

Australian Council for Educational Research (ACER)

ACEReSearch

Teacher Workforce and Careers

Teaching and Learning and Leadership

6-15-2018

What remuneration levels should apply to Highly Accomplished and Lead Teacher certification

Lawrence Ingvarson

Australian Council for Educational Research (ACER), lingvarson@the.inter.net.au

Follow this and additional works at: <https://research.acer.edu.au/workforce>



Part of the [Educational Administration and Supervision Commons](#), [Educational Assessment, Evaluation, and Research Commons](#), and the [Teacher Education and Professional Development Commons](#)

Recommended Citation

Ingvarson, L. (2018). What remuneration levels should apply to Highly Accomplished and Lead Teacher certification. Australian Council for Educational Research. <https://research.acer.edu.au/workforce/5>

This Report is brought to you by the Teaching and Learning and Leadership at ACEReSearch. It has been accepted for inclusion in Teacher Workforce and Careers by an authorized administrator of ACEReSearch. For more information, please contact repository@acer.edu.au.

What Remuneration Levels Should Apply to Highly Accomplished and Lead Teacher Certification?

**Expert witness report prepared for the Queensland
Teachers Union**

Lawrence Ingvarson

ACER

June 15 2018

Background

This expert witness report was commissioned by the Queensland Teachers' Union in April, 2018 as part of evidence to be presented in a submission to the Queensland Industrial Relations Commission.

In October 2016, the Commission had certified an agreement, *The Department of Education and Training State School Teachers' Certified Agreement 2016 (Teachers' Agreement)*, under which the parties committed to recognise teachers who gained Highly Accomplished and Lead Teacher certification.

Following a pilot of the certification process in 2017, the Queensland Education Department requested the Commission to conduct a thorough work-value assessment by 30 June 2018 to determine the appropriate remuneration levels for these new classifications.

The purpose of this report was to review research that would assist the Commission in arriving at its decision regarding appropriate remuneration levels for certified Highly Accomplished and Lead Teachers.

Acknowledgement

Jenny Trevitt from ACER's Cunningham Library provided expert and valuable assistance in locating research relevant to the preparation of this report

Contents

Background	2
Executive Summary.....	4
Approach to the review	5
Context.....	8
The importance of policies that prioritise the quality of teachers	8
Background to introduction of HALT certification.....	9
What is a professional certification system?	11
Certification and reforming teacher pay structures	11
How can certification “add value” to a school system?	12
Purposes of a certification system for Highly Accomplished and Lead Teachers (HALTs)	12
Approach to providing evidence.....	13
1. Recruiting a greater proportion of high ability students through more competitive salaries	14
2. Promoting professional learning that leads to widespread use of successful practices	17
3. Supporting school leaders building strong professional learning communities in their schools	20
4. Ensuring retention of high quality teachers and less out-of-field teaching	21
Conditions determining the long term success of certification systems for teachers	23
A speculative note.....	24
Lead Teacher remuneration.....	25
Report Summary	27
Endnotes	28

Executive Summary

Context

The *Department of Education and Training State School Teachers' Certified Agreement 2016* (Teachers' Agreement) was certified by the Queensland Industrial Relations Commission in October 2016. Under the Agreement the parties committed to the recognition of Highly Accomplished and Lead Teachers as part of the Stream 1: Classroom Teacher classification structure.

The purpose of this report was to review research that may assist the QIRC in arriving at its decision regarding appropriate remuneration levels for certified Highly Accomplished and Lead Teachers (HALTs).

The importance of policies that prioritise the quality of teachers

The Queensland Department of Education and Training initiative to establish a classification for highly accomplished teachers and teacher leaders is consistent with policy trends internationally designed to improve student outcomes by strengthening the teaching profession. As no other factor is as important to the success of a school system as the quality of its teachers, it makes sense to place greater value on teachers who attain high standards of practice.

Research indicates that investing in higher teacher quality has large payoffs to society. Each country that has significantly improved its performance on tests of student achievement such as PISA and TIMSS considers its teaching profession and its schools as an infrastructure that is as critical to its future as more tangible forms of infrastructure such as energy and transport.

The Australian Institute for Teaching and School Leadership (AITSL)

AITSL was established in 2010 as a key component of the COAG¹ Smarter Schools National Partnership on Improving Teacher Quality. Under the Partnership, Australian governments agreed to implement a range of nationally significant and sustainable reforms from targeting critical points in the teacher 'lifecycle' to *attract, train, place, develop and retain* quality teachers and leaders in Australia's schools and classrooms.

Central to these reforms was the development of the Australian Professional Standards for Teachers (APST). The Standards covered four stages in a professional career pathway: Graduate Teacher, Proficient Teacher, Highly Accomplished Teacher, and Lead Teacher.

As a means of lifting the status and attractiveness of the profession, AITSL was asked to develop a national approach to the certification of teachers who attained the standards at the Highly Accomplished and Lead Teacher levels.

Purposes of a certification system

A certification system is a system for defining high-quality teaching standards, promoting development towards those standards and identifying those who reach them. If convinced about its rigor, employing authorities usually encourage teachers to seek certification and reward its attainment through access to higher salary scales and eligibility for promotional positions. It is in the interests of both that the certification system is rigorous.

¹ Coalition of Australian Governments

A nationally consistent approach for the certification of Highly Accomplished and Lead Teachers was seen as a critical means by which the National Partnership would strengthen teacher quality and the quality of teaching by:

1. Attracting and recruiting a larger proportion of high ability students through more competitive salaries
2. Engaging most teachers in professional learning that leads to widespread use of successful practices
3. Supporting school leaders in building strong professional learning communities in their schools
4. Ensuring retention of high quality teachers and less out-of-field teaching

Approach to the review

In considering the question of remuneration levels for Highly Accomplished Teachers and Lead Teachers levels, the approach taken in this report is to examine the conditions that need to be in place if the certification system is to meet these purposes. More specifically, what remuneration levels does the research suggest will be needed if the certification system is to have significant effects on teacher quality and the quality of teaching? What might the levels need to be lift the prestige, status and esteem of the profession in Queensland?

1. Recruiting a greater proportion of high ability students through more competitive salaries

Australia has an increasingly serious recruitment problem. Entry standards for teacher education programs have fallen significantly over the past twenty years. The evidence is that Australia's passive attitude to recruitment over recent years threatens both quality and equity in its school system and its future economy.

School systems that aim to guarantee a quality education for all school students recognise that they must operate in a competitive market for high quality recruits. Teacher salaries at the top of the scale in high achieving countries, relative to GDP per capita, relative to comparable professions requiring similar qualifications and relative to starting salaries for new teachers are generally higher than those in Australia.

While teacher education in Australia does not have a supply problem, it does have a quality problem. Passive recruitment policies need to be replaced by active recruitment policies that enable teaching to compete successfully with other professions for academically successful students.

Research indicates that the recruitment problem will not be alleviated by focussing on starting salaries and salaries on the incremental scale, but by lifting salaries beyond the top of that scale to levels comparable to other career options for abler students. However, this will not be gain public support without the kind of guarantee of better teaching that a rigorous certification system provides.

The research indicates that a well-remunerated certification system for HALT teachers will recruit greater numbers of high-quality candidates, particularly students with qualifications in shortage areas. However, salaries at the top of the scale will have to be significantly higher to attract them, which implies somewhere near 20 per cent at least.

A reasonable goal for the parties involved might be to set HALT remuneration at levels that will steadily lift the proportion of entrants to initial teacher education with ATAR scores above 70, or

equivalent, to 100 per cent over the next five years. Correspondingly high standards would be required for post-graduate entrants to teacher education programs.

From the evidence, this will require remuneration for HALTs to be at levels that would make teaching competitive with similar professions for high quality graduates from schools and universities. Several comparators are provided in this report. According to OECD data about the ratio of teachers' actual salaries in Australia relative to wages of similarly educated professionals, for example, remuneration levels for HALTs would need to rise by at least 20 to 25 per cent; levels twice the starting salaries for teachers.

2. Engaging most teachers in professional learning that leads to widespread use of successful practices

The evidence suggests that a well-rewarded certification system for HALTs has the potential to significantly increase the impact of professional learning on student outcomes. Preparing evidence for certification necessarily engages teachers' in receiving feedback and analysing their teaching in the light of high professional standards, over extended periods of time. These practices are consistent with research on professional learning that improves student outcomes.

Teachers who gain certification engage more in leadership activities and are more likely to remain in teaching. There is increasing evidence that shows when groups of teachers within the same school prepare for certification together it can significantly improve student learning outcomes in disadvantaged schools.

The research indicates that major benefits are likely to flow to school systems that provide attractive incentives for all teachers to undertake the preparation needed to gain certification at HALT career stages. Previous initiatives, such as the Advanced Skill Teacher, failed to engage many teachers because remuneration levels were too low and because alternative career pathways remained in place that did not involve the effort required for certification.

If remuneration levels for HALTs are to lift the quality of teaching in Queensland state schools generally, they will need to be substantial (again, at least 20 per cent). They will need to reflect research indicating that the quality of teaching is the main determinant of a school's ability to achieve its objectives.

3. Supporting school leaders in building strong professional learning communities in their schools

The *Australian Professional Standard for Principals* identifies the pivotal role that school leaders play in developing a culture of effective teaching. They “*work with and through others to build a professional learning community that is focused on the continuous improvement of teaching and learning*”.²

In building a professional culture, school leaders rely on teachers who are strongly motivated to collaborate with colleagues and attain high standards of practice. Preparation for certification provides this kind of motivation.

² <http://www.aitsl.edu.au/docs/default-source/school-leadership/australian-professional-standard-for-principals-and-the-leadership-profiles.pdf?sfvrsn=4>

A well-rewarded certification system not only increases the attractiveness of teaching and incentivises attainment of high standards; it also enables school leaders to strengthen their schools as professional learning communities and promote widespread use of successful practices.

If school leaders are to meet expectations to embed collaborative activities typical of professional learning communities in their schools, they will need the support and teacher leadership that an attractive professional certification system provides.

4. Ensuring retention of high quality teachers and less out-of-field teaching

While many factors affect teachers' decision to leave teaching, or to move to another school system, or another occupation, there is evidence that teacher salaries relative to other jurisdictions and relative to other occupations can play a significant part in those decisions. School systems need to be able to compete in the market for highly accomplished teachers.

The 2013 SIAS survey found that the two most important reasons for intended early departures were "workload too heavy" and "insufficient recognition and reward."

However, research indicates that retention of most accomplished teachers will depend on more than a substantial increase in remuneration. Once teachers gain the recognition that certification provides, many expand their horizons and become interested in roles that offer them the opportunity to share their expertise, provide teacher leadership and strengthen the professional culture in their schools.

Schools need to provide fertile ground that capitalizes on the expertise certified teachers can provide. New career pathways in teacher leadership will be needed based on certification at highly accomplished and lead teacher levels. A characteristic of professions is that high status attaches to expert, certified practitioners, and that they continue to be practitioners.

A well-rewarded certification system will enable the Queensland Education Department to increase retention of accomplished teachers, especially in shortage areas, and minimize attrition of to other jurisdictions and occupations

What Remuneration Levels Should Apply to Highly Accomplished and Lead Teacher Certification?

Context

The Department of Education and Training State School Teachers' Certified Agreement 2016 (Teachers' Agreement) was certified by the Queensland Industrial Relations Commission in October 2016. Under the Agreement the parties committed to the recognition of Highly Accomplished and Lead Teachers as part of the Stream 1: Classroom Teacher classification structure.

The new classifications would be aligned to the Australian Professional Standards for Highly Accomplished Teacher and Lead Teacher and subject to an agreed application and certification process.

The parties agreed to a pilot of the certification processes to commence in 2017 and expand in 2018. Following the pilot, the parties developed a Memorandum of Agreement detailing the application, certification and re-certification processes for the classifications by 31 December 2017.

The parties acknowledged that following the pilot, the Department would request the assistance of the QIRC to conduct a thorough work-value assessment to determine the appropriate remuneration levels for these new classifications by 30 June 2018. The remuneration level and date of effect for certified teachers who have participated in the pilot would be informed by the decision of the QIRC.

The purpose of this report is to review research that may assist the QIRC in arriving at its decision regarding appropriate remuneration levels for certified Highly Accomplished and Lead Teachers (HALTs).

The importance of policies that prioritise the quality of teachers

The Queensland Department of Education and Training initiative to establish a classification for highly accomplished teachers and teacher leaders is consistent with policy trends internationally designed to improve student outcomes by strengthening the teaching profession. As no other factor is as important to the success of a school system as the quality of its teachers, it makes sense to place greater value on teachers who attain high standards of practice.¹

A recent OECD report points out that:

High-performing education systems tend to prioritise the quality of teachers over other inputs, most notably class size. Attractive salaries, as well as efficient social-benefits systems, are therefore important to make teaching a more appealing career choice and to retain effective teachers in the profession. Teachers' salaries increased in real terms between 2000 and 2011 in virtually all OECD countries. Australia was an exception. Among OECD countries, education systems that pay teachers more relative to their national income per capita tend to perform slightly better in mathematics as shown by the PISA study. An increasing number of countries are now targeting salary increases to attract high-level graduates in the profession, to retain the best teachers or to assign the most experienced teachers to disadvantaged schools.²

Investigations of the value of investing in higher teacher quality indicate that policies to improve teacher quality have very large payoffs to society. Good teachers generate enormous income for students and poor teachers are very costly, holding down achievement dramatically.³ The 2012 Productivity Commission report on the *Schools Workforce* begins by stating that “Australia’s future depends on how well it develops the ‘human capital’ of its population. A well-performing schooling system is fundamental”.⁴ It recommended a set of “reforms that would raise teacher quality through raising the attractiveness of teaching as a profession, and so help to turn around the widely held perception that the status of teachers has declined.” Central to these were reforms that would strengthen the link between teacher performance and career progression.

Considerable rigidities in remuneration arrangements remain. In most jurisdictions, teachers still reach the top of the pay scale in around 10 years. And there is relatively little explicit differentiation in teachers’ pay on the basis of either performance or shortages in particular subject areas. Increases in teachers’ pay do not appear to have kept pace with those in other professions. Indeed, the evidence is that, since 1995, there has been no increase in the average real salaries of Australia’s more experienced teachers. (Page 5)

A consistent theme has emerged from international studies about the key features of educational policy in countries that have significantly improved performance on tests of student achievement such as PISA and TIMSS.⁵ Each regards its teaching profession and its schools as an infrastructure that is as critical to its survival in an increasingly competitive global economy as more tangible forms of infrastructure such as energy and transport. To secure that infrastructure, each has established strong mechanisms for recruiting and selecting high quality individuals into teaching, ensuring the quality of teacher education programs and placing greater value on good teaching.

In contrast, the corresponding quality assurance mechanisms in Australia have weakened over recent years. The lack of broad based recruitment policies designed to make a profession of choice for academically successful people and reverse the downward trend is arguably the greatest threat to the future quality of teaching and learning in Australia’s schools. Over recent years, scores in all international studies of student achievement have either stagnated or decreased. The picture presented by international assessment data is one of an education system in decline.⁶

At a recent Global Education and Skills Forum in Dubai, Andreas Schleicher, the OECD director for education and skills, referred to Australia’s poor performance in the Program for International Student Assessment (PISA) and warned that the country’s previous ranking as a high-equity and high-quality education system was in jeopardy. Australian governments needed to do more in lifting the status and attractiveness of the teaching profession.⁷

Background to introduction of HALT certification

Since the period of Award Restructuring in the 1990s, the traditional salary structure in teaching that plateaus early and fails to value good teaching has been recognised as a weak instrument for driving practice to high standards. Nor was it consistent with research indicating that effective schools are more like organisations of professionals than bureaucratic organisations and that school leaders are more likely to be effective if they have been accomplished teachers themselves, capable of leading teaching and learning and building strong professional learning communities within their schools.

Horsely and Stokes describe how the shift from an industrial relations system based on comparative wage justice to an enterprise bargaining process tying increased remuneration levels to increased productivity has disadvantaged the teaching profession. Productivity is not a model that fits well with work in professional organisations. What matters in such organisations is that the quality of

practice is consistent with the highest possible professional standards, and that the conditions of within which professionals work enables them to work as well as they can. What was needed was a remuneration system based on increased quality rather than productivity; a system that would drive practice to high standards.⁸

Since that time, and the failure of Award Restructuring, many reports have recommended a professional certification system for teaching.⁹ The 1998 Senate Inquiry into the Status of Teaching, for example, recommended that:

A system of professional recognition for teachers must be established, which is based on the achievement of enhanced knowledge and skills and which retains teachers at the front line of student learning. Such knowledge and skills should be identified, classified and assessed according to criteria developed by expert panels drawn from the profession. Education authorities should structure remuneration accordingly.¹⁰ (p. 7)

By 2008, a consensus had emerged about the need to establish a national certification system. In 2010 the Australian Institute for Teaching and School Leadership (AITSL) was established as a key component of the COAG³ Smarter Schools National Partnership on Improving Teacher Quality. Under the \$550m Partnership, Australian governments agreed to implement a range of nationally significant and sustainable reforms from 2009 targeting critical points in the teacher 'lifecycle' to *attract, train, place, develop and retain* quality teachers and leaders in Australia's schools and classrooms.

Central to these reforms was the development of the Australian Professional Standards for Teachers (APST), covering four stages in a professional career pathway: Graduate Teacher, Proficient Teacher, Highly Accomplished Teacher, and Lead Teacher.

Of particular relevance to the present report was the role given to AITSL by the Minister for Education at the time, Julia Gillard, to develop a national approach to the certification of teachers who attained the standards at the Highly Accomplished and Lead Teacher levels. In 2012, all Australian Education Ministers endorsed a Guide for teachers applying for certification at the Highly Accomplished and Lead Teacher levels, developed by AITSL.⁴ Responsibility for assessing applicants was delegated to "Certifying Authorities" in each school system in each state and territory. In the Queensland case, this is the Queensland College of Teaching.

A nationally consistent system for the certification of Highly Accomplished and Lead Teachers was seen as a critical means by which the National Partnership would strengthen teacher quality and the quality of teaching by:

- Attracting and recruiting a greater proportion of high ability students through more competitive salaries
- Engaging most teachers in professional learning that leads to widespread use of successful practices
- Strengthening the ability of school leaders in building strong professional learning communities in their schools
- Ensuring retention of high quality teachers and less out-of-field teaching

³ Coalition of Australian Governments

⁴ https://www.aitsl.edu.au/docs/default-source/certification-resources/guide-to-cert_online.pdf

Of these, the evidence suggests that effective recruitment policies are the most fundamental, as their effects flow through to influence the quality of teacher education programs, the quality of graduates and eventually student learning outcomes.¹¹ Relative salaries (at the top end) and status are the main reasons why few academically successful students are choosing teaching. Compared with high-achieving countries, Australia's current policies for assuring the attractiveness of teaching as a career and the quality of future teachers clearly need to be strengthened.

Policies to strengthen the teaching profession need to move on two fronts; the *composition* and the *capacity* of the teaching workforce. Composition is about who decides to enter the profession and who decides to make a career of teaching. Capacity is about what teachers know and do and their ability adapt to increasingly ambitious expectations for quality and equity in the school system. A certification system aims to assure quality in both.

What is a professional certification system?

Certification refers to an endorsement by a professional agency that a member of that profession has attained a designated standard of practice. Australian examples include "Chartered Engineer" and "Fellow of the Royal College of Surgeons". American examples include the national medical boards in medicine. A professional certification is a portable qualification. It is not a job or position with a particular school or school system, though it may be a criterion for eligibility for promotion to such positions.

A certification system is a system for defining high-quality teaching standards, promoting development towards those standards and identifying those who reach them. Professions are normally trusted to run their own certification systems. If convinced about its rigor, employing authorities usually encourage teachers to seek certification and reward its attainment through access to higher salary scales and eligibility for promotional positions. It is in the interests of both that the certification system is rigorous.

The main components of a standards-based professional learning and certification system for teaching are:

1. High teaching *standards* that articulate what teachers and school leaders should get better at and provide direction for professional development over the long term.
2. A rigorous, voluntary system of advanced professional *certification* based on valid methods for assessing teacher and school leader performance against the standards.
3. An infrastructure for *professional learning* that enables teachers and school leaders to gain the knowledge and skill embodied in the standards.
4. Staged career paths that provide *recognition* for good teaching and substantial incentives for all teachers and school leaders to attain the standards for certification.

The concept of a standards-based professional learning and certification system is consistent with recent OECD reports on building a high-quality teaching profession.¹²

Certification and reforming teacher pay structures

Reforming teacher pay structures has been a theme of many reports over the past thirty years since Award Restructuring in the early 1990s and the "Advanced Skills Teacher" reforms.¹³ While most agree that the current pay system needs to become a much stronger instrument for ensuring optimal opportunities for students to learn, there has been disagreement about how this should be done; how best to strengthen links between pay and expertise in teaching.

After many failed merit-pay schemes, mainly in the USA, the research is clear that the worst way to do this is to “incentivise” teachers through competitive, annual bonus payments, particularly those based on so-called value-added measures based on standardised tests. These schemes undermine collaboration and are a poor fit with professional work.¹⁴

A more productive approach way is through developing a respected and rewarded professional certification system, providing access to a substantially higher salary scale. Such a system provides strong incentives for all teachers to develop their practice to the level where they can demonstrate they have attained high professional standards and certification. Rather than disrupting schools, a certification system promotes collaboration and professional learning.

How can certification “add value” to a school system?

Certification is the way most professions drive continual improvement; in their member’s interest, and in the public interest. Professions provide novices with high performance standards to aim for over several years. They provide a rigorous and independent system for assessing when they have attained those standards. Successful applicants gain a respected certification that employers are willing to pay for, thus creating a strong market for their knowledge and expertise. They gain the esteem of having “made it” in their profession.

Certification systems for teachers aim to build a closer alignment between increasing expertise and career progression. The assumptions underlying such standards-based systems - about how to link teacher pay to performance and “incentivize” teachers – are distinct from quota-based merit pay schemes, typically limited to annual one-off bonus payments. As mentioned above, research clearly shows such schemes to be ineffectual and counter-productive when applied to teaching.¹⁵

Teacher pay schedules in the USA typically include increments for additional qualifications as well as years of service, which have little relationship with classroom performance or student outcome.¹⁶ Research shows that standards-based professional certification is a more valid indicator of increased expertise and therefore a sounder basis on which to provide incentives for professional learning and to increase salaries.¹⁷

In summary, a certification system aims to enhance student learning by providing clear direction and incentives for teachers’ professional learning and widespread implementation of successful teaching practices. To achieve this aim, it must provide a guarantee that it can reliably identify teachers who have attained high standards and those who, as yet, have not. When it can do this, it provides employing authorities with sound basis on which to recognise and reward good teaching by providing access to significantly higher salary levels. By providing justification for higher salary levels, a rigorous certification system enables teaching to offer a more attractive career option for abler graduates and retain its most effective practitioners.

Purposes of a certification system for Highly Accomplished and Lead Teachers (HALTs)

This review will focus on the four central reasons for introducing a professional certification system for HALTs set out above. In providing evidence that might assist the court, the approach taken here will be to ask, in effect, what does the research suggest remuneration levels will need to be if a certification system is to achieve its purposes?¹⁸

The first purpose is to address the recruitment problem. Relative salaries (at the top end) and status are the main reasons why few academically successful students are choosing teaching. Compared with high-achieving countries, Australia's arrangements for assuring the attractiveness of teaching as a career and the quality of future teachers are weak.

The second is to strengthen the professional learning system for teachers by giving clearer direction for professional learning and strong incentives for all teachers to attain high teaching standards, thereby supporting widespread use of evidence-based and successful teaching practices.

The third is to enable school leaders to strengthen their schools as professional learning communities. They rely on teachers who are strongly motivated to collaborate with colleagues and attain profession-defined standards for highly accomplished practice. School leaders are more likely to be successful if they have the backing of a strong professional certification system.

A fourth is to retain accomplished teachers and minimise drift to other professions and school systems. There is a spike in resignations when teachers reach the top of the current incremental scale. Moving into school administration is less attractive for many than continuing to teach. However, once certified, many accomplished teachers become interested in providing teacher leadership and schools need to provide conditions that enable this role to flourish. A certification system calls for new models of teacher leadership in schools.

The essential condition determining whether these purposes will be achieved is that the assessment process for certification provides is valid, reliable and fair.

Each of these purposes will be considered in turn. In each case, evidence about the current situation will be provided followed by a brief review of research, where available, indicating remuneration levels need to be if a certification system is to assist in meeting that purpose.

Approach to providing evidence

Ultimately, the responsibility for ensuring that teaching is an attractive profession that can compete with other professions and recruit sufficient numbers of high quality graduates to meet the demand rests with governments. This means that salaries and career opportunities for teachers who attain high standards will have to rise substantially. For this to gain the necessary long term support there needs to be a guarantee that remuneration levels are linked to higher quality teaching. Lifting the quality of teaching generally is the chief function of a certification system. According to the OECD, lifting teacher quality is the policy most likely to lift student achievement¹⁹

In a recent report the House of Representatives Standing Committee on Employment, Education and Training acknowledged

the importance of raising the status of the teaching profession in attracting the best possible people to it. This means valuing the work that teachers do, ensuring teachers' remuneration reflects the value placed on education, freeing teachers up to allow them to focus on teaching, and acknowledging outstanding teachers.²⁰

A recurring theme in recent OECD reports is that successful educational reform is inseparable from policies designed to strengthen teaching as a profession.²¹ A rigorous certification system is pivotal to achieving that purpose and addressing four main challenges for teacher policy.

1. Recruiting a greater proportion of high ability students through more competitive salaries

Recent trends in recruitment

A recent Organisation for Economic Co-Operation and Development [OECD] report (2010) points out that if education systems are to provide high-quality education to the broader population they need policies that will enable them to recruit their teachers from the top of the higher education pool.²² Getting serious about quality certainly means lifting salaries to levels whereby teaching can compete with other professions for the best high school and university graduates.

Recruitment policies in high-achieving countries ensure that sufficient numbers of academically above average students are attracted to a career in teaching. Finland, Singapore, and South Korea recruit 100 percent of entrants to teacher education from the top third of the academic cohort.

In comparison, Australia lacks effective recruitment policies. While sufficient numbers of students apply, their academic quality has declined significantly over recent years. In 2005, 79 per cent of students entering undergraduate programs through Tertiary Admission Centres had ATAR scores above 70. In 2016, the proportion had fallen to 45 per cent, compared with 70 per cent for all university courses.

An increasing proportion of students now apply directly to universities, often regardless of ATAR score. Most do have ATARs, however the average of their scores is significantly lower again. The Queensland Deans of Education recently reported alarming drops in first preference applications for this year's teacher preparation courses. Queensland has experienced an overall 26% drop. Most alarmingly, UQ reported a 44% plunge. QUT saw a 19% drop.²³

The evidence is that Australia's passive attitude to recruitment threatens both quality and equity in its school system. In a recent national survey, fewer than 40 per cent of principals thought that new teacher graduates were *prepared or well prepared* in terms of the standards for graduate teachers.²⁴ When asked what would assist them in making their workloads more manageable, 87 per cent of high school principals in Victoria identified *an increased capacity to attract and retain effective teachers*.

Academic quality matters. Research from the United States indicates that the academic ability and qualifications of entrants is important in selection for a number of reasons. There is a relationship between scores on verbal ability and scholastic aptitude tests, and eventual teaching effectiveness. Candidates with strong academic qualifications are more likely to be effective teachers, as measured by growth in students' test scores. Deep subject-matter knowledge is a necessary condition for being able to use effective methods for teaching that subject matter.²⁵

The importance of competitive salaries to recruitment and quality teaching

Research indicates that ensuring the attractiveness of teaching as a career, in terms of salaries and status relative to other professions, is one of the most productive investments that a country can make to improve its education system and promote learning gains for children living in poverty.²⁶

Many studies ask students why they have chosen teaching as a career, *after they have chosen it*.²⁷ Unsurprisingly, salary is important but not the main reason. A more pertinent approach is to ask students generally, particularly more academically able students, about factors affecting whether they chose teaching or not.

Research indicates that high-achieving secondary students in Australia would be more likely to choose teaching if it paid more at the top end of the scale relative to other professions, if the workload was reduced, if it provided better prospects for promotion, and if its status was lifted.²⁹ Clearly, setting a high bar for entry to initial teacher education programs will not solve the recruitment problem without policies that ensure greater numbers of high quality students are attracted to teaching as a career in the first place.

Relative salaries matter. Research in England shows that the relative wages in teaching compared with alternative professions has a significant impact on the likelihood of graduates with high grades choosing to teach, particularly males.³⁰ Figlio found a significant relationship between teacher salaries and the academic quality of students recruited into teaching.³¹ Other studies have found a highly significant and positive relationship between teacher wages (relative to GDP per capita) on PISA test scores and on TIMSS mathematics test scores.³²

Most countries saw a fall in teachers' salaries relative to GDP per capita during the 2000-2009 period. The fall was most noticeable in Australia, France, Japan, Korea and Switzerland but except for Australia and France, teachers' salaries relative to GDP per capita in these countries remained well above the OECD average.³³ It may be no accident that Australia's relative performance internationally began to decline over that same period.

OECD data shows that Australia stands out as a country that has lifted starting salaries for beginning teachers much more than salaries for experienced teachers.³⁴ However, international research shows that it is not the salaries for beginning teachers that distinguishes countries with higher levels of student achievement. Rather, it is the ratio of salaries of experienced teachers *relative to GDP per capita*³⁵ and on this measure, teacher salaries in Australia have been declining for many years.³⁶

Australian teacher salaries are at about the 50th percentile in their country's wage distribution, whereas South Korean teachers, for example, are paid at the 78th percentile.³⁷ Across OECD countries, salaries at the top of the scale for teachers with typical qualifications are, on average, 64-66 per cent higher than starting salaries, whereas they are only 44 per cent higher and plateau earlier in Australia.

While the ratio of salaries after 15 years to starting salaries is 1.4 in Australia the corresponding ratios in high achieving countries such as Canada, Japan and Korea are 1.6, 2.2 and 2.8 respectively. According to an OECD report, after 15 years, the ratio of teachers' actual salaries in Australia relative to wages of similarly educated workers is 0.82. The corresponding ratios in high achieving countries like Canada and Korea are 1.14 and 1.31 respectively.³⁸ In Australia, the ratio of teacher salaries after 15 years of experience to per capita GDP is 1.2. In Canada, Germany and Hong Kong the ratios are 1.5, 1.5, and 1.6 respectively.³⁹

Horsley, M., & Stokes conducted a benchmarking study comparing teacher salaries with the salaries of a selection of non-teacher occupations in Australia. They show that teachers are paid substantially less for comparable work and responsibilities compared to the private sector in the job families analysed. As the level of experience and qualifications in teaching increase the gap widens between the groups. The difference is most reflected at the top end of the salary scales, where teachers are not able to reach salary levels that are available in all the private sector job families benchmarked in this study.⁴⁰

Some commentators have claimed that more money does not make a difference to student outcomes. This claim is not supported by rigorous research. Money does matter when it is invested in high-quality preschool, small class sizes – particularly in lower grades and for economically

deprived children - and teacher pay.⁴¹ Increasing teacher pay reduces teacher turnover, primarily among less experienced teachers, which also improves student achievement.⁴² The evidence indicates that, although Australia has been investing more money in education, this investment has not focused on what matters; increasing the attractiveness of teaching as a career to more academically successful students. A recent OECD report based on PISA data shows that the proportion of high achieving students attracted to teaching as a career is much lower than it is in high achieving countries.⁴³

To summarise, teaching has lost its competitive edge and become less attractive to high achievers and males. Teacher salaries have fallen relative to GDP per capita, particularly at the top end of the salary scale. The research indicates that a well-remunerated certification system for HAIT teachers has the potential to ensure that the teaching profession attracts and recruits greater numbers of high-quality candidates. This would seem to be a core responsibility that ultimately only governments can fulfil.

Meeting the recruitment challenge

Education is central to Australia's social and economic future. As expectations for student learning outcomes become increasingly ambitious, and therefore more ambitious for teachers as well, it is more important than ever that our schools are staffed with highly educated and high quality teachers.

Ministers of Education in NSW and Victoria have recently taken welcome steps to set a high academic bar to enter teacher education programs. However, these initiatives do not address the main problem. Australia has a recruitment problem, not a selection problem. Insufficient numbers of students who can cope with a demanding professional preparation program are being attracted to a career in teaching, given current salaries and conditions.

Many factors affect the quality of people recruited into teaching, however a key point from the research is that current remuneration levels are more of a disincentive for academically successful students than for less. Australia's teacher education problem has not been a shortage of supply, but of quality. Relative remuneration levels at later career stages do affect the academic quality of people recruited into different professions.

If Queensland is to achieve excellence in its school system, it is apparent that governments will need to adopt more aggressive recruitment policies that recognise the need for teaching to compete successfully with other professions for academically successful students. A reasonable policy objective for Queensland might be to steadily lift the proportion of entrants to initial teacher education with ATAR scores above 70, or equivalent, to 100 per cent over the next five years.

A 2008 report from the Business Council of Australia, *How Can We Raise The Quality of Education So That Every Student Benefits?* gave priority to strategies that would recruit only from the most talented, capable and committed people into the teaching profession. It called for a national certification system for rewarding excellent teachers linked to a new remuneration structure that would demonstrate that, as a society, Australia values the teaching profession. It recommended that the best classroom teachers should have the opportunity to earn up to double the average teaching salary – representing an income of about \$130,000 – at that time about three times the starting salary for teachers.⁴⁴

A 2010 report by McKinsey and Company asks “What would it take to systematically attract—and retain—top students to a teaching career in the United States? They polled 900 college students graduating from top-tier U.S. universities and found that the vast majority would consider going into the classroom if salaries were higher. Nearly 70% of those polled said they would teach if they could take home \$150,000—nearly three times what the average American teacher makes today. It was

apparent that a major salary adjustment would be needed to attract and retain the best students to teaching. The McKinsey report claimed that “a persistent achievement gap between US students and those in top-performing nations imposes the economic equivalent of a permanent national recession”.⁴⁵

These may seem fanciful figures, but the research does indicate that a well-remunerated certification system for HALT teachers would be an effective means for ensuring that the teaching profession recruits greater numbers of high-quality candidates.

If a school system wants sufficient numbers of students in the top 30 per cent to enrol to meet the demand for new teachers, particularly for students with qualifications in shortage areas such as maths and science, the evidence is clear that a career in teaching needs to be more financially attractive.

Australia does not have a problem getting sufficient numbers of our ablest students to choose professions with comparable responsibilities to teaching, but significantly higher salaries. It is as unrealistic to hope that sufficient numbers of high quality students will choose teaching solely for altruistic purpose as it would be for any other profession.

From the evidence, the most convincing basis on which to estimate appropriate remuneration levels for HALTs are levels of remuneration that would make teaching competitive with similar professions for high quality graduates from schools and universities. According to OECD data about the ratio of teachers' actual salaries in Australia relative to wages of similarly educated professionals, remuneration levels for HALTs would need to rise by at least 20 per cent.

2. Promoting professional learning that leads to widespread use of successful practices

Perhaps the central reason for introducing a professional certification system for HALTs, as indicated in the COAG⁵ Smarter Schools National Partnership on Improving Teacher Quality was to build the capacity of the workforce by leading most teachers to engage in modes of professional learning that improved students' opportunities to learn.

How well is the professional learning system for teachers working?

Evidence from TALIS 2013 indicates Australian teachers are less likely to report that professional learning has led to changes in practice. Incentives to improve the quality of their teaching are also weak. In the 2009 TALIS survey, 92 per cent of Australian teachers reported that if they improved the quality of their teaching they would not receive any recognition in their school.

A clear message from the TALIS studies is that Australia lacks an effective professional learning system for teachers; the kind of system that would ensure that most teachers had the opportunity and incentives to engage in the kind of professional learning that leads to widespread use of successful teaching practices. As a result, the capacity of school leaders to promote effective professional learning among their teachers is limited.⁴⁶

There are many providers and programs, but the overall pattern of provision lacks coherence or clear purpose. Few programs match the support that is required to change practice. The links between professional learning programs and improved student learning are therefore weak.⁴⁷

⁵ Coalition of Australian Governments

Many reports over the past 20 years have advocated a certification system as a basis for overcoming these deficiencies and lifting the status of teaching as a profession.⁴⁸ They have consistently argued that teaching needs what most professions have: a rigorous and well-rewarded certification system that shapes professional learning in the pursuit of high standards. A strong profession provides a certification system that employers trust as a valid indicator of highly accomplished teaching.

Given research confirming that what students learn in school depends more than anything else on the knowledge, skill and dispositions of their teachers, it might be expected that salary scales and career pathways in teaching would provide strong incentives for teachers to attain those capacities and continue to practice.

In fact, career pathways in the teaching profession have long implied the opposite. Salary progression and status have linked more closely to teaching less or moving into administration than to increasing expertise in professional practice, unlike other professions where status highly accomplished practitioners continue to practice.

As a consequence, the professional learning system in the teaching profession has been weak. Salary scales and career pathways have not been effective instruments for promoting and rewarding professional learning. Nor have they provided strong incentives for the widespread adoption of evidence-based teaching practices or attaining high professional standards or provided a guarantee of higher quality teaching. These are constraints on lifting the quality of the Australian school system that a certification system would need to be able to remove.

Certification as a means for getting to scale with successful teaching practices

The kinds of change that matter in education, in terms of both quality and equity, are those that lead to the *widespread* implementation of successful teaching practices – practices consistent with research and high standards of teaching. Teaching has lacked such a system.

There is no shortage of knowledge about what accomplished teachers know and do.⁴⁹ The major challenge in improving teaching lies more in developing structures and incentives that will ensure best practice becomes common practice. Meeting such a challenge is the core purpose of a profession certification system.

One of the main reasons is that the teaching profession has not had well-established institutions or procedures for identifying and defining best practice. The HAIT standards now give direction to what good teachers should get even better at. A certification system needs to give all teachers irresistible incentives to attain those standards.

Engaging all teachers in effective modes of professional learning

Similarly, the professional development problem is not a lack of knowledge about the characteristics of effective professional learning activities; activities that link professional learning to improved student-learning outcomes; the problem is how to ensure that all teachers have the opportunities and the incentives to engage in such activities.⁵⁰

Preparing for certification promotes effective professional learning because it necessarily engages teachers in unavoidable ways in receiving feedback and analysing their teaching over an extended period of preparation, in the light of high professional standards. In preparing evidence about their practice, teachers must ask questions such as, what does this standard mean for my teaching? Does this evidence show that I meet the standards? What do I need to know about recent research to meet the standard? How can I show the impact of my teaching on student development? How can I demonstrate how I meet this standard?

A substantial body of research indicates that the process of analysing practice against the standards and preparing evidence for certification purposes has these benefits. A certification system, therefore, is not only a tool for *identifying* accomplished teachers; it is a means of promoting professional learning and evidence-based practice on a broader scale.

A survey of 10,000 teachers who had been through the National Board certification process found that 92 percent reported the process made them better teachers, and 89 percent said it equipped them to create stronger curricula and better evaluate student learning. Nearly all said it was the best PD experience they had ever had.⁵¹ Comments such as the following are common from teachers after completing the certification process.

*Never before have I thought so deeply about what I do with children, and why I do it. I looked critically at my practice, judging it against a set of standards developed by expert teachers in my field . . . I am not the same teacher I was before the assessment, and my experience seems to be typical of the other Board certified teachers I have met.*⁵²

Over 120,000 teachers have gained National Board Certified Teacher status. NBPTS certification is a “transformative experience” for many teachers, and they apply what they learn from the certification process in the classroom — whether they achieve certification or not.

When candidates for certification engage with new forms of assessment tasks, such as preparing portfolio entries based on videos of their and student work samples over time, it necessarily engages them in the kinds of analyses and reflections of their own practice that are consistent with the most effective modes of professional learning.⁵³ In contrast to the *passive* position in traditional approaches to teacher evaluation, such as classroom observations, supervisor reports and national tests of student achievement, a certification system places teachers in the *active* position of being asked to show how they meet the standards in the context of their school.

Other research has shown that the process of preparing evidence for certification has powerful effects on teachers’ professional learning. Sato, Wei, and Darling-Hammond found the process led teachers to use a greater variety of assessment methods and improve the way assessment information was used to support student learning.⁵⁴ Gaining certification led teachers to engage more in teacher leadership activities.⁵⁵ In states where it is rewarded, university masters courses are redirecting their programs to support teachers applying for certification. Research also shows that teachers who gain professional certification are significantly more likely to remain in teaching.⁵⁶

The certification process itself improves teachers’ ability to improve student learning. Independent studies show students of National Board Certified Teachers do better on standardized tests than students of non-NBCTs.⁵⁷ There is increasing evidence that shows when groups of teachers within the same school prepare together for certification it can make a significant improvement to student learning outcomes in disadvantaged schools.⁵⁸

These findings come from a certification system that has gone to considerable lengths to make sure that it can define what high standards mean and can distinguish applicants who meet those standards from those who, as yet, do not.⁵⁹

3. Supporting school leaders in building strong professional learning communities in their schools

The Australian Professional Standard for Principals emphasizes the key role that school leaders play in creating strong professional communities. Research shows that the strength of a school as a professional community has a significant impact on student outcomes, and teacher effectiveness, job satisfaction and retention.⁶⁰ What matters is the quality of the school as a workplace for teachers that school leaders can create.⁶¹

A professional community is a learning community in which members habitually review their practice, individually and collectively, in the light of their professional values and standards for best practice. A group of teachers becomes a strong professional community when its members commit to working together in ways that review and improve each other's teaching practices.⁶²

In building a professional community, school leaders rely on teachers who are strongly motivated to collaborate with colleagues and attain high standards of practice. Preparation for certification provides this kind of motivation.

A well-rewarded certification system not only increases the attractiveness of teaching and incentivise attainment of high standards; it also enables school leaders to strengthen their schools as professional learning communities and promote widespread use of successful practices.

According to the recent TALIS report on *Supporting Teacher Professionalism: Insights from TALIS 2013*, a collaborative culture within the school is strongly associated with teachers' sense of efficacy and job satisfaction.⁶³ Recent OECD reports also point to the importance of professional community in recruiting high-quality graduates to the teaching profession.

*... to attract the best graduates to the teaching profession, these systems need to transform the work organization in their schools to an environment in which professional norms of control replace bureaucratic and administrative forms of control.*⁶⁴

School leaders must work with and through teachers to build an effective collaborative culture. A rigorous certification system supports and reinforces their efforts in this direction.

Conditions that support the development of schools as professional learning communities

A number of conditions need to be in place if school leaders are to promote and institutionalise their schools as professional communities. They need conditions that facilitate activities typical of a professional community. These include structural conditions such as building time within the regular work schedule for teachers to plan and review practice, creating physical proximity and spaces for team work, creating interdependent teaching roles and giving teachers discretion and flexibility about how to meet the learning needs of their students.

Most of all, however, in building a professional culture, school leaders depend on teachers who see themselves as members of profession. They rely on the values and expertise that teachers bring to the school if their initiatives are to be successful. They also rely on teachers who are strongly motivated to work towards attaining high standards for professional practice. Unlike Canada and New Zealand, evidence of professional development is not a compulsory requirement for promotion or salary increase in Australia.⁶⁵

If school leaders are to meet expectations to embed collaborative activities typical of professional learning communities in their schools, they will need the support of a rigorous and well-rewarded professional certification system.

The conditions above that will determine the long term success of a certification system for teachers are the conditions necessary for strengthening schools as professional learning communities. And the conditions that would facilitate widespread engagement of teachers in applying for professional certification are conditions that would also enable school leaders to achieve excellence in teaching and learning in their schools.

4. Ensuring retention of high quality teachers and less out-of-field teaching

Evidence about the relationship between professional certification and retention of teachers is as yet limited. However, there is evidence that teacher salaries relative to other occupations and relative to other jurisdictions does play a significant part in retention rates. Australia is noteworthy for the large proportion (more than 40 per cent) of students who drop out of teacher education courses.⁶⁶ In Singapore, there is virtually no attrition of teachers during training, or after.⁶⁷

A number of studies have reviewed attrition and retention in teaching.⁶⁸ A recent AITSL report, *What do we know about early career teacher attrition rates in Australia*, draws attention to the fact that this is an area where it is difficult to get reliable data.⁶⁹ The 2014 National Teaching Workforce Data Analysis Report from all states and territories suggests an average of 5.7 per cent (21,404 in 2011) of teachers leave the profession each year which means that about 25 per cent of beginning teachers may leave teaching within the first five years. It shows attrition rates vary across the country, and are higher in the Northern Territory at 15.94 per cent.⁷⁰

Beyond that point, most teachers intend to remain in the profession, although they may move between different school systems. The 2010 Staff in Australia's Schools Survey found that only 5 per cent of primary and 8 per cent of secondary teachers indicated they intended to leave teaching permanently prior to retirement.

The 2013 SIAS survey of a more extensive sample supported these conclusions and found that the two most important reasons for intended early departures were "workload too heavy" and "insufficient recognition and reward." A lack of ongoing employment, job security and salary levels with experience have also been identified as factors.⁷¹ There is no reliable data about attrition rates for teachers in shortage fields like mathematics and science, but it is likely that with greater opportunities for alternative employment they are higher.

In the USA, Ingersoll found that attrition rates varied in relation to economic cycles and teachers' salaries relative to other occupations⁷² and Imazeki found that transfers between school districts in Wisconsin increased strongly when district salaries increased relative to nearby districts.⁷³ Salary increases for more experienced teachers also reduced attrition among newer female teachers. A recent study in England found that a wage gap between local labour market and teacher wages resulted in an average loss of 2 per cent in average school performance.⁷⁴

Indications were that fairly large salary increases would be needed to reduce attrition from low SES districts to levels in the average district. Hendricks found that increasing teacher pay reduces teacher turnover, primarily among less experienced teachers. And because it reduces turnover, increasing teacher pay also improves student achievement.⁷⁵

Reduction in transfers from the government to other school systems could follow from a well-rewarded certification system, particularly for teachers in high demand subject fields where the wage gap is highest. Anecdotal evidence indicates that some private schools are offering above award salaries, particularly to teachers in shortage areas like mathematics and science.

A well-rewarded certification system will enable the Queensland Education Department to minimize attrition of accomplished teachers to other jurisdictions and occupations. However, research indicates that retention of most accomplished teachers will depend on more than a substantial increase in remuneration. Once teachers gain the recognition that certification provides, many expand their horizons and become interested in roles that offer them the opportunity to share their expertise, provide teacher leadership and strengthen the professional culture in their schools.

Schools need to provide fertile ground that capitalizes on these expectations and the expertise that certified teachers can provide. New career pathways in teacher leadership will be needed based on certification at highly accomplished and lead teacher levels. A characteristic of professions is that high status attaches to expert, certified practitioners, and that they continue to be practitioners, while offering professional leadership.

Reducing out of field teaching

International studies reveal significant differences in student performance between high and low SES schools within Australia. These differences are paralleled by significant differences in access to qualified teaching staff, as reported by school principals. When asked what would assist them in making their workloads more manageable, 95 per cent of high school principals in low SES schools identified *an increased capacity to attract and retain effective teachers compared with 77 per cent in high SES high schools.*⁷⁶

Teachers who work in low SES schools were more likely to have less teaching experience than their colleagues in less challenging schools. Rural schools, which are often also socioeconomically disadvantaged also have a higher proportion of less-experienced teachers than schools in urban areas.⁷⁷

The 2013 Staff in Australia's Schools (SiAS) survey found similar patterns for secondary teachers teaching subjects other than those in which they have specialised, known as out-of-field teaching. In Years 7–10, 31 per cent of teachers in low SES schools were teaching out-of-field compared to 22 per cent in high SES schools. In metropolitan areas, 24 per cent of teachers in Years 7–10 were teaching out-of-field compared to 32 per cent in regional areas and 41 per cent in rural areas.⁷⁸

A certification system has the capacity to reduce some disadvantages that low SES and remote schools face. To achieve this, principals of schools serving disadvantaged communities, particularly in regional and remote areas, will need the means to attract and retain highly accomplished teachers. School budgets will need to enable principals in less advantaged schools to compete on an equal footing for Highly Accomplished and Lead Teachers - particularly in shortage fields of teaching. A recent OECD report on effective teacher policies points out that:

*These results imply that most countries could do more to oversee how teachers are allocated to schools. This includes not just monitoring the number of teachers, but also keeping a close eye on their qualifications, experience and effectiveness. Any teacher policy that aims to tackle student disadvantage should strive to allocate quality teachers, and not just more teachers, to underserved students.*⁷⁹

A desirable objective over time, both in terms of equity and quality, might be for staffing profiles in all schools to have similar proportions of Highly Accomplished and Lead Teachers; for example, 40 to 50 per cent of teachers with HAIT certification in every school.

Conditions determining the long term success of certification systems for teachers

Several countries, such as Chile, England, Scotland, Singapore, Sweden and the USA, have introduced certification schemes for recognizing and rewarding accomplished teachers, with varying degrees of success.⁸⁰ Four factors at least were critical to their success, or demise:

- The scheme had to provide a guarantee of higher quality teaching to justify a substantial investment in higher salary levels. The assessment process had to be rigorous and professionally credible.
- Salary increases for certified teachers had to be substantial (at least 20 per cent) if the scheme was to engage most teachers and attract greater numbers of high quality graduates.
- To engage most teachers in advanced professional learning and to reap the full benefit of the certification process, certification needed to be 'mainstreamed' gradually. While certified teachers might choose to continue teaching, certification also needed to become a necessary condition for promotion to positions of teacher and school leadership.
- The creation of interesting and influential new roles for accomplished teachers in teacher leadership

In Scotland, for example, the Chartered Teacher Scheme won the support of professional associations, governments, and employing authorities, and all agreed to provide substantial incentives for teachers who gained certification (a 20% pay rise). However, the scheme faltered and was cancelled, partly because the credibility of the assessment process for certification had not been clearly established.⁸¹ The scheme was therefore vulnerable and consequently cancelled after an independent review of the scheme claimed that:

While we received evidence that demonstrated the commitment and professionalism of many chartered teachers, the widely held view is that the existing cohort of chartered teachers does not singularly represent the best teachers in Scotland (p. 29).⁸²

In contrast, the methods developed by the NBPTS in the USA for assessing candidates are very rigorous.⁸³ However, the level of recognition and remuneration for NBPTS certification varies widely across the 50 states and 1400 school districts and the number of teachers applying for certification varies accordingly. The numbers are highest in North Carolina where the state government provides a 12 per cent addition to salaries provided by school districts. Consequently, more than 50,000 of the 250,000 teachers who have applied for certification have come from that state. (The "pass rate" among candidates for National Board Certification is about 50 per cent).

In Australia, the Advanced Skills Teacher (AST) reforms in the 1990s mostly failed, for a variety of reasons, but mainly because the methods for selecting ASTs had no credibility. Also, the pay rise was minimal and little thought had been given to how to integrate ASTs into schools and make effective use of their expertise. In the few states that continued with the AST classification, few teachers applied for certification. The traditional promotion positions remained in place and teachers seeking advancement found applying for such positions less demanding career pathway. Therefore the AST reforms could not achieve their central purpose of lifting the quality of practice generally.⁸⁴

The eventual distribution of certified teachers is an important equity consideration. An ACER evaluation of the Northern Territory's Teachers of Exemplary Practice (TEP) Program, for example, found that most TEPs were located in a small number of urban schools in high SES areas.⁸⁵ Most schools had no TEP teachers, especially remote schools. Overall, however, the major weakness was that the scheme attracted few applicants. Consequently, it had little impact on professional learning. Teachers could apply for and gain traditional promotion positions without undertaking the professional learning that the certification process provided.

It was apparent that a professional certification system called for rethinking the way teaching and leadership positions were conceived within schools and could not be grafted on to an unchanged organisational structure. A recent OECD report points out that:

*Transforming the work organisation of schools, involving teachers in school decision making, enhancing their leadership responsibilities and promoting teaching as a demanding but fulfilling profession are at least as important as increasing teachers' salaries.*⁸⁶

Research was pointing to the importance of teacher leadership and building collaborative professional learning communities within schools.⁸⁷ A central finding was the importance of instructional and distributed leadership. School leaders who themselves were highly accomplished teachers were more likely to be credible to teachers and successful as instructional leaders. A rigorous professional certification system could provide school leaders with this kind of credibility.

For Australia, the research is indicating that, to achieve its core purpose of lifting the quality of teaching generally, HALT certification will need to be mainstreamed. After four years, only less than 500 teachers have gained HALT certification across Australia. At this rate, the certification system is unlikely to meet the purposes for which it was conceived and make a significant contribution to the quality of teachers or teaching. To fulfil its purposes over time, certification at HALT stages will need to become a necessary pathway to positions of leadership in schools.

If the system for certifying Highly Accomplished and Lead Teachers in Queensland is to meet its core purposes, it will be essential that the four conditions above are in place.

A speculative note

It might be interesting to speculate here about the kind of situation that might eventuate if HALT certification was implemented successfully in the Queensland public school system.

Currently, there are approximately 43,000 teachers in Queensland. Twenty-seven percent are under 34 years old; 55 per cent are under 44. So most are already at the top of the incremental scale. What might the profile of HALTs look like in twenty years' time if a certification system was successfully integrated into career pathways for teachers and school leaders?

Table 1 presents a scenario showing how the numbers of HALT teachers might grow over ten to twenty years if HALT certification was mainstreamed and attracting significant numbers of teachers. This scenario is based on the assumption that, in a steady state situation, the certification process would eventually need to be capable of handling roughly 1500 (2.3 per cent) of teachers each year (assuming a "pass rate" of about 60% and assuming that the current system for assessing applications can manage such numbers in ways that are affordable and legally defensible).

	2019	5 years	10 years	20 years
Number of nationally certified HALT teachers	500	2500	10,000	20,000
Proportion of classroom teachers who are nationally certified HALTs	~1%	5%	20%	50%
Proportion of teachers in promotion positions who have HALT certification	0%	30%	60%	100%
Proportion of school leaders who have HALT certification	0%	5%	30%	100%

In the Table 1 scenario, the number of certified HALTs builds to about 40-50 per cent of the total number of teachers over 20 years. As HALT certification becomes mainstreamed, the proportion of teachers in promotion positions with HALT certification would be expected to rise slowly at first, but eventually to rise to 100 per cent. Similarly, the proportion of school leaders who have gained HALT certification would rise slowly, but reach a situation after 20 years where almost all school leaders have been certified as Highly Accomplished Teachers and Lead Teachers.

In this scenario, the certification system would have significant effects on professional learning and lift the quality of teaching generally. It would also be supporting the development of schools as professional communities and increasing the retention of accomplished teachers. If school funding ensured that the proportion of HALTs in each school was much the same, it would also help to reduce staffing inequities between advantaged and disadvantaged schools.

Lead Teacher remuneration

{At this stage there is a need for more information about expectations for teachers who gain Lead Teacher certification and how they will work within schools before being able to complete this section on remuneration levels for Lead Teachers.}

While the work of Highly Accomplished Teachers is reasonably clear – they will continue in the main to be classroom teachers, while also being active contributors to the professional community in their schools – there is a less clarity at this stage about the role that teachers with Lead Teacher certification will play in Queensland schools. Most commentators see the role as a non-supervisory one. Some see it as an informal, “floating” kind of role between principals and teacher, initiating activities focused on reviewing and improving teaching and learning. Others see it as a more formal role and a new kind of professional leadership that teachers in traditional promotion positions were not expected to provide.

However, what is clear from most conceptions of the role lead teachers and teacher leadership are expected to play, is that their responsibilities go well beyond those expected of heads of departments or curriculum in terms of complexity and difficulty, to levels of responsibility and expertise equivalent to deputy principals. Lead teachers are seen as leaders at the school level; they are change agents, capacity builders, contributors to leadership and improvement at the school level and beyond.

The Standards indicate that Lead Teachers are expected to promote collaborative work, professional dialogue, deprivatise practice and lead activities across the school, focussed on improving educational opportunities for all students. These are highly important new roles, but it also needs to be recognised that they are also difficult and demand high level skills in professional leadership – different from, or additional to what has traditionally been expected of principals and deputy principals

To illustrate further, the 37 focus areas for Lead Teachers in the Professional Standards for Teachers are clearly high level leadership competencies and responsibilities. (Box 1 provides a selection of 15 of the 37 focus areas.) It is clear that the Lead Teacher role calls for leadership initiatives across the whole school.

A Lead Teacher is expected to provide leadership in most aspects of school functioning, which goes well beyond that expected for teachers in traditional promotion positions. Teachers applying for certification at the Lead Teacher level are expected to provide evidence that they have met all standards; that they have led and managed many different initiatives to improve teaching and learning in their schools. The scope of leadership as described in the Standards may be an unrealistic expectation for any one teacher, especially one expected to be a classroom teacher as well.

Box 1 showing a selection of 15 of 37 focus areas within the standards for Lead Teachers

1. Lead colleagues to select and develop teaching strategies to improve student learning using knowledge of the physical, social and intellectual development and characteristics of students.
2. Lead processes to evaluate the effectiveness of teaching programs using research and workplace knowledge about how students learn.
3. Lead initiatives within the school to evaluate and improve knowledge of content and teaching strategies and demonstrate exemplary teaching of subjects using effective, research-based learning and teaching programs.
4. Lead initiatives that utilise comprehensive content knowledge to improve the selection and sequencing of content into coherently organised learning and teaching programs.
5. Lead colleagues to develop learning and teaching programs using comprehensive knowledge of curriculum, assessment and reporting requirements.
6. Exhibit exemplary practice and lead colleagues to plan, implement and review the effectiveness of their learning and teaching programs to develop students' knowledge, understanding and skills.
7. Work with colleagues to review, modify and expand their repertoire of teaching strategies to enable students to use knowledge, skills, problem solving and critical and creative thinking.
8. Conduct regular reviews of teaching and learning programs using multiple sources of evidence including: student assessment data, curriculum documents, teaching practices and feedback from parents/carers, students and colleagues.
9. Demonstrate and lead by example the development of productive and inclusive learning environments across the school by reviewing inclusive strategies and exploring new approaches to engage and support all students.
10. Evaluate the effectiveness of student well-being policies and safe working practices using current school and/or system, curriculum and legislative requirements and assist colleagues to update their practices.
11. Evaluate school assessment policies and strategies to support colleagues with: using assessment data to diagnose learning needs, complying with curriculum, system and/or school assessment requirements and using a range of assessment strategies.
12. Lead and evaluate moderation activities that ensure consistent and comparable judgements of student learning to meet curriculum and Use comprehensive knowledge of the Australian Professional Standards for Teachers to plan and lead the development of professional learning policies and programs that address the professional learning needs of colleagues and pre-service teachers.
13. Initiate collaborative relationships to expand professional learning opportunities, engage in research, and provide quality opportunities and placements for pre-service teachers.
14. Initiate, develop and implement relevant policies and processes to support colleagues' compliance with and understanding of existing and new legislative, administrative, organisational and professional responsibilities.
15. Identify, initiate and build on opportunities that engage parents/ carers in both the progress of their children's learning and in the educational priorities of the school.

Report Summary

Benefits of a well-rewarded HALT certification system

An appropriately remunerated HALTs certification system should lead to a system:

- where teaching would be an attractive career option, selecting entrants mainly from the top 30 per cent of students in terms of academic achievement.
- that promotes widespread use of proven practices and improved student outcomes
- in which most teachers participate and which most teachers regard as a normal part of their professional career pathway
- that teachers regard as demanding, challenging and rigorous, but appropriate and worthwhile.
- that engages most teachers in seeking the kind of professional learning that helps them attain the Australian Professional Standards for Teachers
- that the employing authority regards as a highly reliable indicator of highly accomplished practice and worth rewarding for its effects on recruitment, professional learning and retention of good teachers
- that leads teachers to undertake initiatives with colleagues with direct benefits to their schools
- that is a valid requirement for promotion to school leadership positions
- that provides clear direction for professional development over the long term - from novice to expert.
- that provides a means by which teachers can take responsibility for building their own professional learning system
- that lifts retention rates, particularly in shortage subjects and attracts accomplished teachers from other school systems and jurisdictions
- that gives certified teachers a highly marketable professional qualification

Conditions essential to the long term success of HALT certification

- The scheme must provide a guarantee of higher quality teaching that justifies a substantial investment in higher salary levels. The assessment process must be rigorous and professionally credible, economically affordable and legally defensible.
- Salary increases for certified teachers must be substantial (at least 20 per cent) if the scheme is to engage most teachers and attract greater numbers of high quality graduates.
- To engage most teachers in advanced professional learning and to reap the full benefit of the certification process, certification must be 'mainstreamed'. While certified teachers might choose to continue teaching, certification must also become a necessary condition for promotion to positions of teacher and school leadership if schools are to become strong professional organisations.
- Interesting and influential new roles for accomplished teachers in teacher leadership need to be created and institutionalised in schools
- Staffing profiles of all schools should have similar proportions of Highly Accomplished and Lead Teachers.
- School budgets need to enable principals to compete on an equal footing for Highly Accomplished and Lead Teachers

Endnotes

- 1 Schleicher, A. (2015), *Schools for 21st-Century Learners: Strong Leaders, Confident Teachers, Innovative Approaches*, International Summit on the Teaching Profession, OECD Publishing; Darling-Hammond, L. et al. (2017). *Empowered Educators: How High-Performing Systems Shape Teaching Quality Around the World*. San Francisco CA: Jossey-Bass.
- 2 Organisation for Economic Cooperation and Development (2014). *Education Indicators in Focus*. [www.oecd.org/education/skills-beyond-school/EDIF%202014--No21%20\(eng\).pdf](http://www.oecd.org/education/skills-beyond-school/EDIF%202014--No21%20(eng).pdf)
- 3 Eric A Hanushek (2012). The economic value of higher teacher quality. *Economics of Education Review*, Volume 31, Issue 3, June, Pages 41-53.
- 4 Productivity Commission 2012, *Schools Workforce*, Research Report, Canberra.
- 5 Schleicher op. cit.; Darling-Hammond op.cit.
- 6 Thomson, S, De Bortoli, L. & Buckley, S. (2013). *PISA 2012: How Australia measures up*. Melbourne: ACER.
- 7 Sydney Morning Herald, March 20 2017. OECD education chief Andreas Schleicher: great teachers more important than class size.
- 8 Horsley, M., & Stokes, A. (2004). Teacher salary relativities: a benchmarking approach. *Journal of Australian Political Economy*, No 55, 94-122.
- 9 Australian College of Educators (2003). *National Statement from the Teaching Profession on Teacher Standards, Quality and Professionalism*. Canberra: Australian College of Educators; Business Council of Australia (2008). *Teaching Talent: The Best Teachers for Australia's Classrooms*. Melbourne: Business Council of Australia; Productivity Commission 2012, *Schools Workforce*, Research Report, Canberra.
- 10 Crowley, R. C. (1998). *A Class Act: Inquiry into the Status of the Teaching Profession*. Canberra: Report from the Senate Employment, Workplace Relations, Small Business, and Education reference Committee.
- 11 Ingvarson, L., Schwillie, J., Rowley, G., Peck, R., Tatto, M. T., Senk, S. L. (2013). *An Analysis of Teacher Education Context, Structure and Quality Assurance Arrangements in TEDS-M Countries*. Amsterdam, NL: International Association for the Evaluation of Educational Achievement.
- 12 Organisation for Economic Co-Operation and Development [OECD]. (2009a). *Creating effective teaching and learning environments: First results from TALIS (Teaching and Learning International Survey)*. Paris, France: OECD; Organisation for Economic Co-Operation and Development [OECD]. (2009b). *Evaluating and rewarding the quality of teachers: International practices*. Paris, France: OECD; Organisation for Economic Co-Operation and Development [OECD]. (2010). *Strong performers and successful reformers in education: Lessons from PISA for the United States*. Paris, France: OECD Publishing. Retrieved from <http://dx.doi.org/10.1787/9789264096660-en>; Organisation for Economic Co-Operation and Development [OECD]. (2011). *Building a high-quality teaching profession: Lessons from around the world background report for the International Summit on the Teaching Profession*. Paris, France: OECD Publishing. Retrieved from <http://fulltextreports.com/2011/03/16/building-a-high-quality-teaching-profession-lessons-from-around-the-world>
- 13 Ingvarson, L.C. & Chadbourne, R. (1997) *Reforming teachers' pay systems: The Advanced Skills Teacher in Australia*. *Journal of Personnel Evaluation in Education*, 11(1), 7-30.
- 14 Ingvarson, L.C., Kleinhenz, E. & Wilkinson, J. (2007). *Research on Performance Pay for Teachers*. Canberra: Department of Education, Science and Training; Jean Protsik, *History of Teacher Pay and Incentive Reform* (Washington: Educational Resources Information Center, 1995).
- 15 Springer, M.G., Ballou, D., Hamilton, L., Le, Vi-Nhuan., Lockwood, J.R., McCaffrey, D.F., Pepper, M., & Stecher, B.M. (2010a). *Teacher Pay for Performance: Experimental Evidence from the Project on Incentives in Teaching*. National Center on Performance Incentives, Nashville, TN: Vanderbilt University.
- 16 Podgursky, M. J., and M. G. Springer. (2007). Teacher performance pay: A review. *Journal of Policy Analysis and Management* 26.4: 909–950.
- 17 Springer, Matthew G. (2009). Rethinking teacher compensation policies: Why now, Why again? pp. 1-22. In *Performance Incentives: Their Growing Impact on American K-12 Education*. Ed., Matthew Springer. Washington D.C.: Brookings Institution Press.

-
- 18 Wyatt-Smith, C., Du Plessis, A., Hand, K., Wang, J., Alexander, C., & Colbert, P. (2017). Why choose teaching? A matter of choice: Evidence from the field. A report prepared for the Queensland College of Teachers. Brisbane, Queensland: Learning Sciences Institute Australia.
- 18 Organisation for Economic Cooperation and Development (2015). Education at a Glance. Paris: OECD.
- 19 Organisation for Economic Cooperation and Development [OECD]. (2005). *Teachers Matter: Attracting, Developing and Retaining Effective Teachers*. Paris, France: OECD.
- 20 House of Representatives Standing Committee on Employment, Education and Training (May 2018). Unique Individuals, Broad Skills: Inquiry into school to work transition. Canberra: Commonwealth of Australia.
- 21 Schleicher, A. (2015), *Schools for 21st-Century Learners: Strong Leaders, Confident Teachers, Innovative Approaches*, International Summit on the Teaching Profession, OECD Publishing.
- 22 Organisation for Economic Co-Operation and Development [OECD]. (2010). Strong performers and successful reformers in education: Lessons from PISA for the United States. Paris, France: OECD Publishing. Retrieved from <http://dx.doi.org/10.1787/9789264096660-en>
- 23 Nan Bahr Courier Mail, April 16, 2018.
- 24 McKenzie P., Weldon, P., Rowley, G., Murphy, M. & McMillan, J. (2014). Staff in Australia's schools (SiAS) 2013: Main report on the survey. Canberra: Commonwealth of Australia
- 25 Feuer, M. J., Floden, R. E., Chudowsky, N., & Ahn, J. (2013). Evaluation of teacher preparation programs: Purposes, methods, and policy options. Washington, DC: National Academy of Education; National Research Council. (2010). Preparing teachers: Building evidence for sound policy. Committee on the Study of Teacher Preparation Programs in the United States, Center for Education. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- 26 Mathis, W.J. (2016). Does Money Matter? National Education Policy Centre, School of Education, University of Colorado Boulder. <http://nepc.colorado.edu/files/publications/Mathis%20RBOPM-8%20Money%20Matters.pdf>
- 27 Helen M. G. Watt & Paul W. Richardson (2010) Motivational Factors Influencing Teaching as a Career Choice: Development and Validation of the FIT-Choice Scale. *The Journal of Experimental Education*, 75:3,167-202.
- 28 Ingvarson, L., Schwillie, J., Rowley, G., Peck, R., Tatto, M. T., Senk, S. L. (2013). *An Analysis of Teacher Education Context, Structure and Quality Assurance Arrangements in TEDS-M Countries*. Amsterdam, NL: International Association for the Evaluation of Educational Achievement.
- 29 Department of Education, Science and Training (2006). *Attitudes to teaching as a career: A synthesis of attitudinal research*. Canberra: Commonwealth of Australia.
- 30 Chevalier, A., Dolton, P. & McIntosh, S. (2007). Recruiting and retaining teachers in the UK. An analysis of graduate occupational choice from the 1960s to the 1990s. *Economica*, 74(293). 69–96.
- 31 Figlio, D.N. (1997). Teacher salaries and teacher quality. *Economics Letters*, Volume 55, Issue 2, 267-271.
- 32 Dolton, P. & Marcenaro-Gutierrez, D. (2011). If you pay peanuts do you get monkeys? A cross-country analysis of teacher pay and pupil performance. *Economic Policy*, 26(65), 5–55. Retrieved from <http://dx.doi.org/10.1111/j.1468-0327.2010.00257.x>
- 33 OECD Education at a Glance. (2011). How much are teachers paid? <http://www.oecd.org/education/skills-beyond-school/48631286.pdf>
- 34 OECD (2015). Education at a Glance. Paris: OECD.
- 35 Akiba, M., Ciu, Y., Shimizu, K., & Lang, G. (2012). Teacher salary and student achievement: A cross-national analysis of 30 countries. *International Journal of Educational Research*, 53, 171–181.
- 36 Productivity Commission, op. cit.
- 37 Dolton & Marcenaro, op. cit.
- 38 OECD (2015), "Teachers' actual salaries relative to wages of similarly educated workers (2013): Ratio of salary, by age group and gender, using annual average salaries (including bonuses and allowances) of teachers in public institutions relative to the wages of workers with similar educational attainment", in *The Learning Environment and Organisation of Schools*, OECD Publishing, Paris; Lee, C., & Tan, M. (2010, March). Rating teachers and rewarding teacher performance: The context of Singapore. Paper presented at the Asia-Pacific Economic Cooperation (APEC) Conference on Replicating Exemplary Practices in Mathematics Education, Koh Samui, Thailand; Sclafani, S. (with Lim, E.). (2008). Rethinking human capital in education: Singapore as a model for teacher development. Paper prepared for The Aspen Institute Education and Society Program. Retrieved from

-
- <http://www.aspeninstitute.org/sites/default/files/content/docs/education%20and%20society%20program/SingaporeEDU.pdf>
- 39 OECD (2018), *Effective Teacher Policies: Insights from PISA*, PISA, OECD Publishing.
<http://dx.doi.org/10.1787/9789264301603-en>
- 40 Horsley, M., & Stokes, A. (2004). Teacher salary relativities: a benchmarking approach. *Journal of Australian Political Economy*, No 55, 94-122.
- 41 Hedges, L., Laine, R. & Greenwald, R. (1994, April). An Exchange: Part I: Does Money Matter? A Meta-Analysis of Studies of the Effects of Differential School Inputs on Student Outcomes. *Educational Researcher* 23, 5-14; Mathis, W.J. (2016). Does Money Matter? National Education Policy Centre, School of Education, University of Colorado Boulder.
<http://nepc.colorado.edu/files/publications/Mathis%20RBOPM-8%20Money%20Matters.pdf>
- 42 Hendricks, M.D. (2014). Does it pay to pay teachers more? Evidence from Texas. *Public Economics*, 19, 50-63.
- 43 OECD (2018), *Effective Teacher Policies: Insights from PISA*, PISA, OECD Publishing.(page 27)
<http://dx.doi.org/10.1787/9789264301603-en>
- 44 Dinham, S. Ingvarson, L. & Kleinhenz, E. (2008). Investing in Teacher Quality: Doing What Matters Most. Report prepared for the Business Council of Australia report *Teaching Talent: The Best Teachers for Australia's Classrooms*, Melbourne: Business Council of Australia.
- 45 Byron Auguste, Paul Kihn, and Matt Miller (2010). Closing the teaching talent gap. McKinsey and Company.
- 46 Ingvarson, L. (2013). Standards-based Professional Learning and Certification: By the Profession, for the Profession. In L. Martin (Ed.), *The Handbook of Professional Development, PK-12: Successful Models and Practices*. New York: Guilford Publishing; Ingvarson, L. (2013). Reforming Career Paths for Australian Teachers. In Motoko Akiba (ed.) *Teacher Reforms around the World: Implementations and Outcomes: Series International Perspectives on Education and Society*. UK: Emerald Books.
- 47 Kennedy, M. (2016). How does professional development improve teaching? *Review of Educational Research*, 86(4), 945-980.
- 48 Senate Employment, Education and Training References Committee (1998). *A Class Act: Inquiry into the status of the teaching profession*. Canberra: SEETC; Australian College of Educators (2003). *National Statement from the Teaching Profession on Teacher Standards, Quality and Professionalism*. Canberra: Australian College of Educators; Business Council of Australia (2008). *Teaching Talent: The Best Teachers for Australia's Classrooms*. Melbourne: Business Council of Australia; Productivity Commission 2012, *Schools Workforce*, Research Report, Canberra.
- 49 Ingvarson, L.C. & Rowe, K. (2008). Conceptualising and Measuring Teacher Quality: Substantive and methodological issues. *Australian Journal of Education*, 52(1), 5-35; Ingvarson, L.C. & Hattie, J. (Eds.). (2008). *Assessing Teachers for Professional Certification: The First Decade of the National Board for Professional Teaching Standards*. Volume 11, *Advances in Program Evaluation*. Amsterdam: Elsevier Press.
- 50 The New Teacher Project. (2015). *The Mirage: Confronting the Hard Truth About Our Quest for Teacher Development*. Brooklyn, NY: The New Teacher Project https://tntp.org/assets/documents/TNTP-Mirage_2015.pdf; Kennedy, M. (2016). How does professional development improve teaching? *Review of Educational Research*, 86(4), 945-980;
- 51 National Board for Professional Teaching Standards [NBPTS]. (2001a). *I am a better teacher: What candidates for national board certification say about the assessment process*. Arlington, VA: NBPTS; National Board for Professional Teaching Standards [NBPTS]. (2001b). *National Board certification candidate survey*. Arlington, VA: NBPTS.
- 52 Ingvarson, L. C. (2014). Standards-based Professional Learning and Certification: By the Profession, for the Profession. In L. Martin (Ed.), *Handbook of Professional Development in Education, Successful Models and Practices, PreK-12*. New York: Guilford Publishing.
- 53 Kennedy, M. (2016). How does professional development improve teaching? *Review of Educational Research*, 86(4), 945-980; Sato, M., Wei, R.C., & Darling-Hammond, L. (2008). Improving Teachers' Assessment Practices through Professional Development: The Case of National Board Certification. *American Educational Research Journal*, 45, 669-700.
- 54 Lustick D., & Sykes, G. (2006). *National Board Certification as Professional Development: What are teachers learning? An Empirical Investigation of the Learning Outcomes from the National Board for Professional Teaching Standards' Certification Process*. A final report.

-
- 55 Sato, M., & Monte-Sano, C. (2002, April). The National Board certification process and its impact on teacher leadership. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- 56 Unrau, N. (2002, April). Lessons learned from MA candidates pursuing National Board Certification. Paper presented at the annual meeting of the American Educational Research Association, New Orleans;
- Browne, B., Auton, S., Freund, M., & Futrell, M. H. (1999). Meeting the Millennium Challenge: National Board for Professional Teaching Standards Partnerships Supporting the Teaching Profession. *Teaching and Change*, 6(4), 364-75.
- 57 http://www.nbpts.org/wp-content/uploads/impact_brief_final.pdf
- 58 <http://www.mitchell20.com/>
- 59 National Research Council. (2008). *Assessing accomplished teaching: Advanced level certification programs*. Washington, D.C.: National Academies Press.
- 60 Louis, K.S. & Marks, H.M. (1998). Does Professional Community Affect the Classroom? Teachers' Work and Student Experiences in Restructuring Schools. *American Journal of Education* 106 (4), 532-575;
- Vicki Vescio, Dorene Ross, Alyson Adams 2008 A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education* 24 (1), 80-91.
- 61 Quintero, E. (2017). *Teaching in Context: the Social Side of Educational Reform*. Cambridge, Mass: Harvard Educational Press.
- 62 Ingvarson, L. C. The Professional Learning Community Framework. <https://www.acer.org/school-improvement/improvement-tools/professional-learning-community-framework>
- 63 OECD (2016). *Supporting Teacher Professionalism: Insights from TALIS 2013*. Paris: OECD
- 64 OECD (2010). *Strong performers and successful reformers in education: Lessons from PISA for the United States*. Retrieved from <http://dx.doi.org/10.1787/9789264096660-en> p. 17.
- 65 OECD (2018), *Effective Teacher Policies: Insights from PISA*, PISA, OECD Publishing. <http://dx.doi.org/10.1787/9789264301603-en>
- 66 Mike Willett, Daniel Segal and Will Walford (2014). *National Teaching Workforce Dataset Data Analysis Report*. Canberra: Commonwealth of Australia. Department of Education.
- 67
- 68 Weldon, P. (2018). *Early career teacher attrition in Australia: evidence, definition, classification and measurement*. Melbourne: ACER.
- 69 AITSL (2016). *What do we know about early career teacher attrition rates in Australia? Melbourne: AITSL Ltd.*
- 70 Mike Willett, Daniel Segal and Will Walford (2014). *National Teaching Workforce Dataset Data Analysis Report*. Canberra: Commonwealth of Australia. Department of Education.
- 71 Plunkett, M., & Dyson, M. (2011). *Becoming a Teacher and Staying One: Examining the Complex Ecologies Associated With Educating and Retaining New Teachers in Rural Australia? Australian Journal of Teacher Education*, 36(1); Mason, S., & Poyatos Matas, C. (2015). *Teacher Attrition and Retention Research in Australia: Towards a New Theoretical Framework. Australian Journal of Teacher Education*, 40(11); Mayer, D., Allard, A., Bates, R., Dixon, M., Doecke, B., Kline, J., Kostogriz, A., Moss, J., Rowan, L., Walker-Gibbs, B., et al. (2015). *Studying the Effectiveness of Teacher Education – Final Report*, November 2015, (pp. 15 - 212). Geelong, Australia: Deakin University.
- 72 Ingersoll, Richard; Merrill, Lisa; Stuckey, Daniel. An analysis of nearly 30 years of data on the teaching force sheds new light on the makeup of the occupation--and on staffing priorities. *Educational Leadership*. May 2018, Vol. 75 Issue 8, p45-49.
- 73 Jennifer Imazeki (2005). *Teacher salaries and teacher attrition*. *Economics of Education Review*, Volume 24, Issue 4, August 2005, Pages 431-449
- 74 Britton, J. & Propper, C. (2016). *Teacher pay and school productivity: Exploiting wage regulation*. *Journal of Public Economics*, 133, 75-89.
- 75 Hendricks M.D. (2014). *Does it pay to pay teachers more? Evidence from Texas* *Journal of Public Economics*. Volume 109, Pages 50-63; Charles Clotfelter, Elizabeth Glennie, Helen Ladd, and Jacob Vigdor, "Would Higher Salaries Keep Teachers in High-Poverty Schools? Evidence from a Policy Intervention in North Carolina," *Journal of Public Economics*, 92 (2008): 1352-70;
- 76 Weldon, P. & Ingvarson, L.C. (2016). *School staff workload study: Final report to the Australian Education Union Victoria Branch*. Camberwell Vic: ACER.
- 77 Freeman, C., O'Malley, K., & Eveleigh, F. (2014). *Australian teachers and the learning environment: An analysis of teacher response to TALIS 2013*.

-
- 78 Weldon, P. R. (2016). Out-of-field teaching in Australian secondary schools. Policy Insights No. 6; Melbourne: ACER. Available from: <http://research.acer.edu.au/policyinsights/6/>
- 79 OECD (2018), Effective Teacher Policies: Insights from PISA, PISA, OECD Publishing.
<http://dx.doi.org/10.1787/9789264301603-en>
- 80 Ingvarson, L. C. (2013). Reforming Career Paths for Australian Teachers. In Motoko Akiba (ed.) Teacher Reforms around the World: Implementations and Outcomes: Series International Perspectives on Education and Society. Emerald Books.
- 81 Ingvarson, L.C. (2009). Identifying and Rewarding Excellent Teachers. The Scottish Chartered Teacher Scheme. Professional Development in Education, 35(3), 451- 468.
- 82 McCormac Review. (2011). Advancing professionalism in teaching: Report of the review of teacher employment in Scotland. Scottish Government.
- 83 Ingvarson, L.C. & Hattie, J. (Eds.). (2008). Assessing Teachers for Professional Certification: The First Decade of the National Board for Professional Teaching Standards. Volume 11, Advances in Program Evaluation. Amsterdam: Elsevier Press.
- 84 Ingvarson, L.C. & Chadbourne, R. (1997) Reforming teachers' pay systems: The Advanced Skills Teacher in Australia. Journal of Personnel Evaluation in Education, 11(1), 7-30.
- 85 Kleinhenz, E. & Ingvarson, L.C. (2008). Identifying and Rewarding Exemplary Teachers: An Evaluation of the Teacher of Exemplary Practice Program in Northern Territory Government Schools. Darwin: NT Department of Employment, Education and Training.
- 86 OECD (2018), Effective Teacher Policies: Insights from PISA, PISA, OECD Publishing.
<http://dx.doi.org/10.1787/9789264301603-en>
- 87 Vescio, V., Ross, D. & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. Teaching and Teacher Education, 24 (1), 80-91.