9.7>
- Morris, J. & Patterson, R. (2013). Around the World: The Evolution of Teaching as a profession. *The New Zealand Initiative*. Wellington, New Zealand.
- National Board for Professional Teaching Standards (2017). National Board Standards. Retrieved from <http://www.nbpts.org/national-board-standards>
- National Centre on Education and the Economy (2016). Teacher and Principal Quality. Retrieved from <http://ncee.org/what-we-do/center-on-international-education-benchmarking/top-performing-countries/japan-overview/japan-teacher-and-principal-quality/>
- OECD (2010). A Skilled Workforce for Strong, Sustainable and Balanced Growth: A G20 Training Strategy. Retrieved from <https://www.oecd.org/g20/summits/toronto/G20Skills-Strategy.pdf>
- OECD (2011). OECD Reviews of Evaluation and Assessment in Education. Retrieved from <http://www.oecd.org/education/school/48519807.pdf>
- OECD (2012). Strong performers and Successful Reformers in Education: Lessons from PISA for Japan. OECD Publishing. Retrieved from <https://www.oecd.org/edu/school/programmeforinternationalstudentassessmentpisa/4802616.pdf>
- OECD (2013). *Learning Standards, Teaching Standards and Standards for School Principals*. Retrieved from http://www.oecd-ilibrary.org/education/learning-standards-teaching-standards-and-standards-for-school-principals_5k3tsjqtp90v-en
- OECD (2016). Education at a Glance 2016. OECD Indicators, OECD Publishing, Paris. Retrieved from http://www.keepeek.com/Digital-Asset-Management/oecd/education/education-at-a-glance-2016_eag-2016-en#.WYPt4WcUmUk#page3 <https://doi.org/10.1787/eag-2016-en>
- Paton, G. (2014, February 11). Teachers should be made to fear failure says Headteacher. *The Daily Telegraph*. Retrieved from: <http://www.telegraph.co.uk/education/educationnews/10631465/Teachers-should-be-made-to-fear-failure-says-headmaster.html>
- Pyne, C. (2013, December 3). Pisa Results Show more is to be done. The Department of Education and Training. Retrieved from <http://ministers.education.gov.au/pyne/pisa-results-show-more-work-be-done>
- Sachs, J. (2005). Teacher Professional Standards: A Policy Strategy to Control, Regulate or Enhance the Teaching Profession? In Bascia, N., Cumming, A., Datnow, A., Leithwood, K. & Livingstone, D. (eds), *International Handbook of Educational Policy*, 13, 579-592. Springer: Netherlands. https://doi.org/10.1007/1-4020-3201-3_29
- Sahlberg, P. (2010). Rethinking Accountability in a Knowledge Society. *Journal of Educational Change*, 11(1), 45-61. Retrieved from http://www.ahisd.net/UserFiles/Servers/Server_8062/File/Departments/Curriculum%20&%20Instruction/DEAC/Rethinking-accountability.pdf
- Sahlberg, P. (2011). *Finnish Lessons: What can the world learn from Educational change in Finland?* New York: Teachers College Press, Columbia University. <https://doi.org/10.1007/s10833-008-9098-2>

- SEAMEO (2010). Teaching Competency Standards in Southeast Asian Countries; Eleven Country Audit. Retrieved from http://www.seameo.org/SEAMEOWeb2/images/stories/Publications/Centers_pub/202TeachingCompetencyStandards/TeachingCompetencyStd.pdf
- Sykes, G. & Plastrik, P. (1993). Standards Setting as Educational Reform: Trends and Issues. Washington, DC: Teacher Education and American Association of Colleges for Teacher Education.
- Takayama, K. (2008). The Politics of International League Tables: PISA in Japan's Achievement Crisis Debate. *Comparative Education*, 44(4) 387-407. <https://doi.org/10.1080/03050060802481413>
- Tang, S., Cheng, M. & So, W. (2006). Supporting student teachers' professional learning with standards-referenced assessment. *Asia-Pacific Journal of Teacher Education*, 43(2), 223-244. <https://doi.org/10.1080/13598660600720629>
- Thomas, K. (2004). *A Misrepresentation of Practice for Art Education: The Draft NSW Teaching Standards And the Virtuoso Art Teacher*. Paper presented at the 2004 annual conference of the Australian Association for Research in Education (AARE), Melbourne, Australia.
- Thompson, S., Bortoli, L. & Underwood, C. (2016). *PISA 2015: A first look at Australia's results*, ACER (2016).
- Timperley, H. (2011). *A Background Paper to Inform the Development of a National Professional Development Framework for Teachers and School Leaders*. AITSL, Melbourne, Australia.
- Timperley, H., Wilson, A., Barrar, H. & Fung, I. (2007). Teacher Professional Learning and Development: Best Evidence Synthesis Iteration [BES]. Ministry of Education, NZ. Retrieved from <http://www.oecd.org/edu/school/48727127.pdf>
- Tuinamuana, K. (2011). Teacher Professional Standards, Accountability, and Ideology: Alternative Discourses. *Australian Journal of Teacher Education*, 36(12), 72 – 82. <https://doi.org/10.14221/ajte.2011v36n12.8>
- Walkington, J. (2009). *National graduate teacher standards: implications for professional experience policy and practice*. Paper presented at the annual conference of the Australian Teacher Education Association (ATEA). Albury, UK.
- Zeng, X. (2008). *Teacher education in the context of social change in China*. Country report submission to the international alliance of leading education institutes. Retrieved from <http://www.intlalliance.org/china13ang.pdf> at [google.com](http://www.google.com).np