Improving Learning

Environmental scan
Topical areas to inform a future review of the
Australian Professional Standards for Teachers

Final Report

Kerry Elliott, Pru Mitchell, Hilary Hollingsworth, Charlotte Waters & Jenny Trevitt

Developed for the Australian Institute for Teaching and School Leadership (AITSL)

February 2020

aitsl Australian Institute
for Teaching and
School Leadership
Limited

ACER

Acknowledgement of Country

The Australian Institute for Teaching and School Leadership (AITSL) acknowledges the traditional custodians of the land, sea country and waterways from across Australia. We honour and pay our respects to their Elders past, present and emerging.

Contents

Appendix A Data Matrix

Executive summary

Environmental scan

Background

In the second half of 2019, the Australian Council for Educational Research (ACER) conducted an environmental scan on behalf of the Australian Institute for Teaching and School Leadership (AITSL). The brief was to conduct a broad sweep of literature that has surfaced since the publication of the *Australian Professional Standards for Teachers* in 2011, and to consider how this literature could inform any future review of the standards.

Method

The scan of key developments affecting the teaching profession over the last decade used a six-step approach.

  i)   review Australian and international research, policy and grey literature
  ii)   examine Australian and international teacher standards
  iii)   identify potential topics
  iv)   populate a scan matrix
  v)   select priority topic areas
  vi)   produce a report for each topic

Topics

This multipronged scan method identified eleven topics that have increasingly influenced teachers' work over the past decade.

1. Aboriginal and Torres Strait Islander education
2. Digital technologies in education
3. Early childhood education and care
4. General capabilities and cross-curriculum priorities
5. Inclusive education, including
    a. social/cultural diversity,
    b. learners with disability,
    c. gifted and talented learners.
6. Learning progress, including assessment
7. Parent/carer-school partnerships
8. Pedagogy
9. Professional learning
10. Student wellbeing
11. Teacher wellbeing

Findings

The environmental scan team reviewed each of the identified areas impacting on the knowledge and skill needs of teachers. As standards describe what effective teachers should know and be able to do, and reflect what is valued, the goal was to consider how these developments are reflected in contemporary standards for the teaching profession.

Report

The environmental scan report provides a critical review of current educational research and policy literature for each of the 11 topics. Findings provide a description of the topic, key sources, an outline of the changing landscape as it relates to teaching, examples of how the topic is reflected in teacher standards, and questions for future research.

Aboriginal and Torres Strait Islander education

Teachers have a two-fold responsibility: to ensure all Aboriginal and Torres Strait Islander students receive high quality, culturally relevant education, and to educate all Australians about Aboriginal and Torres Strait Islander culture, history and rights. The *Australian Professional Standards for Teachers* clearly affirm these two responsibilities, both of which are challenging for teachers. In some cases, teachers assume these standards don't apply to their context. More often, they are hampered by gaps in their knowledge and resources. The current standards remain relevant; the obligation is on teachers to develop the knowledge, skills and confidence to ensure they meet Standards 1.4 and 2.4. The New Zealand teacher standards provide an example of well-integrated Indigenous perspectives.

Digital technologies in education

Technological innovation and increasing connectivity have dominated the past ten years, challenging teachers to develop their own skills at the same time as helping students navigate the current and future technology landscape. This is reflected in international teacher standards which, like Australia, focus on integrating ICT in teaching, and ensuring responsible use of ICT by students. Changes in the past decade have broadened teacher responsibility in this area. The introduction of the Australian Digital Technologies Curriculum in 2017 gave teachers an additional learning area to address, one which is outside the comfort zone for many. At the same time, teachers are dealing with shifting policy related to ownership and use of devices, and related wellbeing concerns.

Early childhood education and care

Early childhood education and care has attracted significant global and national policy attention in the past ten years, with key initiatives including a *National Quality Framework*, the *Early Years Learning Framework*, and a 2019 OECD *International Summit of the Teaching Profession* focused on early childhood education. Most notably, Australia has pursued a single teaching profession that affords early childhood educators the same status and expectations as teachers in the school sector. Ensuring the current standards are fit for purpose for the early childhood educator workforce includes providing illustrations of practice against the Standards in early childhood contexts as well as assisting those dealing with new accreditation, registration, certification and professional development requirements. A similar shift can be seen in teacher standards from Myanmar, England and Saudi Arabia.

General capabilities and cross-curriculum priorities

General capabilities and cross-curriculum priorities are two components of the *Australian Curriculum,* developed at a similar time to the *Australian Professional Standards for Teachers,* but not specifically referenced by the standards. There is some overlap, namely Aboriginal and Torres Strait Islander histories and cultures, Literacy and Numeracy, and Information and Communication Technology (ICT). Professional knowledge and teaching skills related to Asia and Australia's engagement with Asia; Sustainability; Critical and Creative Thinking; Personal and Social Capability;

Ethical Understanding; and Intercultural Understanding, are not present in the current Australian standards. General capabilities are included equally sporadically in international teacher standards, the most commonly occurring being ICT, critical and creative thinking and sustainability.

The cross-curriculum priorities and general capabilities raise tensions for teachers' professional practice in terms of priorities. For many teachers, these are not areas for which they have been trained. Beyond the question of whether teachers have the content knowledge and skills related to cross-curriculum priorities and general capabilities, there is an underlying debate about how teachers manage curriculum and pedagogical change.

Inclusive education

Inclusion is a concept increasingly emphasised in legislation. It has been the focus of several recent inquiries and a Royal Commission. The term inclusion is often associated with minority groups and people who experience disability, but inclusion is about everyone. It encompasses social and cultural diversity, learners identified as gifted and talented, and/or those with a disability. This concept is already embedded across the current standards: 1.1 'Physical, social and intellectual development and characteristics of students'; 1.3 'Students with diverse linguistic, cultural, religious and socioeconomic backgrounds'; 1.5 'Differentiate teaching to meet the specific learning needs of students across the full range of abilities'; 1.6 'Strategies to support full participation of students with disability'; and 4.1 'Support student participation'. Growing attention to compliance related to inclusion is noted, with training focused on standard 7.2 'Comply with legislative, administrative and organisational requirements', rather than support in building inclusive learning environments. It is interesting to note that teacher standards for England and Myanmar include a focus on teaching students with disability, and Saudi Arabia has separate standards for teaching students with a hearing disability, learning difficulties, autism, intellectual disability, and visual disability. The Philippines have a broad focus in their standard on diversity of learners.

Learning progress

Learning progress as both a learning and assessment concept has become better recognised in recent years. While learning attainment is the location on a continuum of learning, learning progress that represents the gain or growth in learning attainment over time is a new focus in some schools. Policy documents draw attention to learning progressions that emphasise coherence and continuity in learning, are empirically based and describe typical pathways dependent on instruction. This change has an impact on curriculum development, instructional design, and pedagogy. Age-based year levels and prescriptive year-level curricula can hinder efforts to target teaching to the different levels of readiness and learning needs in their classrooms. Teachers must develop considerable expertise in collecting, evaluating, analysing and acting on evidence of learning attainment and progress as part of their day-to-day work, and there is a question as to whether this is adequately reflected in teacher standards.

Parents/carer-school partnerships

Promoting partnerships between home and school acknowledges parents and carers as a child's first educator and the widely accepted findings that parental engagement in learning contributes to positive student attainment, behaviour and attendance at school. An emphasis on family-school and community partnerships is a way to empower positive parent engagement and bring together family and community resources to enrich student learning and wellbeing. The *Mparntwe Declaration* includes a focus on stronger partnerships with parents, carers, families and communities. The

Australian Professional Standards for Teachers includes focus areas on engaging parents/carers in the educative process (3.7), reporting on student achievement (5.5) and engaging with parents and carers (7.3). Productive relationships and partnership with parents are a feature of most teacher standards internationally.

Pedagogy

A growing evidence base of teaching and learning has fuelled recent policy reform, with implications for the types of pedagogy that best support students to achieve to their full potential. The work of teachers has become increasingly complex as they are expected to draw on new skills. This requires that they keep abreast of new evidence-based practice and research about the science of learning. Pedagogy is central to the first five standards, from *Know students and how they learn* to *Assess, provide feedback and report on student learning*. However, there is scope to consider further attention to skills and resources needed by teachers to refine the emphasis on teaching and learning strategies and to include areas seen in international standards such as: keeping abreast of research, evaluative thinking and inquiry methods.

Professional learning

As the importance of quality teaching has been confirmed, and demands for deeper and more complex student learning have intensified, professional learning has taken a prominent place in the past decade. There is a plethora of research on the kinds of professional learning that can lead to instructional improvement and deeper student learning. The challenge is for policymakers, professional development providers and teachers to work together to implement and scale this effective teacher professional learning so that all teachers are supported to engage and collaborate with colleagues to improve their practice. There are already strong statements related to teacher professional learning in Standards 6 and 7 of the *Australian Professional Standards for Teachers*. International teacher standards have a similar focus, with the noteworthy addition in Singapore of a standard related to reflective thinking by teachers.

Student wellbeing

Schools and education settings play a key role in supporting the development of student resilience and wellbeing through enhancing cognitive, social and emotional skills. In response to growing concern about the wellbeing of students and its importance for learning and for quality of life, there is an ongoing priority for teachers who know how schools can best promote wellbeing and resilience in all students, so that they feel connected, capable and content at school, and in their life more generally. The *Australian Professional Standards for Teachers* include focus areas on student wellbeing: 1.1 *Physical, social and intellectual development and characteristics of students*; 4.1 *Support student participation*; and 4.4 *Maintain student safety*. There are further examples of student wellbeing in teacher standards internationally: fairness, respect and care (Philippines); student's confidence (Southeast Asia), emotional and physical wellbeing (England), safe and effective learning environment (Myanmar); wellbeing of learners and protecting them from harm (New Zealand); and a culture of care, trust and friendliness (Singapore).

Teacher wellbeing

Wellbeing is central to workforce productivity and an important precondition of effective teaching and learning. Teachers are a most important in-school factor contributing to student achievement, and teacher wellbeing relates closely to the quality of their work. With growing evidence of significant issues in the wellbeing of teachers and students, there is an imperative to examine

teacher wellbeing and its relevance in teacher standards. Connections to teacher wellbeing are only implicitly referenced in Standard 7, *Engage professionally with colleagues, parents/carers and the community*, with associations to connecting with others and meeting professional responsibilities, such as being 'fit' to teach. At an international level, teacher wellbeing is included explicitly in most teacher standards, for example, in Southeast Asia 4.1.2 Become more aware and responsible for my emotions and health; 4.1.2.1 Understand deeply what affects me; and 4.1.2.2 Be calm and composed in resolving conflicts; and in Singapore 'tuning into self'.

Conclusion

The report provides a review of these trends in teaching and learning research, and professional practice and details how policymakers are responding. It considers how these 11 topics are reflected in recent teacher standards and aims to inform any future refinement of the *Australian Professional Standards for Teachers*.

1. Introduction

This environmental scan was contracted by the Australian Institute for Teaching and School Leadership (AITSL). The brief was to conduct a broad sweep of the literature that has surfaced since the Australian Professional Standards for Teachers (AITSL 2011) was developed and consider how current educational research, policy and practice may inform any future review of the standards. The purpose of this report is to provide a critical review of selected topical areas and to consider how these are reflected in contemporary standards for the teaching profession.

Based on our findings from the literature, and through discussions with AITSL, eleven topical areas were selected, and these provided the focus for the scan. These included:

12. Aboriginal and Torres Strait Islanders
13. Digital technologies
14. Early childhood education and care
15. General capabilities
16. Inclusive education, including
     i.   social/cultural diversity,
     ii. learners with disability,
     iii. gifted and talented learners.
17. Learning progress, including assessment
18. Parent/carer-school partnerships
19. Pedagogy
20. Professional learning
21. Student wellbeing
22. Teacher wellbeing

As stated in the National Partnership on Improving Teacher Quality, the *Alice Springs (Mparntwe) Education Declaration on Educational Goals for Young Australians* and recent policy revisions, teacher quality continues to be an essential focus of Australia's efforts to improve student outcomes and delivery on its promise to have a world-class education system. Within this context, standards serve to describe what effective teachers should know and be able to do, and reflect what is valued.

This environmental scan identifies areas impacting on the knowledge and skill needs of teachers. It details advances in teaching and learning research, and in professional language and practice. It also details how policymakers are responding to these advancements, and considers how these areas are reflected in recent teacher standards, providing discussion points for future refinement of the Australian Professional Standards for Teachers.

It is important to note that this report is comprehensive but not exhaustive. The environmental scan does not seek to capture every area that has surfaced within the last ten years. It is a snapshot that is intended to inform refinement and development of future standards, signalling possible areas that may require renewal.

In addition, it should be noted that by request the report has been prepared for AITSL's internal use, and thus it is not intended for wider publication.

2. Methodology

To gather up-to-date information about topical areas that have arisen in education over the last decade, the project team conducted a scan of the existing published and unpublished literature, various official government documents, and grey literature. We adopted a six-step approach to compiling this report: i) reviewing existing literature; ii) examining teacher standards; iii) identifying possible topical areas; iv) populating a scan matrix; v) selecting priority areas; and, vi) producing the report for feedback.

i)   Reviewing existing literature

The ACER project team conducted a review of the existing published literature, including various national and international policy documents and grey literature. Information specialists at ACER's Cunningham Library used search engines and education databases to identify and provide recommendations for relevant materials and information.

ii)   Examining teacher standards

A scan of teacher standards from other jurisdictions developed in the last ten years was conducted, providing examples of how topical areas are included in teachers' standards internationally.

iii)   Identifying possible topical areas

The ACER project team met with the AITSL team who had been involved in the development and implementation of the Australian Professional Standards for Teachers. These discussions contributed a broadened perspective of possible areas for investigation and those of particular interest to the AITSL team.

iv)   Populating a scan matrix

A scan matrix was developed to support the systematic extraction of data to determine possible topical areas for selection (see Appendix A). Findings were populated into the matrix through an iterative process in which the ACER team collected relevant data and organised the information into broad topical areas which included associated keywords and phrases, related national teacher standards, and data sources, including policy documents, journal/conference articles, other grey literature, international teacher standards, and AITSL team feedback.

v)   Selecting priority areas

A detailed outline of areas was compiled and presented to the AITSL team for review, and eleven topical areas were selected.

vi)   Producing the report for feedback

ACER submitted each topical area for feedback to the AITSL team, and this feedback was incorporated into this final report.

3. Key findings – selected topical areas

The report is structured around eleven topical areas. Each section provides:

  i)   a description of the topical area
  ii)   key identified sources used to investigate the area
  iii)   the current and changing landscape of the area, including changes in the last decade
         relevance to learning and teaching, and influences on policy directions
  iv)   examples of the area reflected in recent teacher standards
  v)   questions for future research
  vi)   an end of section reference list

Each area is presented in alphabetical order and functions as its own independent report.

3.1 Aboriginal and Torres Strait Islander education

Two elements of Aboriginal and Torres Strait Islander perspectives are central to education. The first is the rights of all Aboriginal and Torres Strait Islander students and their communities to benefit from culturally relevant, inclusive education, that is "supporting Aboriginal and Torres Strait Islander learners to reach their full potential" (Education Council 2019, p. 9). Secondly is the responsibility to ensure all Australians are educated about Aboriginal and Torres Strait Islander culture, history and rights (Education Council 2019, p. 3). The Australian Professional Standards for Teachers (AITSL 2011) reflect these two elements, with standards related to knowing Aboriginal and Torres Strait Islander students and how they learn (Standard 1.4) and knowing the content related to Aboriginal and Torres Strait Islander histories, culture and languages, and how to teach these (Standard 2.4). Both of these responsibilities are challenging for teachers, as each encompasses a complex set of related aspects.

3.1.1 Description

A fundamental concern in Australian education is the gap in learning outcomes between Aboriginal and Torres Strait Islander students and their non-Indigenous peers. Education jurisdictions and agencies employ many programs and policy levers in an attempt to 'close the gap' (Department of the Prime Minister and Cabinet 2019). These depend largely on teachers being effective in implementing the range of initiatives which relate to pedagogy, student wellbeing, curriculum, culture, and languages.

Methods for teaching Aboriginal and Torres Strait Islander students are a highly politicised question, with alternate positions advocating for culturally responsive pedagogy (Morrison et al. 2019; Perso 2012) versus explicit teaching and direct instruction (Eppley & Dudley-Marling 2019; Good to Great Schools n.d.; Guenther & Osborne 2020). Those looking for an authentic Aboriginal form of pedagogy are faced with conflicting and contested work, for example, the *8 Aboriginal Ways of Learning* (Yunkaporta 2016). The knowledges represented by a framework such as this belong to a particular place, not a person or organisation. Thus teachers are faced with conflicting information, leading to confusion. In recognising that there is no 'one size fits all' pedagogy, teachers often look to their university, their jurisdiction or colleagues to provide guidance and support.

In the words of the Australian Curriculum, Assessment and Reporting Authority (ACARA 2018a), the Australian Curriculum is working towards addressing these two distinct needs in Aboriginal and Torres Strait Islander education:

- *That Aboriginal and Torres Strait Islander students are able to see themselves, their identities and their cultures reflected in the curriculum of each of the learning areas can fully participate in the curriculum and can build their self-esteem, and*

- *That the Aboriginal and Torres Strait Islander Histories and Cultures cross-curriculum priority is designed for all students to engage in reconciliation, respect and recognition of the world's oldest continuous living cultures.*

The diverse and localised landscape of Aboriginal and Torres Strait Islander nations also challenges teachers when it comes to teaching Aboriginal and Torres Strait Islander history and culture. Research with teachers, undertaken as part of the *National Aboriginal and Torres Strait Islander*

Curricula Project (Department of the Prime Minister and Cabinet 2018) found that teachers and teacher educators do not feel confident about what, and how, to teach about Aboriginal and Torres Strait Islander histories, cultures and languages. The reasons behind teachers not teaching this content include:

- Fear — of their own limited knowledge, or of doing something wrong.
- Navigation — of existing repositories, and to identify quality resources within these.
- Value — of Aboriginal and Torres Strait Islander knowledges; with some seeing this as primarily for Humanities and Social Sciences.
- Change — changes in priorities for the classroom drive where to apply effort in classroom adaptation and has inadvertently positioned this content as an "additional other".

Overcoming these fears, attitudes and lack of knowledge is key to improving the teaching of Aboriginal and Torres Strait Islander perspectives.

3.1.2 Sources

Table 3.1-1 displays key sources identified, related to Aboriginal and Torres Strait Islander education, and its prevalence in policy, research and practice.

Table 3.1-1 Overview of key sources that include a focus on Aboriginal and Torres Strait Islander education

Source type	Key sources
Policy	ACARA (2014)
	ACARA (2015)
	ACARA (2018a)
	DET (2018)
	Department of the Prime Minister and Cabinet (2018)
	Department of the Prime Minister and Cabinet. (2019)
	Education Council (2019)
	House of Representatives Standing Committee on Indigenous Affairs (2017)
	MATSITI (2016)
	NSW Teachers' Federation (2010)
	OECD (2017c)
	Uluru Statement from the Heart (2017)
Journals/conferences	Coulby (2011)
	Eppley & Dudley-Marling (2018)
	Gillan, Mellor & Krakouer (2017)
	Mellor & Corrigan (2004)
	Morrison et al. 2019)
	Ohi et al. (2019)
	Perso (2013)
	Scarcella & Burgess (2019)
Other (inc. grey literature)	Yunkaporta (2016)
	Good to Great Schools Australia (n.d.)
International teacher standards	Refer to Table 3.1-3

3.1.3 Current and changing landscape

Changes in the last decade

In considering changes in the landscape in the past decade it is useful to review the policy and research priorities published a decade ago. For example, calls by the NSW Teachers Federation (2010) identified key strategies to advance the status of Aboriginal education, including:

- funding long-term programs to reinforce identity and community involvement
- maintain and strengthen mandatory, comprehensive and sequential university study units of Aboriginal and Torres Strait Islander culture and history within pre-service teacher trainin
- enhance professional learning opportunities for Aboliginal and Torres Strait Islander experiences - cultural and historical studies (p. 32)

Researchers of that era were also making recommendations, including:

- adopting culturally appropriate pedagogy
- reducing teacher turnover, especially in remote areas
- improving the quality and quantity of teacher education courses in Indigenous education, both preservice and in-service for all teachers
- appropriate recognition and teaching of Indigenous languages in conjunction with English (Mellor & Corrigan 2004)

Since this time, a range of programs has been put in place by national and state governments, by non-government schools and philanthropic organisations attempting to address one or more of these Gillan, Mellor & Krakouer 2017). A recent literature review concludes that the outcomes of these initiatives have been variable and, in some cases, contested (Morrison et al. 2019). One area of development in this time has been the attention given to Indigenous languages.

Recognition of the importance of preserving Indigenous languages has increased globally and in schools. There is slowly increasing use of local Indigenous names of peoples, places, languages and concepts, and there is now an *Australian Curriculum: Languages - Framework for Aboriginal Languages and Torres Strait Islander Languages* (ACARA 2015). Given the sheer number of Aboriginal and Torres Strait Islander languages, this *Framework* is generalised, and achievement standards are intended to be adapted, recognising they will need to be shaped by "the current progress of language revival for a particular language, and by the amount of vocabulary and variety of language structures available for teaching and learning" (ACARA 2015). The past decade has also seen greater recognition of Australian creole languages, and dialects characteristic of a region or group (ACARA 2015). There is a strong link between language and culture, and Aboriginal and Torres Islander people "regard their culture(s) as fundamental to their individual and group identity and their languages as living expressions of this" (ACARA 2015).

Relevance to learning and teaching; issues, debates, implications

In Australian education, there is now general acceptance of the *Acknowledgement of Country* protocol for showing awareness of and respect for the traditional Aboriginal or Torres Strait Islander owners of a particular Country. Cultural recognition and sensitivity are part of cultural competence but as yet, little attention has been given to the potential of culturally responsive pedagogies in Australian classrooms (Morrison et al. 2019 p. 1). Cultural learning involves a partnership with parents, carers and the community, and effective partnership requires "a holistic approach and

authentic involvement" (Education Council 2019 p. 5). Teaching Aboriginal and Torres Strait Islander students in a community context often involves team teaching which many teachers are not trained for.

The Australian Curriculum sets consistent national standards to improve learning outcomes for all young Australians. There is a set of organising ideas for the Aboriginal and Torres Strait Islander Histories and Cultures Cross Curriculum Priority that reflects essential knowledge, understandings and skills. These nine organising ideas provide a minimum set of expectations for teacher and students. However, there is a recognised gap in the availability of relevant, quality, localised resources to support the teaching of Aboriginal and Torres Strait Islander histories and culture. This means that teachers also find it challenging to meet Standard 3.4 'Select and use resources' (AITSL 2011) in this area. One strategy is to increase the number of texts available that are created by local Aboriginal and Torres Strait Islanders, to ensure all students "engage with texts that give insight into Aboriginal experiences in Australia" (Scarcella & Burgess 2019) from an authentic perspective, rather than third party interpretation.

The issues discussed above are not unique to Australian Aboriginal and Torres Strait Islander education. Research into intercultural education more broadly finds "evidence that principals, teachers and schools feel ill-equipped to teach and engage in intercultural education" (Ohi et al. 2019, p. 234). Like intercultural understanding, implementation is challenging, when principals, teachers and schools struggle to deal with a crowded curriculum, the range of languages and cultures in schools, restricted financial and linguistic resources, and the limited capacity of some teachers to relate to these children (Coulby 2011, p. 114).

The Australian Curriculum Intercultural Understanding General Capability aims to develop young people who will be "active and informed citizens with an appreciation of Australia's social, cultural, linguistic and religious diversity, and the ability to relate to and communicate across cultures at local, regional and global levels" (ACARA 2014). It targets the development of three 'intercultural dispositions', expressing empathy, demonstrating respect and taking responsibility, to nurture open-minded, critically aware students with the positive 'intercultural behaviours [for] learning to live together' (ACARA 2014).

Research is needed on how to raise the intercultural knowledge, skills and the expertise of educational leaders and teachers. While there is a significant collection of policy and program literature available on research about Aboriginal and Torres Strait Islander students and their education (*Learning Ground* 2020), there is less research available on the second aspect, that of teachers ensuring all students learn about Aboriginal and Torres Strait Islander history and cultures.

Influencing policy directives

The *Alice Springs (Mparntwe) Education Declaration* (Education Council 2019) sets out the rationale for Aboriginal and Torres Strait Island educational policy.

> *We recognise the more than 60,000 years of continual connection by Aboriginal and Torres Strait Islander peoples as a key part of the nation's history, present and future. Through education, we are committed to ensuring that all students learn about the diversity of Aboriginal and Torres Strait Islander cultures, and to seeing all young Aboriginal and Torres Strait Islander peoples thrive in their education and all facets of life* (p. 3).

It is essential for teachers to recognise the fundamental impact that physical health and wellbeing of students and their communities has on student learning. The *Closing the Gap report* (Department of the Prime Minister and Cabinet 2019) includes targets such as halving the gap in child mortality rates (p. 37) and having 95% of all Indigenous four-year-olds enrolled in early childhood education (p. 42). In the school years, the targets move to school attendance (p. 51), meeting literacy and numeracy standards (p. 58) and retention and attainment in Year 12 (p. 67).

Aboriginal and Torres Strait Islander education did not appear in the terms for reference for Gonski (DET 2018), and the final report mentions it just ten times, most often in a phrase along with "students with disability, students in rural or remote locations, Aboriginal and Torres Strait Islander students, those from non-English speaking backgrounds, low socio-economic backgrounds, gifted and talented students" (p. 4). The Review Panel explains this as a wish to avoid overlap with other national reviews such as the *House of Representatives Standing Committee on Indigenous Education inquiry into educational opportunities for Aboriginal and Torres Strait Islander students* tabled in December 2017. The House of Representatives report discusses a lack of data, barriers to achievement, cultural safety, engagement, gender equity, teaching and pedagogies, Direct Instruction, boarding school education, and funding. Its recommendations include:

- English as a Second Language or Dialect (ESL/D) training to be compulsory for all teaching degrees and for all teachers already working in schools with a substantial number of Indigenous students (p. xxiii).

- Indigenous history and culture to be a compulsory component for all teaching degrees; and require all teachers already working in schools with a significant number of Indigenous students to complete in-service local Indigenous language, history and culture training as a part of mandatory professional development (p. xxiv).

- The Federal Government to undertake a comprehensive review of all federally-funded pedagogies to ensure the pedagogy is improving literacy and numeracy outcomes, delivering the Australian curriculum, and providing value for money (p. xxiv).

A major policy concern is that programs are not funded for enough time to make the impact required. The *More Aboriginal and Torres Strait Islander Teachers Initiative (MATSITI)* that addressed teacher recruitment and training was discontinued after one funding cycle, despite the evaluation panel declaring that "the MATSITI project has made a significant contribution to the inclusion and advancement of Aboriginal and Torres Strait Islander peoples in the teaching profession". This report also made the point, that "this will require many more years of committed effort as exemplified by the work of the MATSITI community" (Johnson, Cherednichenko & Rose 2016).

A review of how Indigenous perspectives are embedded in international teacher standards (OECD 2017c) shows the strong expectation within the Aotearoa New Zealand standards that teachers will not only demonstrate commitment to culturally responsive learning and the Treaty of Waitangi partnership; teachers are also expected to "practise and develop the use of the Māori language" (Teaching Council New Zealand 2017).

The Australian education system promotes excellence and equity "to ensure that learning is built on and includes local, regional and national cultural knowledge and experience of Aboriginal and Torres Strait Islander peoples and work in partnership with local communities" (Education Council 2019, p. 5). Elders in Aboriginal and Torres Strait Islander communities hold authority "by reason not only of their age and seniority but also of their wide experience and deep cultural knowledge"

(ACARA 2015). Policies must respect principles and protocols of cultural safety as integral to the development and provision of curriculum and programs in Aboriginal and Torres Strait Islander knowledge and languages (Lowe et al. 2019). This means affirming the authority of language owners and custodians and ensuring protocols support negotiations between different groups. The *Uluru Statement from the Heart* (2017) states clearly the first step required to realise this goal of partnership.

> *We seek constitutional reforms to empower our people and take a rightful place in our own country. When we have power over our destiny, our children will flourish. They will walk in two worlds, and their culture will be a gift to their country.*

Conclusion

Teachers are responsible for teaching Aboriginal and Torres Strait Islander students, and for teaching about Aboriginal and Torres Strait Islander history, culture and language. Many teachers struggle to meet the professional standards related to Aboriginal and Torres Strait Islander education due to an assumption or attitude that these standards don't apply to them in their particular context; or gaps in knowledge and resources, fear of getting it wrong, or feeling overwhelmed by the decades of deficit narrative on educational outcomes for Indigenous students.

It is a priority that all teachers are well-equipped with the attitude, knowledge, resources and action that ensures they can meet the standards related to Aboriginal and Torres Strait Islander education pastoral care, pedagogy, and curriculum.

3.1.4 Examples in teacher standards

As outlined in Table 3.1-2, the Australian Professional Standards for Teachers (AITSL 2011) includes focus areas specific to Aboriginal and Torres Strait Islander education: Focus area 1.4 Strategies for teaching Aboriginal and Torres Strait Islander students; and Focus area 2.4 Understand and respect Aboriginal and Torres Strait Islander people to promote reconciliation between Indigenous and non-Indigenous Australians.

Two other standards are relevant in this context. Standard 1.3 Students with diverse linguistic, cultural, religious and socioeconomic backgrounds and 7.3 Engage with the parents / carers.

Table 3.1-2 Aboriginal and Torres Strait Islander education reflected in the Australian Professional Standards for Teachers (AITSL 2011)

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
1. Know students and how they learn	1.3 Students with diverse linguistic, cultural, religious and socioeconomic backgrounds	Demonstrate knowledge of teaching strategies that are responsive to the learning strengths and needs of students from diverse linguistic, cultural, religious and socioeconomic backgrounds.
1. Know students and how they learn	1.4 Strategies for teaching Aboriginal and Torres Strait Islander students	Design and implement effective teaching strategies that are responsive to the local community and cultural setting, linguistic background and histories of Aboriginal and Torres Strait Islander students.

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
2. Know the content and how to teach it	2.4 Understand and respect Aboriginal and Torres Strait Islander people to promote reconciliation between Indigenous and non-Indigenous Australians.	Provide opportunities for students to develop understanding of and respect for Aboriginal and Torres Strait Islander histories, cultures and languages.
7. Engage professionally with colleagues, parents/carers and the community	7.3 Engage with the parents / carers	Establish and maintain respectful collaborative relationships with parents/carers regarding their children's learning and wellbeing.

Table 3.1-3 presents' examples of the ways Indigenous education perspectives have been included in teacher standards internationally.

Table 3.1-3 Examples of the ways Indigenous education perspectives are included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	1.6 Mother Tongue, Filipino and English in teaching and learning 1.6.3 Model and support colleagues in the proficient use of Mother Tongue, Filipino and English to improve teaching and learning, as well as to develop the learners' pride of their language, heritage and culture. 3.5 Learners from indigenous groups 3.5.2 Adapt and use culturally appropriate teaching strategies to address the needs of learners from indigenous groups.
Southeast Asia Teachers Competency Framework (Teachers' Council of Thailand 2018)	Southeast Asia	1.3.1.2 Integrate Southeast Asian identity in my lessons to promote cross-cultural understanding
Chartered Teacher Professional Principles (Chartered College of Teaching 2017)	United Kingdom	3.5 Has a clear understanding of possible barriers to learning, including for children and young people with special educational needs and disabilities or English as an additional language, and knows how to select and use appropriate strategies to overcome these. 6.5 Establishes and maintains a supportive, trusting and respectful environment in which diversity is celebrated.

Standards	Country	Example
Myanmar Teacher Competency Standards (Teacher competency Standards Framework 2017)	Myanmar	A3.2 Demonstrate understanding of the social, linguistic, and cultural diversity of the students and their communities
New Zealand Standards for the Teaching Profession (Teaching Council of New Zealand 2017)	New Zealand	Demonstrate commitment to tangata whenuatanga and Te Tiriti o Waitangi partnership in Aotearoa New Zealand. • Understand and recognise the unique status of tangata whenua in Aotearoa New Zealand. • Understand and acknowledge the histories, heritages, languages and cultures of partners to Te Tiriti o Waitangi. • Practise and develop the use of te reo and tikanga Māori. Design for learning • Design and plan culturally responsive, evidence-based approaches that reflect the local community and Te Tiriti o Waitangi partnership in New Zealand. 1.4. Demonstrating a commitment to tangata whenuatanga and Te Tiriti o Waitangi partnership in the learning environment 2.4. Affirming Māori learners as tangata whenua and supporting their educational aspirations 4.2 Demonstrating a commitment to a Tiriti o Waitangi based Aotearoa New Zealand Fostering learners to be active participants in community life and engaged in issues important to the wellbeing of society.
Fiji Teacher Competency Standards (Competency standards frameworks for Tuvalu teachers competency standards implementation 2014)	Fiji	No reference
Saudi Arabia -2014 (Al-Saud, FAA-M & Alsadaawi, AS 2018)	Saudi Arabia	No reference
Graduand teacher competencies - 2018 (*Recommendation II n.d.)*	Singapore	The teacher is committed to National Education, and to valuing diversity in all its forms. The teacher demonstrates sensitivity to cultural and religious differences

3.1.5 Further questions/research agenda

This section raises questions and a possible research agenda for future consideration:

- How can teachers develop the knowledge, skills and confidence to ensure Standards 1.4 and 2.4 are consistently met?

- What curriculum resources and professional learning support will equip teachers to include Aboriginal and Torres Strait Islander content and enable them to address the Cross-Curriculum Priority in a way that is culturally relevant to their own school Country and community?

- How can teachers collaborate and consult with Aboriginal and Torres Strait Islander community from a position of equity and strength without exhausting the goodwill of Aboriginal and Torres Strait Islander leaders?

- How are Initial Teacher Education providers incorporating the development of Aboriginal and Torres Strait Islander Capabilities in their curriculum, and placements?

- How are overseas teachers who are seeking recognition to teach in Australia supported to acquire the knowledge, attitudes and resources required to meet these standards?

3.1.6 End of section references

Listed below are key references used to inform this section.

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration*, Carlton South, Australia, viewed 22 December 2019, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2014, *Intercultural understanding*, viewed 21 November 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/intercultural-understanding>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2015, *Australian Curriculum: Languages - Framework for Aboriginal Languages and Torres Strait Islander Languages*, viewed 18 December 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/languages/framework-for-aboriginal-languages-and-torres-strait-islander-languages/pdf-documents>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2018a, *Aboriginal and Torres Strait Islander Histories and Cultures*, viewed 12 December 2019, https://www.australiancurriculum.edu.au/f-10-curriculum/cross-curriculum-priorities/aboriginal-and-torres-strait-islander-histories-and-cultures/

Australian Institute for Teaching and School Leadership (AITSL) 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Coulby, D 2011, 'Intercultural education and the crisis of globalisation: some reflections', *Intercultural Education*, vol. 22, no. 4, pp. 253–261, viewed 9 February 2020, <http://www.tandfonline.com/doi/abs/10.1080/14675986.2011.617418>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Department of the Prime Minister and Cabinet 2018, *National Aboriginal and Torres Strait Islander Curricula Project*, viewed 18 December 2019, <https://www.indigenous.gov.au/teaching-guides/curricula-project/how-guide>.

Department of the Prime Minister and Cabinet 2019, *Closing the gap Prime Minister's report 2019*, viewed 16 December 2019, <https://ctgreport.niaa.gov.au/sites/default/files/ctg-report-20193872.pdf>.

Eppley, K & Dudley-Marling, C 2019, 'Does direct instruction work?: A critical assessment of direct instruction research and its theoretical perspective', *Journal of Curriculum and Pedagogy*, vol. 16, no. 1, pp. 35–54, viewed 18 November 2019, <https://www.tandfonline.com/doi/full/10.1080/15505170.2018.1438321>.

Gillan, K, Mellor, S & Krakouer, J 2017, *The case for urgency: advocating for indigenous voice in education*, Australian education review No. 62, ACER Press, Melbourne Australia, viewed 20 November 2019.

Good to great schools Australia n.d., viewed 18 December 2019, <https://goodtogreatschools.org.au/our-results/evidence-base>.

Guenther, J & Osborne, S 2020, 'Did DI do it? The impact of a programme designed to improve literacy for Aboriginal and Torres Strait Islander students in remote schools', *The Australian Journal of Indigenous Education*, pp. 1–8, viewed 19 January 2020, <https://www.cambridge.org/core/product/identifier/S1326011119000280/type/journal_article>.

House of Representatives Standing Committee on Indigenous Affairs 2017, *The power of education: from survival to thriving: educational opportunities for Aboriginal and Torres Strait Islander students*, viewed 18 November 2019, <https://www.aph.gov.au/-/media/02_Parliamentary_Business/24_Committees/243_Reps_Committees/Indigenous/EducationalOpportunities/Committee_Report_-_Final.pdf>.

Johnson, P, Cherednichenko, B, & Rose, M 2016, *Evaluation of the More Aboriginal and Torres Strait Islander Teachers Initiative Project*, MATSITI, Adelaide, viewed 9 February 2020, <http://matsiti.edu.au/wp-content/uploads/2016/05/MATSITI-2016-Project-Evaluation-Final-Report.pdf>.

Learning Ground Indigenous Education Database 2020, viewed 19 January 2020, <http://acer.org/learningground>.

Lowe, K et al. 2019, 'Factors affecting the development of school and Indigenous community engagement: A systematic review', *The Australian Educational Researcher*, vol. 46, no. 2, pp. 253–271.

Mellor, S & Corrigan, M 2004, *The case for change: a review of contemporary research on Indigenous education outcomes*, Australian education review No. 47, ACER Press, Melbourne Australia, viewed 20 November 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1006&context=aer>.

Morrison, A et al. 2019, *Toward an Australian culturally responsive pedagogy: a narrative review of the literature*, University of South Australia, viewed 19 December 2019, <https://apo.org.au/sites/default/files/resource-files/2019/08/apo-nid262951-1392016.pdf>.

NSW Teachers' Federation 2010, Aboriginal education: 25 years approach: the way forward. *Education*; vol. 91, no.3, pp. 31-32, viewed 28 February 2020, <https://search.informit.com.au/fullText;dn=194699;res=AEIPT>

OECD 2017c, *Promising practices in supporting success for Indigenous students*, OECD Publishing, Paris, viewed 28 November 2019, <https://doi.org/10.1787/9789264279421-en>.

Ohi, S et al. 2019, 'Interrogating the promise of a whole-school approach to intercultural education: An Australian investigation', *European Educational Research Journal*, vol. 18, no. 2, pp. 234–247, viewed 8 February 2020, <http://journals.sagepub.com/doi/10.1177/1474904118796908>.

Perso, T 2012, *Cultural responsiveness and school education with particular focus on Australia's first peoples: a review & synthesis of the literature*, Menzies School of Health Research, Darwin, viewed 28 November 2019, <http://ccde.menzies.edu.au/sites/default/files/Literature%20review%20Cultural%20Responsiveness%20and%20School%20Education%20March%202012%20FINAL.pdf>

Scarcella, J & Burgess, C 2019, 'Aboriginal perspectives in English classroom texts', *English in Australia*, vol. 54, no. 1, pp. 20-29.

Uluru Statement from the Heart 2017, viewed 18 November 2019, <https://ulurustatement.org>.

Yunkaporta, T 2016, *8 ways Aboriginal pedagogy*, viewed 18 September 2019, <https://www.8ways.online>.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for Educational Assessment*, viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute of Teaching and School Leadership 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2019, *Chartered Teacher Programme: 2020-2021 cohort*, Chartered College of Teaching, viewed 18 December 2019, <https://chartered.college/wp-content/uploads/2019/10/Chartered-Teacher-booklet-2020-cohort.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d. National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards

3.2 Digital technologies in education

The last ten years have seen rapid advancements to society driven by technological innovations and increasing interconnectivity, challenging how best to prepare students for future employment opportunities and the skills they might require to navigate their way in an increasingly complex world. Education has responded to these challenges, which in 2017 included the introduction of the curriculum learning area Digital Technologies.

3.2.1 Description

Rapid advancements in digital technologies have seen an increase in digital resources and applications. The terms *digital technology*, *digital learning*, *digital literacy* and *digital skills* have been adopted to capture the broad developments in these areas. These developments have been reflected in policies nationally and internationally. Within Australia, this has included the *National STEM School Education Strategy 2016 – 2026* and the introduction of the Digital Technologies learning area to the curriculum in 2017. According to the Australian Curriculum, "digital technologies include any technology controlled using digital instructions, including computer hardware and software, digital media and media devices, digital toys and accessories, and contemporary and emerging communication technologies, including computers, smartphones, digital cameras, printers and robots" (ACARA n.d.-b).

The Evidence for Learning Toolkit (Evidence for Learning c.2017) further clarifies that digital technologies refer to the use of computer and technology-assisted strategies to support learning within schools. Approaches in this area vary widely, but generally involve technology for students, where learners use programs or applications designed for problem-solving or open-ended learning; or technology for teachers to support learning and teaching. Digital learning further describes learning that is facilitated by technology or by instructional practice that makes effective use of technology (DET Victoria 2018), while digital literacy and digital skills describe the development and acquisition of skills (including coding), in the use of new and emerging technologies.

3.2.2 Sources

Table 3.2-1 displays key sources identified, related to digital technologies and their prevalence in policy, research and practice.

Table 3.2-1 Overview of key sources including digital technologies

Source type	Key sources
Policy	DEAG (c.2012)
	Gonski (DET 2018)
	OECD (2019d)
	OECD (Schleicher 2018)
	OECD (Gomendio 2017)
Journals/conferences	Bulman & Fairlie (2015)
	Fraillon (2019)
	Grand-Clement, Devaux, Belanger & Manville (2017)
	Thomson (2015)
	Trust (2018a)
	Trust (2018b)

Source type	Key sources
Other (inc. grey literature)	Evidence for Learning (c.2017)
	Melbourne Declaration Submissions (Melbourne Graduate School of Education 2019)
International teacher standards	Refer to Table 3.2-3

3.2.3 Current and changing landscape

Changes in the last decade

In the last decade, digital technologies have evolved, impacting on their use in schools. According to Trust (2018a), while teaching with technology in 2008 often meant using a computer to show PowerPoint slides or using the internet to conduct research, the number of digital resources, websites, videos and tools available to teachers and students has grown exponentially. Tablets, smartphones, three-dimensional (3D) printers, virtual reality devices (VR), and other new digital technologies have entered the market, changing the way people communicate and learn. Social media sites, including YouTube and Facebook, which were only just gaining traction in the mid-2000s, are now visited by millions of people every day.

Access to and use of digital technologies have influenced the role and future of education and skills needed in a digital age. According to the Digital Learning: Education and Skills in the Digital Age Report (Grand-Clement et al. 2017), the educator's role has been disrupted by technology which has changed: how to access information; how to navigate information; and, how to access pedagogy in different settings. The increased use of social media, the ease of access to information and the ability to create content has students engaged in more complex learning activities (i.e. VR, online learning, self-directed learning and flipped learning) and access to anywhere anytime learning. These technological advances have shifted the role of students from being consumers of information to also be creators of information, and this has implications for teaching and learning. Teachers who were once teaching with technology and teaching about the use of ICT tools are now considering the way content and instruction is delivered to students and how they may leverage digital technologies for enhancing teaching and learning, personalising learning, creating content, problem-solving and providing access to content and information for all learners.

Relevance to learning and teaching; issues, debates, implications

While awareness and use of digital technologies might be important for preparing students for future careers and engaging them in different ways, Trust (2018b) stipulates that digital technologies should be used in schools when they can afford teaching and learning experiences that are not possible without the technology. According to The Victorian Department of Education's former Director of Learning and Teaching and Digital Learning Leader, Lynn Davie, technologies can be maximised in schools to unlock learning potential.

Davie (2019) suggests that digital technologies provide opportunities for:

- access to quality online resources, experts and learning communities
- authentic and richer contexts for learning and student agency over their learning
- learning environments which support personalisation, enabling every learner, without exception, to reach their potential
- connecting and collaborating locally and globally to build new knowledge

- developing contemporary skills, e.g. digital skills, multi-literacies, digital citizenship, real-world problem solving
- real-time assessment, feedback and reporting on learning progress
- connecting families with their child's learning through improved communication, collaboration and ongoing reporting on learning progress
- bridging the educational divide by mitigating disadvantage, including rurality and remoteness.

Although people have different views on the role that technologies can and should play in schools, the OECD (Schleicher 2018) claim we cannot ignore how digital tools have fundamentally transformed the world around schools and that digitalisation is a policy avenue for enhancing innovation.

Influencing policy directives

Advancements in digital technologies over the last decade have been reflected in teacher standards and curriculum globally. In 2017, the International Society for Technology in Education (ISTE), redesigned the ISTE teacher standards to reflect advances in digital technologies and the growing access to the internet in and outside schools. These standards shifted from a focus on teaching with digital technologies to using these to learn, collaborate, lead, and empower students (Trust 2018a). The speed of, access to, and control over, information has also magnified the need to help students' filter, sort and evaluate online material. The increased role of digital technologies in communication has had a significant impact on the way students engage online, influencing interactions and the additional focus on safe, responsible and ethical use of ICT. Educators are now teaching information literacy, digital communications and digital literacy to students and more recently, Digital Technologies, as a new subject area within the Australian Curriculum. The Digital Technologies curriculum, implemented from 2017, aims to prepare students for an ever-changing, technology-rich environment through the development of knowledge, understanding and skills to use digital systems and create digital solutions.

According to Bula and Fairlie (2015), the use of current and emerging digital technologies will continue to disrupt the educational experience of students. This disruption has implications for education and a school system still predominantly based on a 20th-century model. The report of the *Review to Achieve Educational Excellence in Australian Schools – Through Growth to Achievement* (DET 2018) confirmed that even though teachers recognise the benefits of contemporary teaching methods for student outcomes, and some are already applying them through the use of increasingly available digital technologies, many find them challenging to implement. At an international level, the Digital Learning: Education and Skills in the Digital Age Report (Grand-Clement et al. 2017) emphasised that educators and policymakers need to consider how digital technologies may be used to make learning more adaptive and flexible and that while the future should not be driven by technologies, government and industry have an important role in encouraging greater use of digital technologies in learning.

Conclusion

The increased availability of digital technologies and the possibilities for teaching and learning that these afford suggest there are opportunities to support teachers to use digital technologies strategically in teaching and learning programs.

3.2.4 Examples in teacher standards

Table 3.2-2 provides an overview of this topical area, as reflected in the Australian Professional Standards for Teachers (AITSL 2011).

Table 3.2-2 Digital technologies' relevance in the Australian Professional Standards for Teachers (AITSL 2011)

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
2. Know the content and how to teach it	2.6 Information and Communication Technology (ICT)	Use effective teaching strategies to integrate ICT into learning and teaching programs to make selected content relevant and meaningful
3. Plan for and implement effective teaching and learning	3.4 Select and use resources	Select and/or create and use a range of resources, including ICT, to engage students in their learning
4. Create and maintain supportive and safe learning environments	4.5 Use ICT safely, responsibly and ethically	Incorporate strategies to promote the safe, responsible and ethical use of ICT in learning and teaching

Table 3.2-3 presents examples of the ways digital technologies are included in teacher standards internationally.

Table 3.2-3 Examples of the ways digital technologies are included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	Exhibit the needed skills in the use of communication strategies, teaching strategies and technologies to promote high - quality learning outcomes They create an environment that is learning-focused and they efficiently manage learner behaviour in a physical and virtual space
Southeast Asia Teachers Competency Framework (2018)	Southeast Asia	Use ICT tools to support students learning
Chartered Teacher Professional Principles (Chartered College of Teaching 2017)	United Kingdom	Makes effective use of resources and materials, including digital technology if appropriate, that are suited to the content being delivered
Myanmar Teacher Competency Standards (Teacher Competency Standards Framework 2017)	Myanmar	Demonstrate appropriate use of Information and Communication Technology (ICT) in teaching and learning Describe strategies to support responsible, safe and relevant use of ICT for teaching and learning, including school or personal use Describe how different technologies can make teaching and learning more effective

Standards	Country	Example
New Zealand Standards for the Teaching Profession (Teaching Council New Zealand 2017)	New Zealand	Use an increasing repertoire of teaching strategies, approaches, learning activities, technologies and assessment for learning strategies and modify these in response to the needs of individuals and groups of learners
Fiji Teacher Competency Standards (Competency Standards Framework 2014)	Fiji	Encourages and monitors the use of ICT to enhance learning and teaching
ISTE Standards for Educators (n.d.; 2017)	International Society for Technology in Education	Continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning Inspire students to positively contribute to and responsibly participate in the digital world. Facilitate learning with technology to support student achievement

3.2.5 Further questions/research agenda

This section has highlighted a stronger emphasis on the role of digital technologies in education policy and practice and raises questions and a possible research agenda for future consideration:

- Do the standards reflect the roles and responsibilities of teachers around digital technologies?

- Do current standards reflect contemporary expectations of teaching and learning in the digital age?

- How might digital technologies be reflected in the standards that show an increased focus on learning enabled through incorporating digital technologies?

- What do we know about successful strategies that utilise digital technologies for teaching and learning?

- It is clear that digital technologies are disrupting the role of the educator: are we doing enough to prepare teachers? How might teachers be supported to unlock learning potential afforded through digital technologies?

3.2.6 End of section references

Listed below are key references used to inform this section.

Australian Council for Educational Research 2019b, 'Preparing for a digital future', *Research Developments*, 29 July, viewed 17 September 2019, <https://rd.acer.org/article/preparing-for-a-digital-future>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-b, *Australian Curriculum: technologies: glossary*, ACARA, viewed 18 September 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/glossary>.

--n.d.-c, *Australian Curriculum: technologies, digital technologies: aims*, ACARA, viewed 18 September 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/digital-technologies/aims>.

Bulman, G & Fairlie, R 2015, *Technology and education: computers, software, and the internet*, National Bureau of Economic Research, Cambridge MA, viewed 17 September 2019, <http://www.nber.org/papers/w22237.pdf>.

Davie, L 2019, personal communication.

Department of Education 2014, *Review of the Australian Curriculum: final report*, Australian Government, Canberra, viewed 17 September 2019, <https://docs.education.gov.au/documents/review-australian-curriculum-final-report>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 17 September 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Department of Education and Training (DET) Victoria 2018, *ICT Planning Matrix*, FUSE, Victoria Government, viewed 19 February 2020, <https://fuse.education.vic.gov.au/Resource/LandingPage?ObjectId=c16a4cc3-0711-47a3-a916-52624b8aefe6>.

Digital Education Advisory Group c.2012, *Beyond the classroom: a new digital education for young Australians in the 21st century*, Australian Government, Canberra, viewed 17 September 2019, <https://docs.education.gov.au/system/files/doc/other/deag_final_report.pdf>.

Education Services Australia n.d., *Digital Technologies Hub*, Education Services Australia developed for Australian Government Department of Education, viewed 18 September 2019, <https://www.digitaltechnologieshub.edu.au>.

Evidence for Learning c.2017, *Digital technology*, Teaching and Learning Toolkit, Evidence for Learning, viewed 18 September 2019, <https://evidenceforlearning.org.au/teaching-and-learning-toolkit/digital-technology>.

Fraillon, J 2019, 'Digital literacy: myths and realities', in *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, 4-5 August, Australian Council for Educational Research, Melbourne, viewed 17 September 2019, <https://research.acer.edu.au/research_conference/RC2019/5august/7>.

Gomendio M 2017, *Empowering and enabling teachers to improve equity and outcomes for all*, International Summit on the Teaching Profession, OECD Publishing, Paris, <https://doi.org/10.1787/9789264273238-en>.

Grand-Clement, S, Devaux, A, Belanger, J & Manville, C 2017, *Digital learning: education and skills in the digital age*, RAND Corporation, Santa Monica, viewed 17 September 2019, <https://www.rand.org/pubs/conf_proceedings/CF369.html>.

Melbourne Graduate School of Education 2019, *A submission to the Review of the Melbourne Declaration*, June 18, Education Council, viewed 21 November 2019, <https://www.reviewmelbournedeclaration.edu.au/have-your-say/view/sbm09ff65431b1661689210f>.

OECD 2019d, *Trends shaping education 2019*, OECD Publishing, Paris, <https://doi.org/10.1787/trends_edu-2019-en>.

Schleicher, A 2018, *Valuing our teachers and raising their status: how communities can help*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 18 September 2019, <https://doi.org/10.1787/9789264292697-en>.

Thomson, S 2015, 'Australian Students in a Digital World', *Policy Insights*, no. 3, viewed 17 September 2019, <https://research.acer.edu.au/homepage_mix/59>.

Trust, T 2018a, '2017 ISTE Standards for Educators: from teaching with technology to using technology to empower learners', *Journal of Digital Learning in Teacher Education*, vol. 34, no. 1, pp. 1–3, <https://doi.org/10.1080/21532974.2017.1398980>.

Trust, T 2018b, 'Why do we need technology in education?', *Journal of Digital Learning in Teacher Education*, vol. 34, no. 2, pp. 54–55, <https://doi.org/10.1080/21532974.2018.1442073>.

Standards

Australian Institute for Teaching and School Leadership (AITSL) 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

International Society for Technology in Education (ISTE) 2017, *ISTE Releases New Standards for Educators to Maximize Learning for All Students Using Technology*, June 25, ISTE, viewed 18 September 2019, <https://www.iste.org/explore/Press-Releases/ISTE-Releases-New-Standards-for-Educators-to-Maximize-Learning-for-All-Students-Using-Technology>.

--n.d., *ISTE Standards for Educators*, ISTE, viewed 27 November 2019, <https://www.iste.org/standards/for-educators>

Teacher Competency Standards Framework (TCSF): beginning teachers: Myanmar 2017, draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

3.3 Early childhood education and care

In March 2019, education ministers, union leaders and other teacher leaders across the OECD met for the annual International Summit of the Teaching Profession. For the first time, the Summit focused on Early Childhood Education and Care (ECEC), signifying the importance of ECEC across the globe for giving all children a strong start to life. As Stewart's (2019, p. 27) report of the Summit noted:

> *Whatever the barriers, it is clear that early childhood education is on the move. Countries are shifting from episodic efforts to more durable commitments to early childhood learning, and there is an emerging new zeitgeist in how societies are thinking about their responsibilities for young children.*

3.3.1 Description

Early childhood is generally understood as the period from birth to the commencement of formal schooling, broadly covering children aged 0 - 5 years (Pascoe & Brennan 2017) while in some documentation this range includes 0 – 8 years in reference to the classification of early childhood development. According to Schleicher (2019), ECEC refers to services providing care and education for children under compulsory school age. Early childhood education distinguishes itself from school education and refers specifically to the services that support early childhood learning by a qualified early childhood educator (Schleicher 2019; Pascoe & Brennan 2017). Recognition of a quality ECEC workforce as key to a child's long-term learning, development and wellbeing has gained significant momentum. The Australian Children's Education and Care Quality Authority (ACECQA) which was developed to support governments to implement the National Quality Framework (NQF) acknowledge that early childhood teachers have approved qualifications to work with children from birth to five years (ACECQA 2018). The results of the first Starting Strong Teaching and Learning International Survey (TALIS Starting Strong) of early-career staff released in late 2018 and the growing body of research in the ECEC field have added to an international perspective of the early career educators' workforce and will have a significant influence on policy reforms now and into the future.

3.3.2 Sources

Table 3.3-1 displays key sources identified related to ECEC in policy, research and practice.

Table 3.3-1 Overview of key sources that include a focus on ECEC

Source type	Key sources
Policy	AITSL (2018a)
	Alice Springs (Mparntwe) Education Declaration (Education Council 2019a)
	ACECQA (2018)
	Gonski (DET 2018)
	NCEE (2018, 2019)
	OECD (Schleicher 2019)
	OECD (Schleicher 2018)
	OECD (2017d)
	OECD (n.d.-a)

Source type	Key sources
	Pascoe & Brennan (2017)
	TALIS (OECD n.d.-b)
Journals/conferences	Cloney, Jackson & Mitchell (2019)
	Cloney, Cleveland, Hattie & Tayler (2016)
	Cloney, Tayler, Hattie, Cleveland & Adams (2016)
	Diaz-Diaz, Semenec and Moss (2019)
	Jackson, Ahmed, Carslake & Lietz (2019)
	Kagan ed. (2018, 2019)
	Krakouer, Mitchell, Trevitt and Kochanoff (2017)
	Reid (2016)
	Stewart (2019)
	Tayler (2018)
Other (inc. grey literature)	Evidence for Learning (2019a)
	Review of the Melbourne Declaration Submissions (2019)
International teacher standards	Refer to Table 3.3-1

3.3.3 Current and changing landscape

Changes in the last decade

Increased recognition of the importance of early childhood education to the life chances and to the later educational outcomes of children has dominated discussion over the last decade (AITSL 2019; Schleicher 2018, 2019; Pascoe & Brennan 2017). With significant insights into brain development in the early years, research has shown that quality ECEC is important for laying the foundations for children's life-long learning, tackling educational disadvantage (particularly to vulnerable populations), and promoting greater economic prosperity (Cloney, Tayler, Hattie, Cleveland & Adams 2016; Krakouer, Mitchell, Trevitt & Kochanoff 2017; Schleicher 2019; Tayler 2018).

Advancements in research have had a significant impact on policy reform. The Early Advantage report (Kagen ed., 2018) acknowledges there has been significant work in early childhood policy, practice and service delivery internationally over the last decade. However, according to Andreas Schleicher, the OECD's Director for Education and Skills, an insufficient knowledge base of what makes provision effective has left services fragmented and policymakers clueless about how to target scarce resources (Kagen ed. 2018). Schleicher notes that the Early Advantage report has made a substantial contribution to the field of ECEC to help establish a systematic understanding of the pillars that underpin its success.

In Australia, ECEC reforms over the past decade have been substantial and supported by significant effort and investments from all governments (Pascoe & Brennan 2017). This has included universal access to early childhood education for all children in the year before school, the establishments of the Australian Children's Education and Care Quality Authority (ACECQA) and the National Quality Framework (NQF) to provide consistency and quality assurance measures in all Australian ECEC settings. Under the NQF, the first national ECEC curriculum document, Belonging, Being and Becoming: The Early Years Learning Framework for Australia (EYLF) (2009), takes a child-focused, holistic approach, and promotes intentional teaching and play-based learning. It describes the principles, practices and outcomes that support and enhance young children's

learning from birth to five years of age, as well as their transition to school. The EYLF was developed to guide curriculum planning and decision-making for all services regulated under the NQF, setting common outcomes and supporting continued pedagogical refinements within early childhood programs. These advancements in research, policy and practice have fuelled a commitment to the professionalisation of early career educators and the growing recognition of the importance of the inclusion and development of quality ECEC teachers within the education workforce. However, despite reforms in recent years wages in the childcare sector are still low and many child care educators feel undervalued (Tayler 2018).

Relevance to learning and teaching; issues, debates, implications

Various studies have highlighted the importance of ECEC and its relevance to learning and teaching. An examination of the relationship between early childhood education and academic performance of students at age 15 found:

- students who attended ECEC outperformed students who had not

- a child who has no pre-primary education is nearly twice as likely to perform poorly in education as a child who has attended more than one year of pre-primary education

- two years of early childhood education is the minimum duration needed to have a good chance of reaching a good level of performance at age 15 (Pascoe & Brennan 2017).

These findings have implications for Australia given that it has one of the widest ranges of student achievement according to international OECD standards, including a long tail of underachievement (Thomson, De Bortoli & Underwood 2016) and it is below the OECD average in terms of both investment in early childhood education and participation in early childhood education (Pascoe & Brennan 2017).

The importance of ECEC and supporting a skilled early childhood educator workforce is highlighted in the *Effective Early Educational Experiences (E4Kids)* study. As Australia's most extensive longitudinal study on the impact of ECEC, this study found among the four quality domains that measured ECEC settings, teachers' instructional support was significantly lower (1.51 out of 7) than the other domains of quality (Cloney et al. 2016). Highly trained educators contribute to the quality of ECEC, and under the NQF, the training of the ECEC workforce has been a priority. Developments have included the registration of ECEC providers against quality assurance measures and specified qualification and training requirements of ECEC educators.

According to Tayler (2019) challenges still exist regarding the quality of training that some early childhood educators have received through registered training organisations (RTOs), and the structures surrounding pay and conditions within ECEC centres, creating a climate in which educators are rarely rewarded for completing further study or achieving higher qualifications. Continued differentiation between early childhood teachers employed in the school sector, and educators in centre and community-based ECEC is problematic in terms of workforce development, professionalisation and mobility.

While professional development is advocated by agencies, providers, and researchers as necessary to improve ECEC programs, limited resources nationally have been assigned for professional development (Tayler 2018). Despite rhetoric about the expertise of early childhood educators, and the value of specific pedagogy adopted for early learners, professional development is often focused on compliance and leads to "compliant early childhood educators who focus on how to

meet quality accreditation requirements (and not critique the standards they are required to address)" (Sims & Waniganayake 2015, p. 334). The position of early childhood educational leader was established to drive quality improvement requirements of the reform. However, Sims et al. (2018) found a lack of clear role descriptions and authority made it difficult for educational leaders to fulfil the expectations held of them, and "many are currently focusing on compliance with their street-level bureaucracy" (p. 960).

Influencing policy directives

Australia's early childhood education system has been guided by two core objectives—workforce participation and child development. According to Tayler (2018), a cohesive vision for this system requires grappling with how to optimise outcomes on both sides of this equation. Since the mid-2000s there has been greater policy recognition of the contribution of early childhood staff to young children's development with the introduction of significant reforms including the ACECQA, NQS and EYLF setting consistent laws and regulations for higher standards for ECEC quality (Tayler 2018).

Within Australia, each state and territory has its own regulatory authority regarding ECEC, overseen by the national Australian Children's Education and Care Quality Authority (ACECQA). Trained inspectors from the regulatory authorities monitor centres' performance against the NQS. Centre ratings are publicly available, and centres must develop and implement quality improvement plans based on their quality ratings. Tayler (2018) notes the divide between education and care services is evident in service delivery and quality, despite education and care provision being integrated under NQF policy. The participation rate for preschool programs, which are universally available in the year before school, is 95.1% while children in at-risk groups are generally underrepresented in ECEC programs, presenting an ongoing challenge for ECEC reforms and service delivery.

Although all primary and secondary teachers employed across Australia are required to be registered with their state registration authority, it has only been recently that early childhood teachers have been considered within this system (Tayler 2018). A recent national push for a unified system of teacher registration that requires early childhood teachers to register and meet the requirement of the teaching profession has been welcomed as early childhood teachers achieve compensation parity with primary and secondary teachers. *One Teaching Profession: Teacher Registration in Australia* (AITSL 2018a) has provided the following recommendations: that all early childhood teachers in Australia, regardless of their employment setting, be registered by teacher regulatory authorities, under a consistent national approach; and that the Australian Professional Standards for Teachers be amended to ensure their relevance and applicability to early childhood teachers.

Conclusion

The importance of early childhood education and care has taken a prominent position in recent policy reform. The recognition of supporting a quality, stable and professional workforce has led a national pursuit to have one teaching profession in Australia with the vision to enhance the life chances of all children.

3.3.4 Examples in teacher standards

Since the Standards were introduced there has been significant reform in the development of ECEC. The increased recognition of the importance of ECEC has been reflected by AITSL and other state documentation, illustrating examples of practice in early childhood against the Standards

to assist accreditation, registration, certification and professional development requirements. Examples include:

- NSW Proficient Teacher Evidence Guide (Early Childhood Teachers) (NESA n.d.)
- QLD Evidence Guide for Early Childhood (QCT n.d.)
- AITSL curriculum and pedagogy in the Early Years (AITSL n.d.)

Table 3.3-2 presents three examples of the ways ECEC has been specifically included in teacher standards at the international level.

Table 3.3-2 Examples of the ways early childhood is included in teacher standards internationally

Standards	Country	Example
Myanmar Teacher Competency Standards (Teacher Competency Standards Framework 2017)	Myanmar	The Framework explains what each of the competency standards means for teachers of different stages of schooling. It aims to provide guidance for teachers on the unique features and the central tasks of good teaching for different stages of schooling. These include specific standards for kindergarten, primary, secondary and upper secondary teachers.
		Kindergarten teachers are early childhood development specialists. They understand the importance of the Kindergarten years for developing young students' capacities to learn through guided exploration and play. They have genuine desire to see all children learn and display patience as they seek to support each student's cognitive, emotional and physical development. They recognise the importance of making connections between the Kindergarten classroom and the real world of the students, and do so by integrating thematically within stories and games basic literacy skills required for a successful transitioning to the early grades of school.
Saudi Arabia 2014 (Al-Saud, FAA-M & Alsadaawi, AS 2018)	Saudi Arabia	The generic standards include matters such as knowledge of learning, supporting the student's learning pathways, and professional responsibility while the subject matter standards were developed outlining 22 disciplines including early childhood education
		Professional Knowledge
		Standard 3. Understanding the central concepts, methods of inquiry, structures of the discipline, and pedagogy specific to the discipline

Standards	Country	Example
Teachers' Standards (Early Years) (National College for Teaching & Leadership, 2013)	United Kingdom	This document sets out early years teachers' standards (from birth to 5 years) and includes early years foundation stage assessment guidelines

3.3.5 Further questions/research agenda

This section has highlighted a stronger emphasis on ECEC and raises questions and a possible research agenda for future consideration:

- How does a nationally consistent approach to teacher standards support and improve the quality of early childhood teaching?

- How might the standards better reflect the work of *all* educators, as children and young people progress throughout all stages of education?

- What is the evidence base around ECEC teaching and learning practices? How do they support children's development?

- How do we increase the capacity of educators and teachers to design effective programs and to intervene when young preschool children are not progressing well?

- How can ECEC staff be supported to develop their practice through access to high quality professional learning?

- What can policy do to help attract, retain and develop qualified ECEC staff?

- What does quality teaching and learning look like in early childhood centres, particularly for children under the age of three? What are the qualifications and practices of staff that work in these settings, and how do they differ from services for older children?

3.3.6 End of section references

Listed below are key references used to inform this section.

Australian Children's Education and Care Quality Authority (ACECQA) 2018, *Guide to the National Quality Framework*, ACECQA, Sydney, viewed 20 November 2019, <https://www.acecqa.gov.au/nqf/about/guide>.

Australian Institute for Teaching and School Leadership (AITSL) 2018, *One teaching profession: teacher registration in Australia*, Education Services Australia, Melbourne, viewed 20 November 2019, <https://www.aitsl.edu.au/docs/default-source/national-review-of-teacher-registration/report/one-teaching-profession---teacher-registration-in-australia.pdf>.

Australian Institute for Teaching and School Leadership (AITSL) 2019, *A submission to the Review of the Melbourne Declaration*, June 14, Education Council, viewed 21 November 2019, <https://www.reviewmelbournedeclaration.edu.au/have-your-say/view/sbm09ea2b421d1262792c048>.

Australian Institute for Teaching and School Leadership (AITSL) n.d., *Curriculum and pedagogy in the early years*, Illustrations of practice, AITSL, Melbourne, viewed 21 November 2019, <https://www.aitsl.edu.au/tools-resources/resource/curriculum-and-pedagogy-in-the-early-years-illustration-of-practice>.

Belonging, being & becoming - the early years learning framework for Australia 2009, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/documents/belonging-being-becoming-early-years-learning-framework-australia>.

Cloney, D, Cleveland, G, Hattie, J & Tayler, C 2016, 'Variations in the availability and quality of early childhood education and care by socioeconomic status of neighborhoods', *Early Education and Development*, vol. 27, no. 3, pp. 384–401, <https://doi.org/10.1080/10409289.2015.1076674>.

Cloney, D, Jackson, J & Mitchell, P 2019, *Assessment of children as confident and involved learners in early childhood education and care: literature review*, Victorian Curriculum and Assessment Authority, Melbourne, viewed 20 November 2019, <https://research.acer.edu.au/early_childhood_misc/11>.

Cloney, D, Tayler, C, Hattie, J, Cleveland, G & Adams, R 2016, 'The selection of ECEC programs by Australian families: quality, availability, usage and family demographics', *Australasian Journal of Early Childhood*, vol. 41, no. 4, pp. 16–27, <https://doi.org/10.1177/183693911604100403>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Diaz-Diaz, C, Semenec, P & Moss, P 2019, 'Editorial: opening for debate and contestation: OECD's International Early Learning and Child Well-being Study and the testing of children's learning outcomes:', *Policy Futures in Education*, vol. 17, no. 1, pp. 1–10, <https://doi.org/10.1177/1478210318823464>.

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration*, Education Council, Carlton South, Australia, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

Evidence for Learning 2019a, *Australasian research summaries: a summary of the Australasian research and evidence on each of the 12 approaches in the Early Childhood Education Toolkit*, Evidence for Learning, viewed 20 November 2019, < https://evidenceforlearning.org.au/the-toolkits/early-childhood-education-toolkit/australasian-research-summaries>.

Jackson, J, Ahmed, SK, Carslake, T & Lietz, P 2019, *Improving young children's learning in economically developing countries: what works, why, and where? Scoping review*, viewed 22 November 2019, <https://research.acer.edu.au/monitoring_learning/38>.

Kagan, SL (ed.) 2018, *The early advantage 1—early childhood systems that lead by example: a comparative focus on international early childhood education*, Teachers College Press, New York NY & National Center on Education and the Economy, Washington DC.

Kagan, SL (ed.) 2019, *The early advantage 2—building systems that work for young children: international insights from innovative early childhood systems*, Teachers College Press, New York NY, & National Center on Education and the Economy, Washington DC.

Krakouer, J, Mitchell, P, Trevitt, J & Kochanoff, A 2017, *Early years transitions: supporting children and families at risk of experiencing vulnerability: rapid literature review*, Victoria State Government Department of Education, East Melbourne, viewed 20 November 2019, <https://research.acer.edu.au/early_childhood_misc/9>.

Reid, K 2016, *Counting on it: early numeracy development and the preschool child*, Australian Council for Educational Research, Camberwell, viewed 21 November 2019, <https://research.acer.edu.au/learning_processes/19>.

Review of the Melbourne Declaration: submissions 2019, Education Council, viewed 20 November 2019, <https://www.reviewmelbournedeclaration.edu.au/submissions>.

OECD 2017d, *Starting strong 2017: key OECD indicators on early childhood education and care*, Starting strong, OECD Publishing, Paris, viewed 21 November 2019, <https://doi.org/10.1787/9789264276116-en>.

OECD n.d.-a, *International Early Learning and Child Well-being Study*, OECD, France, viewed 21 November 2019, <http://www.oecd.org/education/school/international-early-learning-and-child-well-being-study.htm>.

--n.d.-b, *OECD Starting Strong Teaching and Learning International Survey*, OECD, viewed 21 November 2019, <http://www.oecd.org/education/school/oecd-starting-strong-teaching-and-learning-international-survey.htm>.

Pascoe, S & Brennan, D 2017, *Lifting our game: report of the review to achieve educational excellence in Australian schools through early childhood interventions*, December, viewed 21 November 2019, < https://education.nsw.gov.au/early-childhood-education/whats-happening-in-the-early-childhood-education-sector/lifting-our-game-report/Lifting-Our-Game-Final-Report.pdf>

Schleicher, A 2018, *Valuing our teachers and raising their status: how communities help*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 18 September 2019, <https://doi.org/10.1787/9789264292697-en>.

Schleicher, A 2019, *Helping our youngest to learn and grow: policies for early learning*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 21 November 2019, <https://doi.org/10.1787/9789264313873-en>.

Sims, M & Waniganayake, M 2015, 'The performance of compliance in early childhood: Neoliberalism and nice ladies', *Global Studies of Childhood*, vol. 5, no. 3, pp. 333–345, viewed 24 February 2020, <http://journals.sagepub.com/doi/10.1177/2043610615597154>.

Sims, M, Waniganayake, M & Hadley, DF 2018, 'Educational leadership: An evolving role in Australian early childhood settings', *Educational Management Administration & Leadership*, vol. 46, no. 6, pp. 960–979, viewed 2 February 2020, <http://journals.sagepub.com/doi/10.1177/1741143217714254>.

Stewart, V 2019, *The future of teaching and learning: International Summit on the Teaching Profession 2019,* Helsinki, Finland, March 14-15, Asian Society, viewed 21 November 2019, <https://asiasociety.org/sites/default/files/inline-files/FINAL%20REPORT%20FINLAND%202019%5B2%5D_0.pdf>.

Tayler, C 2019, 'Australia: maintaining the reform momentum: a case study of the Australian early childhood education and care system', in, *The early advantage: international case studies of early childhood education and care systems*, viewed 21 November 2019, <http://ncee.org/wp-content/uploads/2019/05/Australia-Case-Study-for-NCEE-052019.pdf>.

Thomson, S, De Bortoli, L & Underwood, C 2016, *PISA 2015: a first look at Australia's results*, Australian Council Educational Research, Melbourne, viewed 21 November 2019, <https://research.acer.edu.au/ozpisa/21>.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for Educational Assessment*, viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute of Teaching and School Leadership 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

National College for Teaching & Leadership 2013, Teachers' Standards (Early Years): from September 2013, July, viewed 19 November 2019, https://www.gov.uk/government/publications/early-years-teachers-standards

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

NSW Education Standards Authority n.d., *Proficient teacher evidence guide: early childhood teachers*, NESA, Sydney, viewed 22 November 2019, <https://educationstandards.nsw.edu.au/wps/wcm/connect/5b21b98c-116b-4f2e-a386-56e77c48f5a8/bostes-proficient-teacher-evidence-guide--early-childhood-teachers.pdf?MOD=AJPERES&CVID=>.

Queensland College of Teachers (QCT) n.d., *Transition to full registration: an evidence guide for early childhood teachers*, QCT, Brisbane, viewed 22 November 2019, <https://cdn.qct.edu.au/pdf/EvidenceGuideEarlyChildhood.pdf?_ga=2.22720382.430740182.1570494777-461310628.1563256615>.

3.4 General capabilities and Cross-curriculum priorities

Curriculum is integral to teachers' work. For many Australian teachers, the Australian Curriculum provides the framework for their teaching. The Australian Curriculum has three dimensions: 1) learning areas; 2) cross-curriculum priorities, and 3) general capabilities (*The Shape of the Australian Curriculum. Version 4.0* 2013). Teachers have traditionally developed their knowledge of content, and how to teach it, within a Learning Area framework. This section focuses on the other two dimensions, the Cross-Curriculum Priorities, and General Capabilities, and considers issues these may raise for teachers' practice.

3.4.1 Description

The general capabilities term is synonymous with words such as attributes, capabilities, transversal skills, competencies, or generic or 'soft' skills. Often referred to as '21st century skills', the list is extensive. While the development of these skills is sought by education systems worldwide, a clear definition is required if teachers are to be able to teach or assess it well (Lucas 2019; Milligan, Kennedy & Israel 2018).

In addition to learning area content, Australian teachers are asked to address three Cross-curriculum priorities and seven General Capabilities. Given the Australian Curriculum's three-dimensional structure, what is it that Australian teachers are asked to know and to teach, in addition to learning area content?

There are three Cross-curriculum priorities that "deserve particular attention in the Australian Curriculum" (ACARA 2012). These are:

- Aboriginal and Torres Strait Islander histories and cultures
- Asia and Australia's engagement with Asia
- Sustainability

There are seven General Capabilities specified in the Australian Curriculum that encompass "knowledge, skills, behaviours and dispositions" (ACARA 2017) namely:

- Literacy
- Numeracy
- Information and Communication Technology (ICT) Capability
- Critical and Creative Thinking
- Personal and Social Capability
- Ethical Understanding
- Intercultural Understanding

Learning continua have been developed for each capability that describes the relevant knowledge, skills, behaviours and dispositions at stages of schooling (ACARA 2017). To address these priorities and capabilities, teachers in states using the Australian Curriculum need to consider specific continua for each or to consider where their school or system indicates there are intersections between learning areas and particular cross-curriculum priorities and general capabilities. This goes to the scope question for teachers. What do they teach, why do they teach cross-curriculum priorities and general capabilities, and how do they teach these?

3.4.2 Sources

Table 3.4-1 displays key sources related to general capabilities identified in policy and research.

Table 3.4-1 Overview of key sources that include a focus on general capabilities

Source type	Key sources
Policy	ACARA (2011)
	ACARA (2012)
	ACARA (2013)
	ACARA (2017)
	ACARA (2018b)
	ACCI & BCA (2002)
	AITSL (2011)
	Alice Springs (Mparntwe) Education Declaration (Education Council 2019a)
	DET (2018)
	NSW Education Standards Authority (2019)
	Mayer Committee (1992)
	Melbourne Declaration (2008)
	Review of the Australian Curriculum (2014)
	Tehan (2018)
	VCAA (2015a)
	VCAA (2015b)
Journals / conferences	Scoular (2018)
	Ananiadou & Claro (2009)
	Bjorklund-Young (2016)
	Care & Kim (2018)
	Care et al. (2017)
	Clarke & Hughes (2019)
	Gilbert (2019)
	Griffin, McGaw & Care (2012)
	Hipkins, MacDonald & Whatman (2018)
	Lamb, Maire & Doecke (2017)
	Lucas (2019)
	Lucas and Smith (2018)
	McLeod & Graber (2018)
	Milligan, Kennedy & Israel (2018)
	Moyle (2010)
	Randall (2019)
	Scarino (2018)
	Weldon (2019)
	Wylie, McDowall & Ferral (2019)
Other (inc. grey literature)	APPA (2014)
	Boss (2019)
	Foundation for Young Australians (2018)
	World Economic Forum. (2016)
	Zhao 2012

Source type	Key sources
International teacher standards	Refer to Table 3.4-4

3.4.3 Current and changing landscape

Changes in the last decade

As seen in Table 3.4-2, the *Australian Curriculum* (2010) and the *Australian Professional Standards for Teachers* (2011) were in development concurrently. While endorsed at roughly the same time by the Ministerial Council of the day, the development process for each was run in parallel, and there was a limited connection between the two projects. According to ACARA (2011), the general capabilities and cross-curriculum priorities were informed by the *Melbourne Declaration of Educational Goals for Young Australians* (2008). The *Melbourne Declaration* itself came out following a decade of interest in the Mayer key competencies (Gilbert 2019) and employability skills (Weldon 2019).

Australia was not alone in these changes, and the education community at that time was no doubt also influenced by the international movement invested in development of '21st century' or transversal skills (Ananiadou & Claro 2009). By 2017, a Brookings report shows almost 90 countries had incorporated mention of 21st Century skills in their education policies, if not in their curriculum, with the four most common skills being creativity, communication, problem-solving and critical thinking (Care et al. 2017). Table 2 shows some key influences in this space.

Table 3.4-2 History of capabilities and skills focus in school education

1992	Mayer key competencies report	
2002	Australian Chamber of Commerce & Industry and Business Council of Australia employability skills	Partnership for 21st Century Skills (later Learning) P21 Consortium
2008	*Melbourne Declaration of Educational Goals for Young Australians*	
2009		*21st Century Skills and Competences for New Millennium Learners in OECD Countries* (OECD)
2010	*Australian Curriculum Version 1*	*Assessment and Teaching of 21st Century Skills* project (ATCS21)
2011	*Australian Professional Standards for Teachers*	
2012		
2014	Review of the Australian Curriculum	
2017	Australian Curriculum strengthens General Capabilities (version 8.3)	*Skills for a Changing World* (Brookings)
2019	*Alice Springs (Mparntwe) Education Declaration*	

Source: Adapted from Weldon 2019

This is a common theme in the literature on 21st century skills and highly relevant in the context of the Australian Curriculum. Masters (NSW Education Standards Authority 2019) points out that "teaching and assessing a capability requires clarity about what higher levels of that capability look like….and the nature of their development tend to be inadequately defined" (p. 54).

So why were these three cross-curriculum priorities and seven general capabilities specified for the Australian Curriculum? It is only natural that teachers ponder the rationale for the inclusion of these particular cross-curriculum priorities and capabilities out of so many possibilities. Why did the Victorian Curriculum F-10 (VCAA 2015b) opt to reduce the number of capabilities to four, and to embed the cross-curriculum priorities?

While it is out of scope to rehearse the history of the Australian Curriculum in any depth, it is fair to say that there was extensive review and consultation leading to the Melbourne Declaration and the Australian Curriculum (Randall 2019). It is helpful to see this in the light of Kay's summing up of the history of the 21st-century learning movement, as having three stages:

1. Defining: generating a laundry list of skills and competencies considered essential for students' future success

2. Communicating: condensing those 20-plus competencies into more memorable sets, such as 7 General Capabilities, 4Cs: communication, collaboration, critical thinking, and creativity

3. Empowering: designing what works for a specific community, leading to "an abundance of frameworks, assessments, and semantic labels as different organizations put their spin on what's worth knowing." (Kay, in Boss 2019).

Thus, it is not necessarily the precise list of priorities and capabilities that are of prime importance, but the principle that there are non-discipline-based capabilities that should be considered in the development of curriculum.

However, this is not a universally-held principle. Scarino (2018) observes that the "relationships between learning areas and general capabilities has become overly polarised" (p. 24), and Masters (NSW Education Standards Authority 2019) refers to a 'knowledge-skills tension', "with some advocating the prioritisation of general capabilities over subject knowledge, and others rejecting the 'skills movement' in favour of traditional disciplinary knowledge" (p. 54).

While teachers and policymakers have been focussed on curriculum change in the past decade, it is important to recognise that there has also been growth in the science of learning research in this period, leading to an expansion in disciplinary and interdisciplinary knowledge (Scarino 2019, p. 21).

It must be acknowledged also that significant work is underway into defining and assessing cross-curriculum priorities and general capabilities (Clarke & Hughes 2019; Griffin, McGaw & Care 2012; Scoular 2018).

Relevance to learning and teaching; issues, debates, implications

Teachers and others endorse the relevance and importance of the general capabilities (Review of the Australian Curriculum 2014). A focus on 21st century skills over the past decade, suggests:

- Young people with "enterprise skills" – such as problem-solving, communication and team work – make a faster transition to full-time work (Foundation for Young Australians 2018).
- Capabilities are the skills employers are looking for (World Economic Forum 2016).
- Capabilities improve our ability to learn (Bjorklund-Young 2016) and are required for lifelong learning (Lucas & Smith 2018).

However, a focus does not necessarily translate into consistent, coherent teaching. One issue causing confusion for teachers is the confusing instructions and advice around the implementation of cross-curriculum priorities and general capabilities. On the one hand, "teachers are expected to teach and assess general capabilities to the extent that they are incorporated within learning area content" (ACARA 2017). On the other hand, "state and territory education authorities will determine if and how student learning of the general capabilities is to be further assessed or reported" (ACARA 2017). The initial documents that ACARA provided with learning area-specific advice for each of the seven capabilities contained just two paragraphs per capability for each learning area.

Care and Kim (2018) see implementation as an issue globally, with a lack of knowledge disseminated to teachers about the development of these skills. Thus, despite the intense focus on 21st century skills over the past decade, they found limited evidence of translation into practice in classrooms. It seems that "aspirations at policy level do not necessarily indicate that these skills are being learned and taught in schools and classrooms" (p. 71). It is fair to say that in Australia also, systems, schools and teachers have focussed primarily on the implementation of learning area curriculum, rather than on the cross-curriculum priorities and general capabilities.

Given that these two areas represent a more significant area of curriculum change for teachers than learning area curriculum, it raises questions about the impact on teachers' own knowledge, skills and practice. It is not just students that require 21st century skills. To be effective, their teachers also need "the capacity to be curious, creative, adaptive, and disciplined" (Wylie, McDowall & Ferral 2019 p. 32). Developing skills of creative and critical thinking requires students to learn and importantly, practise these skills, and then to apply them in real-world scenarios. This change requires teachers to work with a wider repertoire of pedagogies, and particularly active pedagogies (Hipkins, Macdonald & Whatman 2018).

Along with a lack of definition about exactly what the cross-curriculum priorities and general capabilities are, there is limited consensus on how best to approach their teaching. "Frameworks provide mental models, but don't usually help educators know what to do differently" (McLeod & Graber 2018). Teachers need help to redesign their teaching to emphasise goals such as critical thinking, authenticity, and conceptual understanding.

There is uncertainty as to whether these skills should be embedded or integrated into the curriculum. The Victorian Curriculum F-10 opted to embed the cross-curriculum priorities (VCAA 2015a) but to promote four general capabilities to equal status with learning areas. It positions Critical and Creative Thinking, Ethical; Intercultural; and Personal and Social as "areas of learning in their own right rather than simply indicating how they might be drawn out in different learning areas" (VCAA 2015b). Some commentators suggest that curriculum integration provides "opportunities to use the connections between different learning areas for the purposes of developing greater efficiency in curriculum delivery and offering more coherent learning experiences" (Hipkins & Springer 2019 p. 21). Moyle (2010) acknowledges that this kind of interaction is a challenge, meaning teachers are faced with a matrix approach to curriculum planning. Care and Kim (2018) point out that acquisition of skills is different from the acquisition of knowledge, and they advocate a more direct teaching approach for 21st century skills.

> *Rather than assume these skills will develop through the years of formal education, the demand is for these skills to be addressed explicitly (Care & Kim 2018, p. 67).*

Influencing policy directives

The Gonski review (DET 2018) makes several references to general capabilities within the context of the role of schools in ensuring students have the skills to thrive in a rapidly changing world.

> *More jobs will require a higher level of skill, and more school leavers will need skills that are not easily replicated by machines, such as problem-solving, interactive and social skills, and critical and creative thinking* (p. ix)*.*

The final review report expresses the view that "general capabilities need to be at the core of our curriculum and teaching practice" (p. 38) and recommends placing increased emphasis on teaching general capabilities in the F-10 Australian Curriculum (p. xi). It states, however that the adequacy of the current list of General Capabilities should be considered 'in light of contemporary thinking' (p. 41).

While not indicating what might change from the existing set of capabilities, there is a reference to 'critical and creative thinking, personal and social capability' (p. xii). Revising the structure of the Australian Curriculum to present the general capabilities as learning progressions is seen as a way of raising their status within curriculum delivery (p. xiii). There is no question that the Gonski review sees value in the general capabilities, but that they need to be more effectively translated from the Australian Curriculum into the classroom (p. 27).

For the past decade, the 2008 *Melbourne Declaration* has been the policy document underpinning the general capabilities. It spoke of world-class curriculum that contains "general capabilities that underpin flexible and analytical thinking, a capacity to work with others and an ability to move across subject disciplines to develop new expertise" (p.13). In particular,

> *the curriculum will support young people to develop a range of generic and employability skills that have particular application to the world of work and further education and training, such as planning and organising, the ability to think flexibly, to communicate well and to work in teams. Young people also need to develop the capacity to think creatively, innovate, solve problems and engage with new disciplines* (p. 13).

A recent policy review, keenly anticipated for its potential impact in this area, is the replacement of the *Melbourne Declaration.* The *Alice Springs (Mparntwe) Education Declaration* released in 2019 retains the strong statements on the importance of the cross-curriculum priorities and general capabilities that were present in its predecessor. "These learning areas, along with general capabilities, are critical to equip students with the knowledge, skills and confidence to actively contribute to society and Australia's economic prosperity" (p. 15). In particular, it names capabilities such as ICT, critical and creative thinking, intercultural understanding and problem-solving, as well as community engagement, and sustainability. "These skills support imagination, discovery, innovation, empathy and developing creative solutions to complex problems. They are central to contributing to Australia's knowledge-based economy" (p. 15).

The policy position highlighted above advocates strengthening the teaching and assessing of cross-curriculum priorities and general capabilities. This must be balanced against other possible policy futures. The crowded curriculum is a common theme amongst teachers and principals (APPA 2014; NSW Education Standards Authority 2019), and one that is also gaining traction in political discourse (Tehan 2019). The findings of the *Review of the Australian Curriculum* (2014) highlighted this as a key issue, particularly in the primary years. It called for embedding teaching and learning

about Aboriginal and Torres Strait Islander histories and cultures, Asia and Australia's engagement with Asia, and sustainability "explicitly, and only where educationally relevant, in the mandatory content of the curriculum" (p. 7). In terms of the general capabilities, it distinguished between literacy, numeracy and ICT as they are currently addressed in the Australian Curriculum; and the four remaining general capabilities: critical and creative thinking, personal and social capability, ethical understanding and intercultural understanding. These should be "embedded only in those subjects and areas of learning where relevant and where they can be dealt with in a comprehensive and detailed fashion" (p. 7). It is possible that reducing the importance of cross-curriculum priorities and general capabilities may be considered as a convenient policy lever to 'solve' curriculum overcrowding.

Just as important as any refinement of the list of cross-curriculum priorities and general capabilities, is more consistent and connected policy on implementation and assessment of these priorities and capabilities. Gilbert (2019) is not surprised there is such uncertainty around the nature, role and implementation of general capabilities given their relatively short history. Given the speed at which knowledge and society are changing, teachers are addressing new initiatives constantly, including change in curriculum. As Lamb, Maire and Doecke (2017) point out, "successful policy implementation needs to be accompanied by strategic investment in building the capacity of all teachers, across school and classroom contexts" (p. 4).

Conclusion

While not specifically referenced in the *Australian Professional Standards for Teachers* (AITSL 2011), the cross-curriculum priorities and general capabilities raise real tensions for teachers' professional practice in terms of their priorities in teaching, and the influence on scope and structure of the curriculum. Beyond the question of whether teachers have the content knowledge, and know how to teach specific content and skills related to cross-curriculum priorities and general capabilities, there is an underlying current within this debate about how teachers manage curriculum and pedagogical change.

3.4.4 Examples in teacher standards

The *Australian Professional Standards for Teachers* (AITSL 2011) contain no specific mention of the Australian Curriculum's general capabilities and cross-curriculum priorities. However, as outlined in Table 3.4-3, the Standards include focus areas related to one of the cross-curriculum priorities, Aboriginal and Torres Strait Islander histories and cultures. There are also standards relevant to some of the General Capabilities, namely Focus Area 2.5: Literacy and numeracy strategies; and Focus Area 2.6 - Information and Communication Technology (ICT).

There is no specific reference to knowledge of content related to Asia and Australia's engagement with Asia; Sustainability; Critical and Creative Thinking; Personal and Social Capability; Ethical Understanding; and Intercultural Understanding, nor a statement about teachers' knowledge of how to teach these priorities and capabilities.

If general capabilities and cross-curriculum priorities are viewed as content knowledge, then they can be considered to be well covered under professional standards related to knowledge of and ability to teach curriculum content. However, for many teachers, these are not areas for which they have been trained, and it is less likely that they consider general capabilities and cross-curriculum priorities as part of this Standard unless they are specifically referenced.

Table 3.4-3 General capabilities reflected in the Australian Professional Standards for Teachers (AITSL 2011)

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
2. Know the content and how to teach it	2.4 Understand and respect Aboriginal and Torres Strait Islander people to promote reconciliation between Indigenous and non-Indigenous Australians	Provide opportunities for students to develop understanding of and respect for Aboriginal and Torres Strait Islander histories, cultures and languages.
2. Know the content and how to teach it	2.5 - Literacy and numeracy strategies	Apply knowledge and understanding of effective teaching strategies to support students' literacy and numeracy achievement.
2. Know the content and how to teach it	2.6 - Information and Communication Technology (ICT)	Use effective teaching strategies to integrate ICT into learning and teaching programs to make selected content relevant and meaningful.

Table 3.4-4 presents' examples of the ways general capabilities have been included in teacher standards internationally.

Table 3.4-4 Examples of the ways general capabilities are included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	1.3 Positive use of ICT 1.4 Strategies for promoting literacy and numeracy 1.5 Strategies for developing critical and creative thinking, as well as other higher-order thinking skills
Southeast Asia Teachers Competency Framework (Teachers' Council of Thailand 2018)	Southeast Asia	2.2.1.1 Use appropriate teaching and learning strategies to develop my students' creative, innovative, collaborative and critical thinking skills 2.2.1.3 Use ICT tools to support students learning
Chartered Teacher Professional Principles (Chartered College of Teaching 2019)	United Kingdom	7.3 Has detailed knowledge of the wider curriculum experience of children and young people, both within their own subject area / specialism and across the whole curriculum, and uses this to plan and structure lesson sequences 9.2 Ensures that children and young people, through engagement with subject content, also have the opportunity to develop knowledge and skills to support their wider learning and success, for example literacy, numeracy, oracy, and critical thinking where appropriate

Standards	Country	Example
Myanmar Teacher Competency Standards (Teacher Competency Standards Framework 2017)	Myanmar	A2.2 Demonstrate appropriate use of Information and Communication Technology (ICT) in teaching and learning
New Zealand Standards for the Teaching Profession (Teaching Council of New Zealand 2017)	New Zealand	4.1 Promoting and protecting the principles of human rights, sustainability and social justice 4.2 Demonstrating a commitment to a Tiriti o Waitangi based Aotearoa New Zealand 4.3 Fostering learners to be active participants in community life and engaged in issues important to the wellbeing of society.

Fiji Teacher Competency Standards (Competency standards frameworks for Tuvalu teachers competency standards implementation 2014)	Fiji	1.2. Promoting of student learning
		    1.2.5 provides opportunities for student collaboration and creative problem solving
		    1.2.8 use life-long skills to promote holistic learning
		1.4. Selecting and using resources
		    1.4.5. encourages the use of ICT to enhance learning

Saudi Arabia -2014 (Al-Saud, FAA-M & Alsadaawi, AS 2018)	Saudi Arabia	Mastering basic skills of literacy and numeracy

Graduand teacher competencies -2018 (*Recommendation II n.d.*)	Singapore	4. Cultivating Knowledge:
		    i. with subject mastery
		    ii. with reflective thinking
		    iii. with analytic thinking
		    iv. with initiative
		    v. with creative teaching
		    vi. with a future focus
		
		The teacher is committed to environmental sustainability, social justice and equity.
		The teacher is aware of the need to develop 21st century skills and values in his/her pupils.

3.4.5 Further questions/research agenda

This section raises questions and a possible research agenda for future consideration:

- Is it time to collect data to ascertain how teachers are implementing and assessing cross-curriculum priorities and general capabilities?

- How are initial teacher education providers incorporating development of cross-curriculum priorities and general capabilities in their curriculum, and placements?

- How are initial teacher educators modelling cross-curriculum priorities and general capabilities in their own approach?

- Are the additional four general capabilities not currently assessed as part of the National Assessment Program going to be added to this assessment program? If so, what will this mean for teachers and curriculum?

- How can we ensure the explicit promotion of skills, the requisite review of pedagogy and assessment methods for cross-curriculum priorities and general capabilities (Care & Kim 2018, p. 65)?

- To what extent do definitional issues hamper implementation and assessment of cross-curriculum priorities and general capabilities?

- What are the blockers to implementation of cross-curriculum priorities and general capabilities?

3.4.6 End of section references

Listed below are key references used to inform this section.

Ananiadou, K & Claro, M 2009, *21st century skills and competences for new millennium learners in OECD countries*, OECD education working papers, no. 41, viewed 12 December 2019, <https://doi.org/10.1787/218525261154>.

Australian Chamber of Commerce and Industry & Business Council of Australia 2002, *Employability skills for the future*. Department of Education, Science and Training, Canberra, viewed 20 December 2019, <https://www.voced.edu.au/content/ngv%3A12484>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2011, *General capabilities: consultation report*, viewed 12 December 2019, <https://docs.acara.edu.au/resources/General_Capabilities_-_Consultation_Report_-_December__2011.pdf>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2012, *Cross-curriculum priorities*, viewed 12 December 2019, https://docs.acara.edu.au/resources/Cross_Curriculum.pdf

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2017, *General capabilities: introduction,* viewed 12 December 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2018b, *About the Australian Curriculum,* viewed 12 December 2019, <https://australiancurriculum.edu.au/about-the-australian-curriculum>.

Australian Institute for Teaching and School Leadership 2011, *Australian Professional Standards for Teachers,* AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Australian Primary Principals Association (APPA) 2014, *The overcrowded primary curriculum : a way forward*, Australian Primary Principals Association, Canberra, viewed 20 December 2019, <https://www.appa.asn.au/wp-content/uploads/2015/08/Overcrowded-primary-curriculum.pdf>.

Boss, S 2019, It's 2019. So why do 21st-Century skills still matter? *EdSurge*, viewed 12 December 2019, <https://www.edsurge.com/news/2019-01-22-its-2019-so-why-do-21st-century-skills-still-matter>.

Bjorklund-Young, A 2016, *What do we know about developing students' non-cognitive skills?* Institute for Policy Johns Hopkins School of Education, Baltimore, viewed 12 December 2019, <https://edpolicy.education.jhu.edu/wp-content/uploads/2016/06/NoncognitiveskillsmastheadFINAL.pdf>

Care, E & Kim, H 2018,'The Explicit nature of educational goals for the twenty-first century', in C Wyatt-Smith & L Adie (eds.), *Innovation and accountability in teacher education: setting directions for new cultures in teacher education*, Springer Singapore, Singapore, pp.65–79, viewed 12 December 2019, <http://link.springer.com/10.1007/978-981-13-2026-2>.

Care, E, Kim, H, Anderson, K, & Gustafsson-Wright, E 2017, *Skills for a changing world: national perspectives and the global movement*, Center for Universal Education at Brookings, viewed 20 December 2019, <https://www.brookings.edu/wp-content/uploads/2017/03/global-20170324-skills-for-a-changing-world.pdf>.

Clarke, L & Hughes, M 2019, 'Teaching and assessing the general capabilities in a secondary school context', paper presented at the *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, 4-5 August, Australian Council for Educational Research, Melbourne, viewed 20 December 2019, <https://research.acer.edu.au/research_conference/RC2019/5august/1>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration*, Education Council, Carlton South, Australia, viewed 22 December 2019, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

Foundation for Young Australians 2018, *The New Work Reality*, viewed 12 December 2019, <https://www.fya.org.au/wpcontent/uploads/2018/06/FYA_TheNewWorkReality_sml.pdf>.

Gilbert, R 2019, 'General capabilities in the Australian curriculum: Promise, problems and prospects', *Curriculum Perspectives,* Vol. 39, no. 2, pp. 169–177, viewed 20 December 2019, <https://doi.org/10.1007/s41297-019-00079-z>.

Griffin, P, McGaw, B, & Care, E (Eds.) 2012, *Assessment and teaching of 21st century skills.* Dordrecht: Springer.

Hipkins, R, MacDonald, J, & Whatman, J 2018,'Challenges for Initial Teacher Education in the Context of "Twenty-first Century" Learning Imperatives', in C Wyatt-Smith & L Adie (eds.), *Innovation and Accountability in Teacher Education*, Springer Singapore, Singapore, pp.81–96, viewed 20 December 2019, <http://link.springer.com/10.1007/978-981-13-2026-2_6>.

Lamb, S, Maire, Q & Doecke, E 2017, *Key Skills for the 21st Century: an evidence-based review*, NSW Department of Education, Sydney, viewed 20 December 2019, <https://education.nsw.gov.au/our-priorities/innovate-for-the-future/education-for-a-changing-world/resource-library/research-report/future-frontiers-analytical-report-key-skills-for-the-21st-century/Key-Skills-for-the-21st-Century-Analytical-Report.pdf>.

Lucas, B 2019, *Why we need to stop talking about twenty-first century skills*, Centre for Strategic Education, East Melbourne.

Lucas, B & Smith, C 2018, *The capable country: cultivating capabilities in Australian education*, Mitchell Institute, Melbourne, viewed 12 December 2019, <https://cica.org.au/wp-content/uploads/The-capable-country.pdf>.

Mayer Committee 1992, *Key competencies: report of the Committee to advise the Australian Education Council and Ministers of Vocational Education, Employment and Training on employment-related key competencies for post compulsory education and training* [Mayer report], Australian Education Council and Ministers of Vocational Education, Employment and Training, Canberra, viewed 20 December 2019, <https://www.voced.edu.au/content/ngv%3A28045>.

McLeod, S & Graber, J 2018, *Harnessing technology for deeper learning*, Solution Tree Press, Bloomington, IN.

Melbourne Declaration on Educational Goals for Young Australians 2008, Ministerial Council on Education, Employment, Training and Youth Affairs, Melbourne, Australia, viewed 20 December 2019, <http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf>.

Milligan, SK, Kennedy, GE, & Israel, D 2018, *Assessment, credentialling and recognition in the digital era: recent developments in a fertile field*, Centre for Strategic Education (Vic.), East Melbourne, Australia.

Moyle, K 2010, *Building innovation: Learning with technologies*, Australian Education Review, no. 56, ACER Press, Melbourne, viewed 29 November 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1009&context=aer>.

NSW Education Standards Authority 2019, *Nurturing wonder and igniting passion, designs for a future school curriculum: NSW curriculum review interim report*, Independent Review Lead Professor Geoff Masters, NSW Education Standards Authority, Sydney, viewed 18 December 2019, <https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/interimreport/chapters/NSW-Curriculum-Review-Interim-Report.pdf>.

OECD 2019d, *Trends shaping education 2019*, OECD Publishing, Paris, <https://doi.org/10.1787/trends_edu-2019-en>.

Randall R 2019, '21st-century skills: Realising the potential of the Australian Curriculum', *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, Australian Council for Educational Research, Melbourne, viewed 20 December 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1349&context=research_conference>

Review of the Australian Curriculum. Initial Australian Government Response 2014, Department of Education, Canberra, viewed 20 December 2019, <https://docs.education.gov.au/system/files/doc/other/initial_australian_government_response_final_0.pdf>.

Scarino, A 2018, 'The Australian Curriculum and its conceptual bases: a critical analysis', in A Reid & D Price (eds.), *The Australian Curriculum: Promises, Problems and Possibilities*, Australian Curriculum Studies Association, Deakin West, ACT, pp. 19–29.

Scoular, C 2018, 'Equipping teachers with tools to assess and teach general capabilities', paper presented at the *Research Conference 2018: Teaching Practices that Make a Difference: Insights from Research*, 12-13 August, Australian Council for Educational Research, Sydney, pp.76–82, viewed 20 December 2019, <https://research.acer.edu.au/research_conference/RC2018/13august/10>.

Tehan, D 2018, 'Towards better student outcomes', in, *Beyond Year 12 Conference*, 10 December 2018, viewed 20 December 2019, <https://ministers.education.gov.au/tehan/beyond-year-12-conference-towards-better-student-outcomes>.

The Shape of the Australian Curriculum. Version 4.0 2013, Australian Curriculum, Assessment and Reporting Authority (ACARA), Sydney, Australia, viewed 12 December 2019, <https://docs.acara.edu.au/resources/The_Shape_of_the_Australian_Curriculum_v4.pdf>.

Victorian Curriculum and Assessment Authority (VCAA) 2015a, 'Cross-curriculum priorities', Victorian Curriculum F-10, viewed 20 December 2019, <https://victoriancurriculum.vcaa.vic.edu.au/overview/cross-curriculum-priorities>

Victorian Curriculum and Assessment Authority (VCAA) 2015b, Victorian Curriculum F-10, viewed 20 December 2019, <https://victoriancurriculum.vcaa.vic.edu.au>.

Weldon, P 2019, *Changing priorities? The role of general capabilities in the curriculum*, viewed 6 January 2020, <https://www.nswcurriculumreview.nesa.nsw.edu.au/assets/docs/pdf/General-Capabilities-ACER.pdf>.

World Economic Forum 2016, *The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*, viewed 12 December 2019, <http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf>.

Wylie, C, McDowall, S, & Ferral, H 2019, *Teaching, School, and Principal Leadership Practices Survey 2018*, New Zealand Council for Educational Research, Wellington, New Zealand, viewed 20 December 2019, <https://www.nzcer.org.nz/system/files/TSP%202018%20report%20FINAL.pdf>.

Young, M & Muller, J 2010, 'Three Educational Scenarios for the Future: lessons from the sociology of knowledge: European Journal of Education, Part I', *European Journal of Education*, vol. 45, no. 1, pp. 11–27.

Zhao, Y 2012, *World Class Learners: Educating creative and entrepreneurial students.* Corwin Press, Thousand Oaks, CA.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2014, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference, International Association for Educational Assessment*, viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute for Teaching and School Leadership 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2019, *Chartered Teacher Programme: 2020-2021 cohort*, Chartered College of Teaching, viewed 18 December 2019, <https://chartered.college/wp-content/uploads/2019/10/Chartered-Teacher-booklet-2020-cohort.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d. National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): beginning teachers: Myanmar 2017, draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

3.5 Inclusive education

The term inclusion is often associated with minority groups and people who experience disability in particular, but in reality, inclusion is about everyone (Armstrong & Barton 2008). This section focuses on the inclusion of all, with particular emphasis on social/cultural diversity, on learners identified as gifted and talented, and/or those with a disability. People from minority groups are more likely to face adversity and exclusion, and for this reason, the issues teachers may address for these groups are highlighted (Cologon 2014).

3.5.1 Description

The 2019 *Alice Springs (Mparntwe) Education Declaration* acknowledged a commitment to providing excellence and equity in Australian education, "that is inclusive and free from discrimination …. empowers learners to overcome barriers (and) aims to fulfil the individual capabilities and needs of all learners" (p. 5). These goals envision that all young Australians are provided with access to a high-quality education that supports the individual needs of all students to achieve their full potential. This includes a focus on students with disability and education that recognises, respects and values cultural, social, linguistic and religious diversity. While inclusion points to respecting and valuing diversity, ableism is used to describe the process by which people are excluded, viewed and treated as 'not one of us'. Ableism is the process of negatively stereotyping individuals or groups on the basis of a perceived 'difference' and, often, discriminating based on such stereotypes at individual and systemic levels (Cologon 2019).

Inclusive education signifies a shift from 'special education' to inclusive schools with learning interventions for students with difficulties or disabilities being the responsibility of all schools rather than a segregated section of the education systems in special education schools or units (Berman & Graham 2018). Inclusive education "involves valuing and facilitating the full participation and belonging of everyone in all aspects of our education communities and systems" (Cologon 2019 p. 3). It is not about assimilation, or 'fixing' students to 'fit' into existing structures, but instead can be "understood as 'fitting' educational opportunities, settings, experiences and systems to the full diversity of students and embracing and celebrating diversity as a positive and rich learning resource" (Cologon 2019 p. 17). Inclusive classroom settings require teachers to respond to individual student's learning needs, including those of gifted and talented learners and those with disability, while also embracing social and cultural diversity in the increasingly globalised and interconnected world in which we live.

3.5.2 Sources

Table 3.5-1 displays key sources identified related to inclusion, including social/cultural diversity, learners with disability and gifted and talented learners in policy, research and practice.

Table 3.5-1 Overview of key sources including inclusive education

Source type	Key sources
Policy	ACARA (n.d.-d)
	ACARA (n.d.-e)
	Children and Youth with Disability Australia [CYDA] (2019)
	DET (2005)
	DET (2018)

Source type	Key sources
	Education Council (2019)
	Gomendio (2017)
	Guerriero (2017)
	Masters (NSW Standards Authority 2019)
	Nationally Consistent Collection of Data on School Students with Disability (2020)
	OECD (2019a)
	OECD (2019c)
	Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability - Education issues paper (2019)
	UNESCO (Global Education Monitoring Report Team 2015)
	UNICEF (2013)
	United Nations (2016)
	World Health Organization (2011)
Journals/conferences	Armstrong & Barton (2008)
	Berman & Graham (2018)
	Cologon (2014)
	Cologon (2019)
	Gagné (2009)
	Goss & Hunter (2015)
	Graham, Berman & Bellert (2018)
	Henderson & Jarvis (2016)
	Jarvis & Henderson (2012)
	Lassig (2009)
	Munro (2002)
	Thomson, De Bortoli, Underwood & Schmid (2019)
	Tomlinson & Imbeau (2010)
Other (inc. grey literature)	Australian Alliance for Inclusive Education (2019)
	Fitzgerald (2014)
	Male & Wodon (2017)
	Masters (2015)
	Mogato (2019b)
	Topsfield (2013)
International teacher standards	Refer to Table 3.5-3

3.5.3 Current and changing landscape

Changes in the last decade

The main goal of education is developing the full potential of *all* students. To achieve this goal, "it is important to recognise that not all students are at the same starting point when they begin compulsory education and that they all face different challenges (that) prevent students from developing the full set of cognitive and socio-emotional skills that they are capable of" (Gomendio

2017, p. 14). Policies to ensure that personal or social circumstances do not hinder individuals from achieving their educational potential have fuelled many recent reforms (Gomendio 2017).

In 2016, the United Nations Committee on the Rights of Person with Disabilities produced *General Comment 4* (GC4) which provided guidance on Article 24 of the *Convention on the Rights of Persons with Disabilities* (CRPD). The GC4 elaborated on what it meant to facilitate inclusive education and the core features of an inclusive education system, which would include:

- a whole systems approach (education ministers ensuring resources are invested toward advancing inclusive education)
- a commitment from school leaders to embed inclusive education practices and policies; a whole person approach recognising that every person can learn
- teachers who are supported and provided with education and training to accommodate inclusive learning environments
- respect for and value of diversity so that all students' feel valued, respected and included
- a learning-friendly environment (a positive school community where everyone feels safe, supported, stimulated and able to express themselves)
- effective transitions between stages of schooling, vocational and tertiary education and into the workplace
- recognition of partnerships with parents/carers and the broader community
- the monitoring of inclusive education policy, practice and funding systems (United Nations, 2016).

In Australia, under the *Disability Standards for Education* (DET 2005), all students with disability were required to have access to the curriculum, and in 2008 all Australian governments agreed that a national curriculum would have a key role in delivering education for all young Australians. The Australian Curriculum was established to reflect the need for learning and teaching to address all individual learning needs (ACARA n.d.-d). It made specific reference that the curriculum is accessible to all students, with learning adjustments being made to meet the individual learning needs of gifted and talented students and students with disability. It stated that teachers were to "use the curriculum to develop teaching and learning programs that build on students' interests, strengths, goals and learning needs, and address the cognitive, affective, physical, social and aesthetic needs of all students" (ACARA n.d.-d). The Australian Curriculum also includes a focus on *Intercultural Understanding* as a General Capability, which requires teachers to incorporate a focus on cultural diversity into the curriculum and teaching. This includes student understanding about the diversity of their own culture, language and belief, and those of others.

Although an emphasis on addressing the needs of all learners has taken a prominent position in policy reform, Australian's achievement distribution sits well below leading systems and is slipping. According to recent PISA results, Australia's mean performance has decreased in reading, mathematical and scientific literacy and changed over the PISA cycle. For example, in reading literacy, "while in their first PISA cycle, four countries (Canada, Hong Kong (China), Ireland and Korea) performed at the same level as Australia, and three countries (Estonia, Macao (China) and Poland) performed at a level lower than Australia. In PISA 2018, all seven of these countries performed at a higher level than Australia" (Thomson et al. 2019, p. xv).

Results for our top students are also flat lining, with few students performing at the highest international levels in reading and mathematics (Masters 2015; Griffin in Topsfield 2013). According

to the *Report of the Review to Achieve Educational Excellence in Australian Schools* (DET 2018), the slippage in results is national and widespread and "indicates that Australian education has failed a generation of Australian school children by not enabling them to reach their full learning potential and dealing with this situation requires a significant shift in aspirations, approach, and practice, to focus on and accelerate individual learning growth for all students" (p. 8). While these examples only reflect an aspect of student achievement, they do highlight the disparity of student achievement across Australia and this has implications for teaching and learning and policy reform.

A study by the World Bank and the Global Partnership for Education (GPE) (Male & Wodon 2017), reports that the global gap in education between children with a disability compared to those without is also getting bigger. According to the World Health Organization (2011), people who experience disability are the largest minority group in the world today and are among the most marginalised and excluded people in Australia and throughout the world (Fitzgerald 2014; United Nations Children's Fund [UNICEF] 2013). It is estimated that around the world, between 93 and 150 million children are living with a disability (Global Education Monitoring Report Team 2015).

In Australia, people living with a disability are not without adversity. In 2019, the Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability was established to examine the mistreatment of people with disability, including in the education setting. A national survey by Children and Young People with Disability Australia (CYDA 2019) found that students with disabilities and their families experienced segregation and bullying on a regular basis, Mogato (2019b) reporting that 'many schools continue to fail students with disabilities.' According to the CYDA (2019) survey, more than 56% of students with disabilities reported that they had experienced bullying over a 12-month period, 40% had been excluded from school activities and over 12% reported that of these students had been turned away by schools.

Inclusive education also includes a focus on academically advanced or gifted students for "schools are charged with the responsibility of providing learning opportunities that fit the current levels of learning of each of their students including those who do have faster developing or deeper levels of thinking in comparison to age peers" (Berman & Graham 2018 p. 175). There is a need to consider students whose learning needs mean that they should have access to extended to deeper learning opportunities in some or all domains of the curriculum.

Referred to in the Australian Curriculum and in a number of gifted and talented policies across the country, Gagné's (2009) *Differentiated Model of Giftedness and Talent* defines gifted students as those whose potential is distinctly above average in one or more of the following domains of human ability: intellectual, creative, social and/or physical. Talented students are those whose skills are distinctly above average in one or more areas of human performance. Of those gifted students, there are also students who might be gifted in one area and have significant difficulties learning in one or more other domains. "These twice-exceptional learners, therefore, might require specific support with some aspect of their learning being in the gifted range and others perhaps in the disability range" (Berman & Graham 2018, p. 176). Gagné's (2009) model recognises that giftedness is a broad concept that encompasses a range of abilities; it also recognises that giftedness is only potential and that it must go through a transformative process in order to become a talent. As such, Gagné makes it clear that adequate school support is necessary if students are to develop their gifts or high abilities into talents or high achievements (ACARA n.d.-d).

According to Gonski (DET 2018), "regardless of a student's circumstances, whether they are students with disability, students in rural or remote locations, Aboriginal and Torres Strait Islander

students, those from non-English speaking backgrounds, low socio-economic backgrounds, gifted and talented students, or any combination of these, to accelerate individual learning growth at scale, Australia needs to commit to the goal of growth, and to undertake long-term, consistent and coordinated action throughout all school systems and schools to enable schools and educators to meet it" (p. x). As such, an increased focus on inclusive education has implications for teaching and learning and how educators address the needs of all students, so that each may fulfil their potential.

Relevance to learning and teaching; issues, debates, implications

A focus on individual learner needs and growth has taken priority in education systems with classrooms more diverse than ever before. The percentage of students identified with special needs increased from about 4% in the last 15 years to close to 20% today (Hattie 2017, in Berman & Graham 2018). Learning and teaching targeted to each student's learning needs, and informed by an iterative evaluation of the impact of those strategies have been a focus for improving the education outcomes for all students. With demand on teachers to differentiate and adopt inclusive practices that "remove barriers to learning by considering students' capabilities and taking into account their learning needs" (Graham, Berman & Bellert 2018, p. 2) a focus on individual growth requires a shift in teaching and learning to support all students whether they are lower performers, middle-ranking or academically advanced (DET 2018).

Differentiation provides a method for addressing the individual learning needs of students, including those with a disability and those identified as gifted or talented. According to Tomlinson and Imbeau (2010)*,* teachers can differentiate instruction through four ways*:* 1*)* content*,* 2*)* process*,* 3*)* product, and 4*)* learning environment. While differentiated instruction can help address the needs of diverse students, the ability for teachers to differentiate addressing the individual learning needs requires teachers to understand each student, their readiness and interests.

Despite the obligation to differentiate teaching to address the full range of learners in the classroom, Henderson & Jarvis (2016) indicate there are barriers to achieving high-quality teaching for gifted students in Australian schools. These include a belief that gifted students will succeed without any special provisions (Henderson & Jarvis 2016; Griffin in Topsfield 2013), a tendency to prioritise limited time and resources to address the needs of students achieving below minimum benchmarks or with identified disabilities (Jarvis & Henderson 2012), and a lack of pre-service or in-service professional preparation (Munro 2002), which according to Henderson and Jarvis (2016) "is associated with limited understanding of giftedness and self-efficacy for teaching gifted students, negative and stereotyped attitudes towards gifted students, and a preference for teaching 'average' students" (p. 64).

A growing body of research demonstrates the importance of teacher attitudes. Positive teacher attitudes are a key to inclusive practice, creating the necessary conditions for engaging in inclusive education (Cologon 2019; Lassig 2009). A shift in attitudes to provide educational opportunities for students with disabilities and confidence in the ability to teach all students is required, rather than teachers with a lack of confidence and sometimes 'unwillingness' to teach all students as observed by Cologon (2019).

While schools stated that they had policies in place for inclusive education, between TALIS 2013 and TALIS 2018 teachers reported an increase in their needs for professional development to support the teaching in a multicultural or multilingual setting and teaching students with special needs (Schleicher 2019). While addressing the individual needs of all students can be a challenge

(Goss & Hunter 2015), teachers require both support and training so that they develop their skills in differentiating instruction, providing adjustments, and monitoring student progress (DET 2018).

Influencing policy directives

The principles of inclusion are mandated in Australia through legislation. Government initiatives and reforms drive the case for change, and some supports and programs currently exist to facilitate inclusion. The changes observed between 2013 and 2018 in both participation and high need for professional development in teaching students with disabilities could be attributed to the implementation of specific national legislation, reforms or initiatives (OECD 2019c). The Australian Government's international human rights obligations underpin the *Convention on the Rights of Persons with Disabilities* (CRPD) which provides for this obligation in Article 24 (Inclusive Education), and the *Nationally Consistent Collection of Data on Students with Disability* (Education Council 2020), requiring schools to meet the requirements of the *Disability Standards for Education* (DET 2005).

Despite international human rights treaties and legislation providing a legally binding definition and actions of inclusive education, the application of the CRPD in policy and practice has been difficult. According to the Australian Alliance for Inclusive Education (2019), Australia has not gone far enough in specifically incorporating its obligations under the CRPD into Australian law through legislation. The Royal Commission (2019) also identified that abuse, neglect and exploitation of people with disability in the education sector is an important topic to address with research suggesting that children with disability experience higher rates of suspension and expulsion from schools and that children with disability may be excluded from school activities, such as excursions, assemblies, sports carnivals etc. and that over the last decade, the segregation of children with disability into special education units/classes or 'special' schools has increased.

Teachers have a responsibility to keep abreast of legislation and standards related to their profession, and a number of policy and professional learning initiatives have been commissioned in response to the Royal Commission. The Victorian Government's 2015 Special Needs Plan led to the Victorian Institute of Teaching (VIT) requiring re-registering teachers to include Special Needs professional development as part of their renewal reporting (VIT 2019). There is also a requirement for higher education providers seeking accreditation of their initial teacher education (ITE) programs to "ensure there is a specific focus on standards descriptors 1.6, 1.5 and 4.1 at the Graduate Teacher level" and to report to VIT about the composition of their programs which address the teaching of learners with disabilities (VIT 2019). No formal evaluation of these policy initiatives has been published to this point.

Masters (NSW Standards Authority 2019) highlights further challenges for teachers in the Interim Report of the NSW Curriculum Review. "The principles of equity and inclusivity require that every student be given access to the same curriculum and the support they require to progress and succeed. But this depends on the school curriculum providing the flexibility teachers require to respond to the increasing diversity of student needs" (p. 5).

CYDA (2019) further confirm in their recent report *Time for Change: The State of Play for Inclusion of Students with Disability* that our education system requires a transformational change to ensure the inclusion of students with disability. The organisation points to several recommendations, including preservice and in-service teacher education for inclusion; flexible and responsive curriculum and assessment approaches; and a national action plan for inclusive education.

Conclusion

With the recognition of the importance of inclusion emphasised in legislation and the recent Royal Commission, educators require further support and training to better understand inclusive education and how to build inclusive environments that support the needs of all students.

3.5.4 Examples in teacher standards

Table 3.5-2 provides an overview of this topical area, as reflected in the Australian Professional Standards for Teachers (AITSL 2011).

Table 3.5-2 Inclusive education in the Australian Professional Standards for Teachers (AITSL 2011)

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
1. Know students and how they learn	1.1 Physical, social and intellectual development and characteristics of students	Use teaching strategies based on knowledge of students' physical, social and intellectual development and characteristics to improve student learning
	1.3 Students with diverse linguistic, cultural, religious and socioeconomic backgrounds	Design and implement teaching strategies that are responsive to the learning strengths and needs of students from diverse linguistic, cultural, religious and socioeconomic backgrounds
	1.5 Differentiate teaching to meet the specific learning needs of students across the full range of abilities	Develop teaching activities that incorporate differentiated strategies to meet the specific learning needs of students across the full range of abilities
	1.6 Strategies to support full participation of students with disability	Design and implement teaching activities that support the participation and learning of students with disability and address relevant policy and legislative requirements
3. Plan for and implement effective teaching and learning	3.5 Use effective communication	Use effective verbal and non-verbal communication strategies to support student understanding, participation, engagement and achievement
4. Create and maintain supportive and safe learning environments	4.1 Support student participation	Establish and implement inclusive and positive interactions to engage and support all students in classroom activities
7. Engage professionally with colleagues, parents/carers and the community	7.2 Comply with legislative, administrative and organisational requirements	Understand the implications of and comply with relevant legislative, administrative, organisational and professional requirements, policies and processes.

Table 3.5-3 presents examples of the ways inclusive education is included in teacher standards internationally.

Table 3.5-3 Examples of the ways inclusive education is included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	Domain 3. Diversity of Learners Domain 3 emphasizes the central role of teachers in establishing learning environments that are responsive to learner diversity. This Domain underscores the importance of teachers' knowledge and understanding of, as well as respect for, learners' diverse characteristics and experiences as inputs to the planning and design of learning opportunities. It encourages the celebration of diversity in the classrooms and the need for teaching practices that are differentiated to encourage all learners to be successful citizens in a changing local and global environment. Strand 3.1 Learners' gender, needs, strengths, interests and experiences Strand 3.2 Learners' linguistic, cultural, socio-economic and religious backgrounds Strand 3.3 Learners with disabilities, giftedness and talents Strand 3.4 Learners in difficult circumstances Strand 3.5 Learners from Indigenous groups
Chartered Teacher Professional Principles (Chartered College of Teaching 2017)	United Kingdom	9.5 Ensures that all children and young people, including those with special educational needs and disabilities and those with English as an additional language, are able to access the curriculum and assessments and make progress.
Myanmar Teacher Competency Standards (Teacher competency Standards Framework 2017)	Myanmar	A1.2.1 Identify various teaching methods to help students with differing backgrounds (gender, ethnicity, culture) and abilities, including special learning needs, learn better A5.2 Demonstrate understanding of how to vary delivery of subject content to meet students' learning needs and the learning context A5.2.1 Describe ways to contextualise learning activities for the age, language, ability and culture of students to develop understanding of subject related principles, ideas and concepts

Standards	Country	Example
New Zealand Standards for the Teaching Profession (Teaching Council of New Zealand 2017)	New Zealand	Be informed by research and innovations related to: content disciplines; pedagogy; teaching for diverse learners, including learners with disabilities and learning support needs
		Develop a culture that is focused on learning, and is characterised by respect, inclusion, empathy, collaboration and safety
		Demonstrate high expectations for the learning outcomes of all learners, including for those learners with disabilities or learning support needs
		Manage the learning setting to ensure access to learning for all and to maximise learners' physical, social, cultural and emotional safety
		Create an environment where learners can be confident in their identities, languages, cultures and abilities
		Develop an environment where the diversity and uniqueness of all learners are accepted and valued
Saudi Arabia 2014 (Al-Saud, FAA-M & Alsadaawi, AS 2018)	Saudi Arabia	Standards for teaching 22 areas were developed including: hearing disability, learning difficulties, autism, intellectual disability, and visual disability

3.5.5 Further questions/research agenda

This section raises the following questions and a possible research agenda for future consideration:

- What strategies and drivers have demonstrated success in addressing equity challenges and opportunities to ensure schools systems meet the academic and social needs of every student, including factors such as culture, gender identity and learning differences?

- What sort of training might be required to support teachers to provide a supportive and enriching education for students with a disability?

- What preservice and in-service training on inclusive education (not to be confused with special education) is required that will support the development of awareness regarding ableism and the provisions of the CRPD?

- What sort of support do gifted and talented students require so that they can achieve their potential and continue to develop their talents and/or high achievements into adulthood?

- What research-based knowledge, skills, and dispositions are required so that education systems achieve equity and educational excellence for each and every student?

3.5.6 End of section references

Listed below are key references used to inform this section.

Armstrong, F & Barton, L 2008, 'Policy, experience and change and the challenge of inclusive education: the case of England', in L Barton and F Armstrong (eds), *Policy, experience and change: cross-cultural reflections on inclusive education*, Springer, London, pp.5–18.

Australian Alliance for Inclusive Education (2019), *All means all*, viewed 18 December 2019, <http://allmeansall.org.au>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-d, *Australian Curriculum: student diversity,* ACARA, Sydney, viewed 18 December 2019, <https://www.australiancurriculum.edu.au/resources/student-diversity>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-e, *Australian Curriculum: students with disability*, ACARA, Sydney, viewed 18 December 2019, <https://www.australiancurriculum.edu.au/resources/student-diversity/students-with-disability>.

--2016, *The Australian Curriculum* v8.2, ACARA, Sydney, viewed 18 December 2019, <http://www.australiancurriculum.edu.au>.

Berman, J & Graham, L 2018*, Learning intervention: educational casework and responsive teaching for sustainable learning*, Routledge, London.

Children and Young People with Disability Australia (CYDA) *2019, Time for change: the state of play for inclusion of students with disability : results from the 2019 CYDA National Education Survey* 2019, CYDA, viewed 18 December 2019, <https://www.cyda.org.au/LiteratureRetrieve.aspx?ID=217221>.

Cologon, K (ed) 2014, *Inclusive education in the early years: right from the start*, October, Oxford University Press, Australia.

Cologon, K 2019, *Towards inclusive education : a necessary process of transformation*, October, Children and Young People with Disability Australia, Collingwood, viewed 18 December 2019, <https://www.cyda.org.au/LiteratureRetrieve.aspx?ID=217220>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Disability Standards for Education 2005: plus guidance notes 2006, Attorney-General's Department, Barton, ACT, viewed 18 December 2019, <https://docs.education.gov.au/system/files/doc/other/disability_standards_for_education_2005_plus_guidance_notes.pdf>.

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration* 2019, Education Council, Carlton South, Australia, viewed 22 December 2019, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

Fitzgerald, J 2014, *A response from Scope: to the Inquiry into Social Inclusion and Victorians with a Disability*, Scope, Victoria, Australia, <https://www.scopeaust.org.au/wp-content/uploads/2015/01/Scope-response-inquiry-into-social-inclusion-FINAL.pdf>.

Gagné, F 2009,'Differentiated model of giftedness and talent', in B. Kerr (ed), *Encyclopedia of Giftedness, Creativity, and Talent*, SAGE Publications, Thousand Oaks California, viewed 14 January 2020, <https://doi.org/10.4135/9781412971959.n111>.

Global Education Monitoring Report Team 2015, *Education for all 2000 - 2015: achievements and challenges*, EFA Global Monitoring Report, 2nd ed, UNESCO Publications, Paris, viewed 20 November 2019, <https://unesdoc.unesco.org/ark:/48223/pf0000232205>.

Gomendio, M 2017, *Empowering and enabling teachers to improve equity and outcomes for all*, International Summit on the Teaching Profession, OECD Publishing, Paris, <https://www.oecd-ilibrary.org/education/empowering-and-enabling-teachers-to-improve-equity-and-outcomes-for-all_9789264273238-en>.

Goss, P, & Hunter, J 2015, *Targeted teaching: how better use of data can improve student learning*, Grattan Institute, Melbourne, <https://grattan.edu.au/wp-content/uploads/2015/07/827-Targeted-Teaching.pdf>.

Graham, L, Berman, J, & Bellert, A 2015, *Sustainable learning: inclusive practices for 21st century classrooms*, Cambridge University Press, Cambridge, UK, <https://www.bookdepository.com/Sustainable-Learning-Lorraine-Graham/9781107695955>.

Guerriero (ed.) 2017, *Pedagogical knowledge and the changing nature of the teaching profession*, Centre for Educational Research and Innovation, OECD Publishing, Paris, viewed 15 January 2020, <https://doi.org/10.1787/9789264270695-en>.

Henderson, L & Jarvis, J 2016, 'The gifted dimension of the Australian Professional Standards for Teachers: implications for professional learning', *Australian Journal of Teacher Education*, vol. 41, no. 8, pp. 60–83, viewed 14 January 2020, <http://ro.ecu.edu.au/ajte/vol41/iss8/4/>.

Jarvis, JM & Henderson, L 2015, 'Current practices in the education of gifted and advanced learners in South Australian schools', *Australasian Journal of Gifted Education*, vol. 24, no. 2, pp. 70–86.

Lassig, C 2009, 'Teachers' attitudes towards the gifted: the importance of professional development and school culture', *Australasian Journal of Gifted Education*, vol. 18, no. 2, p. 32.

Male, C & Wodon, Q 2017, *Disability gaps in educational attainment and literacy, The price of exclusion: disability and education*, The World Bank & Global Partnership for Education, Washington, DC, viewed 20 December 2019, <https://www.globalpartnership.org/sites/default/files/2017-11-wb-gpe-gap-disability-education_0.pdf>.

Masters, G 2015, 'Challenging our most able students', *Teacher*, 20 April, viewed 15 January 2020, <https://www.teachermagazine.com.au/columnists/geoff-masters/challenging-our-most-able-students>.

Melbourne Declaration on Educational Goals for Young Australians 2008, Ministerial Council on Education, Employment, Training and Youth Affairs, Melbourne, viewed 20 December 2019, <http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf>.

Mogato, A 2019b, Australian schools 'far from inclusive', *The Educator Online*, 11 November, viewed 15 January 2020, <https://www.theeducatoronline.com/k12/news/australian-schools-far-from-inclusive/268031>.

Munro, J 2002, 'Gifted learning disabled students', *Australian Journal of Learning Disabilities*, vol. 7, no. 2, pp. 20–30, viewed 14 January 2020, <http://www.tandfonline.com/doi/abs/10.1080/19404150209546698>.

Nationally Consistent Collection of Data on School Students with Disability: 2020 guidelines 2019, version 4.0, Education Council, Melbourne, viewed 14 January 2020, <https://www.nccd.edu.au/sites/default/files/2020_nccd_guidelines.pdf>.

NSW Education Standards Authority 2019, *Nurturing wonder and igniting passion, designs for a future school curriculum: NSW curriculum review interim report*, Independent Review Lead Professor Geoff Masters, NSW Education Standards Authority, Sydney, viewed 18 December 2019, <https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/interimreport/chapters/NSW-Curriculum-Review-Interim-Report.pdf>.

OECD 2019a, *Education policy outlook 2019: working together to help students achieve their potential*, OECD Publishing, Paris, viewed 14 January 2020, <https://doi.org/10.1787/2b8ad56e-en>.

--2019c, *TALIS 2018 results (volume I): teachers and school leaders as lifelong learners*, TALIS, OECD Publishing, Paris, viewed 14 January 2020, <https://doi.org/10.1787/1d0bc92a-en>.

Review of the Melbourne Declaration 2019, Education Council, viewed 17 February 2020, <https://www.reviewmelbournedeclaration.edu.au>.

Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability 2020, *The criminal justice system: issues paper*, 14 January, Government of Australia, Brisbane, Queensland, viewed 17 February 2020, <https://disability.royalcommission.gov.au/system/files/2020-02/Issues-paper-Criminal-justice-system.pdf>.

Thomson, S, De Bortoli, L, Underwood, C & Schmid, M 2019, *PISA 2018: reporting Australia's results: volume I student performance*, Australian Council for Educational Research under contract with the Australian Government Department of Education, viewed 18 December 2019, <https://research.acer.edu.au/ozpisa/35>.

Tomlinson, CA & Imbeau, MB 2010, *Leading and managing a differentiated classroom*, ASCD, Alexandria, VA, viewed 18 December 2019, <http://www.ascd.org/Publications/Books/Overview/Leading-and-Managing-a-Differentiated-Classroom.aspx>.

Topsfield, J 2013, 'Results flatline for top students', *The Age*, January 10, viewed 15 January 2020, <https://www.theage.com.au/education/results-flatline-for-top-students-20130109-2cgud.html>.

United Nations 2016, *Convention on the Rights of Persons with Disabilities*, advance unedited version, 2 September, CRPD/C/GC/4, viewed 18 December 2019, <https://www.ohchr.org/Documents/HRBodies/CRPD/GC/RighttoEducation/CRPD-C-GC-4.doc>.

United Nations Children's Fund (UNICEF) 2013, *Children with disabilities*, The state of the world's children 2013, UNICEF, New York, viewed 18 December 2019, <https://www.unicef.org/sowc2013/files/SWCR2013_ENG_Lo_res_24_Apr_2013.pdf>.

Victorian Institute of Teaching c.2019, *Special Needs Plan*, Victorian Government, viewed 18 December 2019, <https://www.vit.vic.edu.au/registered-teacher/special-needs-plan>.

World Health Organization (WHO) 2011, *World report on disability*, World Health Organization, Geneva, <https://www.who.int/disabilities/world_report/2011/report.pdf>.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for*

Educational Assessment, viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute for Teaching and School Leadership 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2019, *Chartered Teacher Programme: 2020-2021 cohort*, Chartered College of Teaching, viewed 18 December 2019, <https://chartered.college/wp-content/uploads/2019/10/Chartered-Teacher-booklet-2020-cohort.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d. National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

3.6 Learning progress

An understanding of learning progress and the associated resources and strategies that may support teachers to better ascertain where students are at and where to next with their learning has clear implications for contemporary teaching and learning. This section focuses on learning progress and considers current research and debates related to this topic and the issues these may raise for teacher's practice.

3.6.1 Description

For the purposes of this sub-section, two concepts from the field of assessment are relevant: *learning attainment* and *learning progress*. *Learning attainment* is defined as the location of a student or group of students at a particular point in time on a continuum of learning. *Learning progress* is defined as the gain or growth in the learning attainment of the student or group of students over time (Hollingsworth et al. 2019, Masters 2017a, Masters et al. 2008).[1]

Continua of learning are essential for reporting learning progress – without them the word 'progress' can only ever have a vague and indeterminate meaning. Many examples of such continua exist. Sometimes they are qualitative, for example a set of descriptors that together convey how proficiency in an area of learning develops over time.[2] Sometimes they have both qualitative and quantitative elements, in that they comprise a set of descriptors underpinned by a numerical scale.[3]

In recent years, much work in developing these continua has been undertaken within the broader context of research on the nature of meaningful learning in key learning areas. Continua developed in this context are usually referred to as *learning progressions* or *learning trajectories* (LP/Ts) (Corcoran et al. 2009, Daro et al. 2011). They depict meaningful learning as a coherent and continuous long-term (that is, multi-year) process. In this process, the core knowledge, skills and understandings of the learning area are initially present in basic or rudimentary forms, and they become more sophisticated and enriched over extended periods of instruction and practice.

Though the concept of learning progress is presented above as one that comes from the sphere of assessment, it in fact has implications that extend beyond this sphere. This is because when learning progress is seen as movement along a continuum, it *is* learning, and the promotion of learning is the central objective of much research in the spheres of curriculum development, instructional design, and even pedagogy and teacher professional development.

---

[1] Masters et al (2008) make the distinction between learning *gain* as the difference between attainment at two points in time, and learning *growth* as the difference between attainment at three or more points in time.

[2] The Common European Framework for Reference for Languages (CEFRL) (Council of Europe, Modern Languages Division 2001, Council of Europe, Modern Languages Division 2017) and the Australian Core Skills Framework (ACSF) (Mclean et al. 2012) are examples of qualitative continua.

[3] The scales developed by large-scale assessment programs such as Australia's National Assessment Program – Literacy and Numeracy (NAPLAN) in Australia, the Trends in International Mathematics and Science Study (TIMSS), the Programme for International Student Assessment (PISA) and ACER's Progressive Achievement Tests (PAT) are examples of continua with both qualitative and quantitative elements. Note that in the case of the TIMSS, the descriptors that form the qualitative element of the continuum describe only some points of the numerical scale for the purpose of giving substantial meaning to benchmarks (see, for eg Mullis et al. (2016a, 2016b)), whereas in the case of NAPLAN, PISA and PAT, the set of descriptors covers the entire numerical scale (for NAPLAN, see, for eg, the sample student reports available for download from ACARA (2019); for PISA, see, for eg, OECD (2017); for PAT, see, for eg, Australian Council for Educational Research (2019).

3.6.2 Sources

Table 3.6-1 displays the key sources related to the topical area of learning progress that were identified during the environmental scan. The sources are grouped by type.

Table 3.6-1: Overview of key sources for learning progress topical area

Source type	Key sources
Policy	Cawsey, Hattie, Masters (2019) DET (2018a) DET (2018) Education Council (2015) Education Council (2019a) Education Council (2019b) NESA (2019) OECD (2017b)
Journals/conferences	Black et al. (2011) Confrey (2019) Guerriero (2017) Heritage (2013) Masters (2016) Masters (2017) Masters (2017b) Siemon et al. (2017) Wilson (2018)
Other (inc. grey literature)	Corcoran et al. (2009) Daro et al. (2011) Masters (2017a)
International teacher standards	Refer to Table 3.6-3 below

3.6.3 Current and changing landscape

Changes in the last decade

The last decade or so has seen growing recognition amongst scholars, policymakers and practitioners in education of the importance of monitoring learning progress as well as learning attainment. It has been noted that monitoring learning progress provides the most direct way of evaluating success in learning, and that information on learning progress is important for stakeholders at all levels of an education system (Masters 2013). Decision makers at the system level can use measures of learning progress to judge the contribution that different schools make to their students' learning. Teachers can use information about learning progress to determine the relative rates at which students are learning, and thus get some sense of which students are not being appropriately challenged by classroom activities. Students can be encouraged and motivated by feedback that reveals their learning progress. Parents can be better informed about the nature and extent of their children's learning.

The last decade has also seen the emergence of many examples of the LP/Ts introduced in the Description subsection above. LP/Ts been developed in key learning areas including mathematics (Clements & Sarama 2014, Lehrer et al. 2014, Siemon et al. 2017), science (Carraher et al. 2009, Mohan et al. 2009, Plummer & Krajcik 2010), reading (Calkins & Teachers College Reading and

Writing Project 2015) and writing (Calkins et al. 2015; 'Introduction to Brightpath' n.d.). They have been developed by scholars as part of their independent research programs, but also by scholars working with government education bodies. [4] Some of these LP/Ts are purely qualitative, ie a set of descriptors of levels of proficiency, while for some there is a numerical scale underpinning the set of descriptors. There is a lot of variation in these LP/Ts in terms of the ways they are developed; the ways they conceptualise learning progress; they ways they describe learning progress; and, the extent to which instructional experience is woven into the descriptions (Duschl et al. 2011, Kobrin et al. 2015, Lobato & Walters 2017, Salinas 2009). There are nevertheless some similarities that become apparent across this variation (Confrey 2019, Corcoran et al. 2009). These similarities might be summarised thus:

- **They all emphasise coherence and continuity in learning**
  Learning is not depicted as the accumulation of knowledge of an ever-increasing number of discrete facts and procedures, nor as a simplistic process in which 'incorrect' knowledge and skills are replaced with 'correct' ones. Rather, as mentioned in the *Description* subsection above, core knowledge, skills and understandings are depicted as evident across the span the LP/Ts, but in basic or rudimentary forms in the lower ranges and in increasingly sophisticated and enriched forms in the upper ranges.

- **They are all empirically based**
  Though specific approaches to development vary, LP/Ts are all developed/validated through careful analysis of evidence such as students' responses to assessment tasks, samples of students' work, or observations of students' thinking and reasoning as they tackle problems.

- **They all describe pathways that are dependent on instruction**
  LP/Ts do not claim to describe developmentally inevitable pathways, but rather pathways that are dependent on the instructional experiences of students.

- **They all describe typical pathways**
  LP/Ts do not claim to describe pathways that all students and groups of students who are exposed to the same instruction will follow. Rather, they aim to describe the typical pathways, in the view that the typical will be relevant for the majority of students and can provide a starting point for interrogating more unusual particular pathways.

Scholars who develop LP/Ts always consider how they will be used, so there has been much research in this area as well. It has been argued that LP/Ts in which the set of descriptors of levels of proficiency is underpinned by a numerical scale are optimally useful for reporting learning attainment and learning progress (Cawsey et al. 2019, Shepard 2018). This is because the numerical scale acts as the backbone that supports the standardised and reproducible collection, evaluation and analysis of evidence of learning, while the set of descriptors offers the substantive interpretation of learning.

It has also been argued that an LP/T can focus or guide a teacher's efforts to promote meaningful learning through a series of steps, as explained below (Black et al. 2011, Wilson 2018):

- The teacher identifies a strategic aim or learning goal as a location on the LP/T.
- Presuming students' current levels of learning attainment are known as locations on the LP/T, the teachers can see the pathways between students' existing knowledge, skills and

---

[4] For example, learning progressions have been developed by researchers working with governmental education bodies in Australia (ACARA n.d.) and New Zealand (New Zealand Ministry of Education 2019).

understandings and the strategic aim or learning goal, and uses this information to develop a teaching plan.

- Once the teacher has begun to implement the teaching plan, 'on-the-fly' adjustments or adaptations to it can be informed by the LP/T (for example, if classroom dialogue or peer-to-peer dialogue reveal that students have developed an incomplete understanding of some newly introduced concept).

- At the end of the learning episode, the teacher conducts some informal testing to review and check students' learning. The LP/T provides the criteria for this testing, and the outcomes of it enable the teacher to begin to consider the next strategic aim or learning goal, as well as to convey to students a sense of their progress.

These steps represent a general model of instruction that depends on LP/Ts and promotes learning progress. It should be noted that this model encourages the teacher to focus on students' movement towards or achievement of the aim or goal of the learning episode, rather than on whether or not particular instructional activities have been delivered to students. It should also be noted that, though the above description of steps focusses on the teacher, LP/Ts can also support students to play an active role in defining learning goals and evaluating progress towards them, and that research shows that engaging students in this way can promote learning.

LP/Ts have also been explored as tools that can promote learning progress in other ways. For example, it has been argued that they can act as the basis for curricula that are structured and sequenced such that depth of learning in core knowledge, skills and understandings is emphasised over than breadth of content coverage; that are free from unnecessary repetition; and that seek to minimise students' experiences of discontinuity in their learning as they move from one year level to the next, or from primary school to secondary school (Fortus & Krajcik 2012). It has also been argued that they can provide teachers with the long-range 'pedagogical vision' that is essential for effective teaching (Furtak et al. 2012).

Relevance to learning and teaching; issues, debates, implications

One implication of the discussion thus far is that learning progress is really only a valuable and useful concept – for assessment and more broadly – if there exist shared understandings of what it looks like in key learning areas. LP/Ts can serve as these shared understandings. In their absence, other continua of learning – for example, the described scales from assessments – could be used, but they may not have all the features that LP/Ts have (see list above). The curricula that are typically found in countries around the world cannot serve as the shared understandings of what progress looks like, because they may not be so closely tied to empirical evidence of how learning develops. Further, typical curricula can be crowded and are divided and subdivided and atomised to such an extent that it can be difficult to discern in them the sense of progress in core knowledge, skills and understandings.

Another implication is that, in order to promote learning progress in their classrooms, teachers must develop considerable expertise in collecting, evaluating, analysing and acting on evidence of learning attainment and progress as part of their day-to-day work in the classroom. This iterative process should be a focus of teacher training and professional development, and it should be underpinned by shared understandings of what progress in key learning areas looks like. There must also exist system-level resources to support teachers to engage in this process.

Another related implication is that teachers must be able to target their teaching to the different levels of readiness and learning needs that they encounter in their classrooms. Many teachers do this already, but are hindered in their efforts by the coupling of age-based year levels and prescriptive year-level curricula. Further, in some circles there are questions around the practicalities of implementing some of the instructional approaches that are generally considered to involve such targeting (for example, personalised learning, individualised instruction, differentiated learning), and there are also concerns and debate about the role that technology should play in this regard.

Influencing policy directives

In Australia, the main recent policy directives regarding learning progress have come from the *National School Reform Agreement* (Council of Australian Governments 2018), the *Alice Springs (Mparntwe) Education Declaration* and the communiqué associated with its release in 2019 (Education Council 2019a, Education Council 2019b). The reform agreement and declaration draw on the recommendations of *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools* (DET 2018).[5] The reform agreement includes a reform direction that refers to supporting teachers to monitor student progress and identify student learning needs through the provision of online and on-demand assessment tools and resources. The declaration connects the concept of learning progress to equity in education through the elaboration for Goal 1 that refers to the promotion of 'personalised learning…to fulfil the individual capabilities and needs of learners'. The declaration also outlines a commitment to promoting learning progress through enhanced national and school-level assessment *for*, *as,* and *of* learning. The communiqué indicates that work will continue on the national Learning Progressions and Online Formative Assessment Initiative.[6] It also indicates that learning progress – referred to in this context as 'gains made by students' – will become the focus of NAPLAN reporting on the My School website.

The *National STEM School Education Strategy* endorsed in 2015 also contains a policy directive related to learning progress, in that it describes a national collaborative action to develop online exemplar teaching modules that will help build the capacity of STEM teachers to move students through the key 'progress points' in the learning of maths and science (Education Council 2015).

Conclusion

Given the existing system-level constraints and resources, and the day-to-day realities of classroom life, there are implications for how to: i) rigorously and effectively monitor and report the learning progress of their students; ii) acknowledge and respond to the different levels of readiness and learning needs of students, and thus promote learning progress.

3.6.4 Examples in teacher standards

Learning progress is not referred to explicitly in the professional standards for teachers in Australia Australian (Australian Institute for Teaching and School Leadership 2011). However, there are some

---

[5] It is worth noting that the concepts of learning progress and learning progressions feature extensively in *Through Growth to Achievement: Report of the Review to Achieve Educational Excellence in Australian Schools* (DET, 2018) – eight of the 23 recommendations refer explicitly to these concepts, and they are implied in a number of other recommendations.

[6] See https://www.lpofai.edu.au – The vision of this initiative is a set of assessment resources that are aligned to the national literacy and numeracy learning progression and are available for teachers to use on-demand in their classrooms.

references to instructional practices and approaches that have been mentioned above as related to the concept of learning progress. They are given in Table 2 below.

Table 3.6-2: References in the Australian teacher standards to instructional practices and approaches discussed above as key to promoting progress

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
1. Know students and how they learn	1.5 Differentiate teaching to meet the specific learning needs of students across the full range of abilities	Develop teaching activities that incorporate differentiated strategies to meet the specific learning needs of students across the full range of abilities.
3. Plan for and implement effective teaching and learning	3.1 Establish challenging learning goals	Set explicit, challenging and achievable learning goals for all students.
5. Assess, provide feedback and report on student learning	5.1 Assess student learning	Develop, select and use informal and formal, diagnostic, formative and summative assessment strategies to assess student learning.
	5.2 Provide feedback to students on their learning	Provide timely, effective and appropriate feedback to students about their achievement relative to their learning goals.
	5.3 Make consistent and comparable judgements	Understand and participate in assessment moderation activities to support consistent and comparable judgements of student learning.
	5.4 Interpret student data	Use student assessment data to analyse and evaluate student understanding of subject/content, identifying interventions and modifying teaching practice.

Some of the other content in the Australian standards touches on the discussion in this section in a more indirect way. For example, focus area 1.2, 'Understand how students learn' relates to the point made above about how teachers need to know what progress looks like in the learning areas they teach, and focus area 2.2, 'Content selection and organisation', speaks to the idea, mentioned above in relation to LP/T-based curriculum, that to-be-learnt material can be structured and sequenced in ways that optimise learning.

Table 3.6-3 presents examples of the ways that the concept of learning progress is included in teacher standards internationally. Some of the examples represent direct references to learning progress, while others represent more indirect references that connect to the points raised in this section.

Table 3.6-3: Examples of the ways learning progress is included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (2017)	Philippines	Strand 5.2 Monitoring and evaluation of learner progress and achievement

Standards	Country	Example
		Strand 5.4 Communication of learner needs, progress and achievement to key stakeholders
		Strand 5.5 Use of assessment data to enhance teaching and learning practices and programs
Southeast Asia Teachers Competency Framework (2018)	Southeast Asia	Enabling competency 2.3.2 Monitor my students' progress and provide appropriate support
		Enabling competency 2.3.3 Use results from assessment to improve instruction
Teachers' Standards: Guidance for School Leaders, School Staff and Governing Bodies (2011)	United Kingdom	Part One, 2. Promote good progress and outcomes by pupils
		Part One, 5. Adapt teaching to response to the strengths and needs of all pupils
		Part One, 6. Make accurate and productive use of assessment
New Zealand Standards for the Teaching Profession (2017)	New Zealand	Design for learning standard
		Select teaching approaches, resources, and learning and assessment activities based on a thorough knowledge of curriculum content, pedagogy, progressions in learning and the learners.
		Gather, analyse and use appropriate assessment information, identifying progress and needs of learners to design clear next steps in learning and to identify additional supports or adaptations that may be required.
		Teaching standard
		Teach in ways that ensure all learners are making sufficient progress, and monitor the extent and pace of learning, focusing on equity and excellence for all.
		Use an increasing repertoire of teaching strategies, approaches, learning activities, technologies and assessment for learning strategies and modify these in response to the needs of individuals and groups of learners. (implied reference)
		Provide opportunities and support for learners to engage with, practise and apply learning to different contexts and make connections with prior learning. (implied reference)
		Teach in ways that enable learners to learn from one another, to collaborate, to self-regulate and to develop agency over their learning. (implied reference)
		Ensure learners receive ongoing feedback and assessment information and support them to use this information to guide further learning. (implied reference)

3.6.5 Further questions/research agenda

This section has highlighted that the concept of learning progress has in recent years gained increased attention in the spheres of educational policy and practice, and this attention has been fed by the findings from research.

Some questions that could form a possible future research agenda include:

- How can the standards promote clarity and consistency in the use of the word 'progress' in relation to learning?

- In the absence of LP/Ts, what can teachers use as frames of reference for understanding and reporting progress?

- How can the standards convey the cyclical, iterative and interdependent nature of the steps described above (Section 3.6.3)?

- Many argue that it is not practical for teachers to completely tailor their teaching to each individual student. Many also acknowledge that the model of instruction in which all students are expected to learn the same thing at the same time is inappropriate. What might a middle ground between these two alternatives look like? How can it be described formally so it can be disseminated amongst teachers? What role does technology play in achieving such a middle ground?

3.6.6 End of section references

Listed below are key references used to inform this section.

ACARA n.d., *National Literacy and Numeracy Learning Progressions*, The Australian Curriculum, viewed 20 February 2020, <https://www.australiancurriculum.edu.au/resources/national-literacy-and-numeracy-learning-progressions>.

ACARA 2019, *NAP - Student reports*, viewed 20 February 2020, <https://www.nap.edu.au/results-and-reports/student-reports>.

Australian Council for Educational Research 2019a, *PAT Reading: strands and achievement band descriptions*, Author.

Black, P, Wilson, M, & Yao, S-Y 2011, 'Road Maps for Learning: A Guide to the Navigation of Learning Progressions', *Measurement: Interdisciplinary Research & Perspective*, vol. 9, no. 2–3, pp. 71–123.

Calkins, L, Hohne, KB, Robb, AK, & Teachers College Reading and Writing Project, 2015, *Writing pathways: performance assessments and learning progressions*, grades K-8, Heinemann, Portsmouth, US.

Calkins, L., & Teachers College Reading and Writing Project, 2015, *Units of study for teaching reading*, Heinemann, Portsmouth, US.

Carraher, DW et al. 2009, 'Assessing students' evolving understandings about matter', paper presented at the *Learning Progressions in Science (LeaPS) Conference*, Iowa City, IA, viewed 6 April 2018, <https://inquiryproject.terc.edu/about/presentations-reports/Carraher-2009-LeaPS.pdf>.

Cawsey, C, Hattie, J, & Masters, G 2019, *Growth to achievement: on-demand resources for teachers*, Department of Education and Training, Canberra, ACT, <https://docs.education.gov.au/system/files/doc/other/growth_to_achievement_on-demand_resources_for_teachers_.pdf>.

Clements, DH & Sarama, J 2014, 'Learning Trajectories: Foundations for Effective, Research-based Education', *Learning over time: learning trajectories in mathematics education*, p. 1.

Confrey, J 2019, *A synthesis of research on learning trajectories/progressions in mathematics*, OECD, Paris, France, viewed 29 July 2019, <https://www.oecd.org/education/2030-project/about/documents/A_Synthesis_of_Research_on_Learning_Trajectories_Progressions_in_Mathematics.pdf>.

Corcoran, TB, Mosher, FA, & Rogat, A 2009, *Learning progressions in science: an evidence-based approach to reform*, Consortium for Policy Research in Education, <http://www.cpre.org/images/stories/cpre_pdfs/lp_science_rr63.pdf>.

Council of Australian Governments 2013, *National School Reform Agreement*, Australian Government DET, Canberra, viewed 20 February 2020 <https://docs.education.gov.au/system/files/doc/other/national_school_reform_agreement_8.pdf>.

Council of Europe, Modern Languages Division 2001, *Common European Framework of Reference for Languages: learning, teaching, assessment*, Cambridge University Press, viewed 7 February 2018, <https://rm.coe.int/1680459f97>.

Council of Europe, Modern Languages Division 2017, *Common European Framework of Reference for Languages:lLearning, teaching, assessment -- companion volume with new descriptors,* Provisional Edition,

viewed 7 February 2018, <https://rm.coe.int/common-european-framework-of-reference-for-languages-learning-teaching/168074a4e2>.

Daro, P, Mosher, FA, & Corcoran, T 2011, *Learning trajectories in mathematics: a foundation for standards, curriculum, assessment, and instruction*, Consortium for Policy Research in Education, <http://www.cpre.org/ccii/images/stories/ccii_pdfs/learning%20trajectories%20in%20math_ccii%20report.pdf>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Department of Education and Training, Australian Government, Canberra, ACT, viewed 20 February 2020, <https://docs.education.gov.au/node/50516>.

Duschl, R, Maeng, S, & Sezen, A 2011, 'Learning progressions and teaching sequences: a review and analysis', *Studies in Science Education*, vol. 47, no. 2, pp. 123–182.

Education Council 2015, *National STEM school education strategy 2016-2026*, viewed 20 February 2020, <http://www.educationcouncil.edu.au/site/DefaultSite/filesystem/documents/National%20STEM%20School%20Education%20Strategy.pdf>.

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration* 2019, Education Council, Carlton South, Australia, viewed 22 December 2019, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

Education Council 2019b, *Communique for the release of the Alice Springs (Mparntwe) Education Declaration*, Education Council of Australia, 12 December, viewed 20 February 2020, <http://www.educationcouncil.edu.au/site/DefaultSite/filesystem/documents/EC%20Communiques%20and%20media%20releases/Education%20Council%20media%20release%20-%20Alice%20Springs%20(Mpartnwe)%20education%20declaration.pdf>.

Fortus, D & Krajcik, J 2012, 'Curriculum Coherence and Learning Progressions', in BJ Fraser, K Tobin, & CJ McRobbie (eds.), *Second international handbook of science education*, Springer Netherlands, Dordrecht, pp.783–798, viewed 31 December 2018, <http://link.springer.com/10.1007/978-1-4020-9041-7_52>.

Furtak, EM et al. 2012, 'Learning Progressions to Support Ambitious Teaching Practices', *Learning progressions in science*, Sense Publishers, Rotterdam, pp. 405–433.

Guerriero, S (ed.) 2017, *Pedagogical knowledge and the changing nature of the teaching profession*, OECD Publishing, Paris, France, viewed 12 December 2018, <http://dx.doi.org/10.1787/9789264270695-en>.

Heritage, M 2013, 'Gathering evidence of student understanding', in, *SAGE handbook of research on classroom assessment*, SAGE Publications, Ltd, Thousand Oaks, CA, pp.179–195.

Hollingsworth, H, Heard, J, & Weldon, P 2019, *Communicating student learning progress: a review of student reporting in Australia*, Australian Council for Educational Research, Camberwell, Australia, viewed 20 February 2020, <https://research.acer.edu.au/ar_misc/34>.

Introduction to Brightpath n.d., <https://www.brightpath.com.au/about-brightpath>.

Kobrin, JL et al. 2015, 'A framework for evaluating learning progressions on features related to their intended uses', *Journal of Educational Research and Practice,* vol. 5, no. 1.

Lehrer, R et al. 2014, 'Toward establishing a learning progression to support the development of statistical reasoning', in A Maloney, J Confrey, & KH Nguyen (eds.), *Learning over time: learning trajectories in mathematics education*, Information Age Publishers, Charlotte, NC, US, p.49.

Lobato, J & Walters, CD 2017, 'A taxonomy of approaches to learning trajectories and progressions', in J Cai (ed.), *The compendium for research in mathematics education*, National Council of Teachers of Mathematics, Reston, VA, pp.74–101.

Masters, GN 2016, 'Mapping progress – using data for teaching and learning', *Teacher,* <https://www.teachermagazine.com.au/columnists/geoff-masters/mapping-progress-using-data-for-teaching-and-learning>.

Masters, GN. 2017a, 'Monitoring learning', in T Bentley & GC Savage (eds.), *Educating Australia: challenges for the decade ahead*, Melbourne University Publishing, Melbourne, Australia.

Masters, GN. 2017b, 'Promoting long-term learning progress', *Teacher*, viewed 20 February 2020, <https://www.teachermagazine.com.au/columnists/geoff-masters/promoting-long-term-learning-progress>.

Masters, GN 2017c, 'The school curriculum: about time', *Teacher*, viewed 20 February 2020, <https://www.teachermagazine.com.au/columnists/geoff-masters/the-school-curriculum-about-time>.

Masters, GN, Rowley, G, Ainley, J & Khoo, ST 2008, *Reporting and comparing school performances*, paper prepared for the MCEETYA Expert Working Group, commissioned by Department of Education, Employment and Workplace Relations, viewed 20 February 2020, <https://research.acer.edu.au/ar_misc/8.>

Mclean, P, Perkins, K, Tout, D, Brewer, K & Wyse, L 2012, *Australian Core Skills Framework* (ACSF), Department of Industry, Innovation, Science, Research and Tertiary Education, viewed 20 February 2020, <https://www.education.gov.au/download-acsf>.

Mohan, L, Chen, J, & Anderson, CW 2009, 'Developing a multi-year learning progression for carbon cycling in socio-ecological systems', *Journal of Research in Science Teaching*, vol. 46, no. 6, pp. 675–698.

Mullis, IVS et al. 2016a, *TIMSS 2015 international results in mathematics*, viewed 20 February 2020, <http://timssandpirls.bc.edu/timss2015/international-results/timss-2015/mathematics/performance-at-international-benchmarks/item-map-and-summary-of-international-benchmarks/>.

Mullis, IVS et al. 2016b, *TIMSS 2015 international results in science*, viewed 20 February 2020, <http://timssandpirls.bc.edu/timss2015/international-results/timss-2015/science/performance-at-international-benchmarks/item-map-and-summary-of-international-benchmarks/>.

New Zealand Ministry of Education 2019, *The Learning Progression Frameworks, Curriculum Progress Tools*, viewed 20 February 2020, <https://curriculumprogresstools.education.govt.nz/lpf-tool/>.

NSW Education Standards Authority 2019, *Nurturing wonder and igniting passion, designs for a future school curriculum: NSW curriculum review interim report*, NSW Education Standards Authority, <https://www.nswcurriculumreview.nesa.nsw.edu.au/home/siteAreaContent/524abec1-f0f9-4ffd-9e01-2cc89432ad52>.

OECD 2017b*, PISA 2015 technical report*, OECD, viewed 17 August 2019, <http://www.oecd.org/pisa/sitedocument/PISA-2015-technical-report-final.pdf>.

Plummer, JD & Krajcik, J 2010, 'Building a learning progression for celestial motion: elementary levels from an earth-based perspective', *Journal of Research in Science Teaching*, vol. 47, no. 7, pp. 768–787.

Salinas, I 2009, 'Learning progressions in science education: two approaches for development', in, *Learning Progressions in Science (LeaPS) Conference*, Iowa City, IA.

Shepard, LA 2018, 'Learning progressions as tools for assessment and learning', *Applied Measurement in Education*, vol. 31, no. 2, pp. 165–174.

Siemon, D et al. 2017, 'Researching and using learning progressions (trajectories) in mathematics education', in, *Proceedings of the 41st Conference of the International Group for the Psychology of Mathematics Education*, 41st Conference of the International Group for the Psychology of Mathematics Education, pp.109–136.

Wilson, M 2018, 'Making measurement important for Education: the crucial role of classroom assessment', *Educational Measurement: Issues and Practice*, vol. 37, no. 1, pp. 5–20.

Standards

Australian Institute for Teaching and School Leadership (AITSL) 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Teacher Competency Standards Framework (TCSF): beginning teachers: Myanmar 2017, draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

3.7 Parents/carer-school partnerships

Promoting partnerships between home and school acknowledges parents and carers as a child's first educator and the widely accepted findings that parental engagement in learning contributes to positive student attainment, behaviour and attendance at school (Emerson et al. 2012). According to the Australian Government Department of Education (2017), an emphasis on family-school and community partnerships is a way to empower positive parent engagement and bring together family and community resources to enrich student learning and wellbeing.

3.7.1 Description

Parent/carer-school partnerships are defined as relationships where families, schools and other professionals work together in supporting student success (Smith et al. 2013). Successful partnerships between the school and home are fundamental for supporting student learning and development. It is important that these relationships are based on mutual trust and respect, and shared responsibility for the education of each learner. Research suggests parent engagement and involvement in their child's learning has a positive impact on several indicators of a student's outcomes, including:

- motivation to learn
- more regular school attendance and positive feelings about school
- higher levels of achievement
- better social skills and self-esteem (Emerson et al. 2012; Perkins & Knight 2014).

A review by Perkins (2014) further acknowledges that parents have the most influence on their children's educational outcomes when they have high expectations for their children, they show interest in their learning and development, they talk to their children about things that interest them; and they discuss with their children educational and career aspirations.

A literature review by the Australian Research Alliance for Children and Youth (Emerson et al. 2012) distinguishes between two types of parent/carer-school partnerships. The review authors suggest there may be involvement in the school and involvement or engagement in learning. While some parent/carer-school partnership strategies focus on involvement in the school, such as participating in school events, the approaches that focus on involvement in learning are key to influencing student outcomes (Emerson et al. 2012).

Fox and Olsen (2014) further suggest that there are two aspects to engagement in learning; family-led learning and family-school partnerships. Examples of family-led learning include activities such as shared reading, homework support and positive parent-child interactions. Examples of family-school partnerships include communication about what children are learning and specific information about what families can do to help. According to a report by the Global Family Research Project: family engagement is important to a child's development and learning; partnerships must be based on a shared responsibility among families, schools, and communities in an effort to ensure the success of all students; engagement must begin early and persist over time according to age and context; and partnerships require shifts in mindsets and a broader understanding of the importance of family engagement and what it entails (Weiss, Lopez & Caspe 2018).

3.7.2 Sources

Table 3.7-1 displays key sources related to parent/carer-school partnerships in policy, research and practice.

Table 3.7-1 Overview of key sources that include a focus on parent/carer-school partnerships

Source type	Key sources
Policy	Gonski (DET 2018)
	OECD (Schleicher, 2019)
	OECD (Schleicher, 2018)
	Review of the Melbourne Declaration (2019)
	Department of Education and Training (2017)
Journals/conferences	Emerson et al. (2012)
	Epstein (2018)
	Fox & Olsen (2014)
	Kagan ed. (2018)
	Perkins & Knight (2014)
	Smith et al. (2013)
	Stewart (2019)
	Simons (2013)
	Tayler (2019)
	Van Poortvliet, Axford & Lloyd (2018)
	Weiss, Lopez & Caspe (2018)
Other (inc. grey literature)	AITSL (2017a)
	CoLab (2019)
	Evidence for Learning (2019b)
	McFarland & Fenton (2017)
	Draft Declaration on Education Goals (2019), Review of the Melbourne Declaration
	NZCER (Wylie et al., 2017)
	Vaughan & Schoeffel (2019)
International teacher standards	Refer to Table 3.7-3

3.7.3 Current and changing landscape

Changes in the last decade

According to the Global Family Research Project report (Weiss, Lopez & Caspe 2018), recent studies in parent carer-school partnerships have been among the first to look at family engagement in relation to the integration with other core aspects of school quality, including school leadership, learning environment, professional learning and curriculum. These studies report that strong family engagement generates immediate and long-term benefits for children by reinforcing and supporting families' continuing and crucial role in their children's developmental pathways and provide strong evidence for building parent and carer partnerships into school improvement and reform efforts.

There is increased recognition of the importance of parent/carer-school partnerships and a commitment to action for developing stronger partnerships between families and schools to support student learning (Draft declaration on education goals 2019). While greater attention to the

importance of these partnerships has been acknowledged, high-quality evaluations of specific parental involvement programs in Australia are rare, and new studies in this area would be valuable (CoLab, 2019).

Relevance to learning and teaching; issues, debates, implications

The ways in which parents and carers engage in their child's learning and the expectations they have for their child at school is important. According to Hattie (2009, p.70*), "*parents need to hold high expectations for their children and schools need to work in partnership with parents to make their expectations appropriately high and challenging". Although many parents of children starting school have high aspirations for their learning, some become increasingly disengaged throughout their child's schooling, and their expectations fall, together with those of their children (Clinton, Hattie & Dixon 2007; Jennings & Bosch 2011).

Barriers to effective parent/carer-school partnerships commonly referenced in the literature include a lack of recognition by schools and teachers of the potential contribution of these partnership to student learning; parents feeling unsure of how they can support their child's learning; and the language used by school staff to communicate, particularly for parents with low educational attainment, those from low socio-economic backgrounds, and those whose cultural background differs from the teachers (Emerson, Fear, Fox & Sanders 2012; Hattie 2009; Perkins & Knight 2014).

While parental engagement is widely acknowledged as supporting student outcomes, many teachers feel ill-equipped for their role in promoting partnerships with parents. In a national survey, 82 per cent of teachers felt they needed more professional learning in the area of parent and community involvement. This professional learning need was greater than any other listed topic (Doecke et al. 2008). Epstein's (2018) analysis confirms that across countries, future teachers feel inadequately prepared to conduct effective partnership programs with their students' families and initial teacher education courses often do little to prepare teachers to understand family and community engagement as an essential component for student success. These issues have important implications for better preparing teachers and schools to effectively engage with parents and carers in ways that support all students.

Influencing policy directives

Parent/carer-school partnerships have been a key focus in school policy reforms to improve outcomes for all students. In Australia, the central role of parents and families in supporting children's learning, development and wellbeing has been recognised in the Melbourne Declaration on Educational Goals for Young Australians, signed by all Australian Ministers for Education in 2008. Increased emphasis on the benefits of partnerships between home and school is reflected in policies and frameworks. For example, the Australian Family-School Partnerships Framework (Australian Government DEEWR, 2008, p.2) was developed, "to encourage sustainable and effective partnerships between all members of the school community, including teachers, families and students" and family-school and community engagement and partnership has since been incorporated into the *National Safe Schools Framework*, *Early Years Learning Framewor*k, *National Quality Framework* for early childhood education and care, the *Australian Professional Standard for Principals* and the *Australian Professional Standards for Teachers*.

The Australian Family-School Partnerships Framework (2008) was developed to promote and guide partnership building. The core principles of effective family-school partnerships outlined in the framework acknowledge:

- parents and families are the first and continuing educators of their children
- learning is lifelong and occurs in multiple settings
- partnerships, schools and school communities flourish when the diversity and strengths of families are valued and leveraged
- community engagement expands responsibility and resources
- partnerships grow from mutual trust, respect and responsibility
- partnerships need committed, collaborative and creative leadership

Working in partnership with families is vital for enhancing the learning opportunities of students. The need for further information on effective ways to support teachers and schools to work in partnership with families would be useful to inform future policy.

Conclusion

The recent review of the Melbourne Declaration (2008) involved the preparation of a draft Declaration (2019) that includes a focus on stronger partnerships with parents, carers, families and communities. Given its importance, there is further work required about how these relationships can be fostered and supported to help young Australians achieve the goals articulated in the Declaration.

3.7.4 Examples in teacher standards

As outlined in Table 3.7-2, the *Australian Professional Standards for Teachers* (AITSL 2011) includes focus areas on engaging parents/carers in the educative process (Focus Area 3.7), reporting on student achievement (Focus Area 5.5) and engaging with parents and carers (Focus Area 7.3).

Table 3.7-2 Parent/carer-school partnerships' reflected in the Australian Professional Standards for Teachers

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
3. Plan for and implement effective teaching and learning	3.7 Engage parents/carers in the educative process	Plan for appropriate and contextually relevant opportunities for parents/carers to be involved in their children's learning
5. Assess, provide feedback and report on student learning	5.5 Report on student achievement	Report clearly, accurately and respectfully to students and parents/carers bout student achievement, making use of accurate and reliable records
7. Engage professionally with colleagues, parents/carers and the community	7.3 Engage with the parents/carers	Establish and maintain respectful, collaborative relationships with parents/carers regarding their children's learning and well-being.

Table 3.7-3 presents' examples of the how parent/carer-school partnerships have been included in teacher standards internationally.

Table 3.7-3 Examples of the ways parent and carer partnerships are included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	5.4.2 Communicate promptly and clearly the learners' needs, progress and achievement to key stakeholders, including parents/guardians. 6.2.2 Build relationships with parents/guardians and the wider school community to facilitate involvement in the educative process 6.4.2 Comply with and implement school policies and procedures consistently to foster harmonious relationships with learners, parents, and other stakeholders.
Southeast Asia Teachers Competency Framework (Teachers' Council of Thailand 2018)	Southeast Asia	Engaging the community is the ability to partner with parents and caregivers, involve the community to help students learn, and encourage respect and diversity 3.1 Partner with parents and caregivers 3.2 Involve the community to help my students learn See page 12 for further details
Chartered Teacher Professional Principles (Chartered College of Teaching 2017)	United Kingdom	10.2 Builds effective relationships with parents and carers, engaging them in ongoing, honest and open dialogue about their children
Myanmar Teacher Competency Standards (Teacher competency Standards Framework 2017)	Myanmar	A3.2.1 Be aware of the social and cultural background of students, parents, community elders and leaders when interacting with them B2.2.3 Communicate students' learning progress and achievement to parents and other educators B4.1 Demonstrate strategies for working together with other teachers, parents, and the local community to improve the learning environment for students
New Zealand Standards for the Teaching Profession (Teaching Council of New Zealand 2017)	New Zealand	Engaging in positive and collaborative relationships with our learners, their families and whanau Provide learners, their families and wha -nau, their communities and the public with trust and confidence in teachers and the profession

Standards	Country	Example
Fiji Teacher Competency Standards (Competency standards frameworks for Tuvalu teachers competency standards implementation 2014)	Fiji	Contributes to the development of a learning community, and supports student learning through partnerships and teamwork with members of the school community
Saudi Arabia -2014 (Al-Saud, FAA-M & Alsadaawi, AS 2018)	Saudi Arabia	Establish a productive relationship with parents
Graduand teacher competencies -2018 (*Recommendation II n.d.)*	Singapore	Partnering Parents

The teacher is aware of the need to build collaboration and partnership with parents to maximise the learning of pupils; uses strategies to keep parents informed on the progress of pupils and school activities; and, values perspectives of parents. |

3.7.5 Further questions/research agenda

This section raises questions and a possible research agenda for future consideration:

- How might schools work with families to co-create engagement strategies that support the learning and development of all children?

- What flexible approaches may be offered to support parental engagement in schools from diverse cultural and socio-economic backgrounds?

- What support and training for teachers might be required so that teachers are better able to work and engage with parents/carers?

- How might support be provided for parental engagement in schools as students get older?

- How is a focus on parent/carer-school partnerships included in initial teacher education programs?

3.7.6 End of section references

Listed below are key references used to inform this section.

Australian Institute for Teaching and School Leadership (AITSL) 2017a, *New role, new partnerships: a school leader's guide*, AITSL, Melbourne, viewed 22 November 2019, <https://www.aitsl.edu.au/docs/default-source/lead-develop/scenarios/leadership-scenarios-all-practical-guides.pdf>.

Clinton, J, Hattie, J, & Dixon, R 2007, *Evaluation of the Flaxmere Project: when families learn the language of school: Final report*, Ministry of Education, Wellington.

CoLab 2019, *Parental engagement: Australasian research summary,* Early Childhood Education Toolkit, *Evidence for Learning,* viewed 1 October, 2019 <https://evidenceforlearning.org.au/the-toolkits/early-childhood-education-toolkit/australasian-research-summaries/parental-engagement>.

Department of Education and Training (DET) 2017, *Parent engagement in learning*, Australian Government, Canberra, viewed 22 November 2019, <https://www.education.gov.au/parent-engagement-learning-1>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Department of Education, Employment and Workplace Relations (DEEWR) 2008, *Family-school partnerships framework: a guide for schools and families*, Australian Government, Canberra, viewed 22 November 2019, <http://www.familyschool.org.au/files/3013/8451/8364/Family-school_partnerships_framework.pdf>.

Doecke, B, Parr, G, North, S, Gale, T, Long, M, Mitchell, J, Rennie, J & Williams, J 2008, *National mapping of teacher professional learning project: final report*, DEEWR, Canberra, viewed 22 November 2019, <http://dro.deakin.edu.au/eserv/DU:30035340/doecke-nationalmapping-2008.pdf>.

Draft declaration on education goals 2019, Review of the Melbourne Declaration, Education Council, viewed 22 November 2019, <https://uploadstorage.blob.core.windows.net/public-assets/education-au/melbdec/Exposure%20Draft%20for%20Declaration%20on%20Education%20Goals.pdf>.

Emerson, L, Fear, J, Fox, S, & Sanders, E 2012, *Parental engagement in learning and schooling: lessons from research*, A report by the Australian Research Alliance for Children and Youth (ARACY) for the Family–School and Community Partnerships Bureau, Canberra*,* viewed 22 November 2019, <https://www.aracy.org.au/publications-resources/command/download_file/id/7/filename/Parental_engagement_in_learning_and_schooling_Lessons_from_research_BUREAU_ARACY_August_2012.pdf>.

Epstein, JL 2018, 'School, family, and community partnerships in teachers' professional Work', *Journal of Education for Teaching: International Research and Pedagogy*, vol. 44, no. 3, pp. 397–406, viewed 22 November 2019, <https://eric.ed.gov/?id=EJ1179376>.

Evidence for Learning 2019b, *Parental engagement,* Teaching & Learning Toolkit, Evidence for Learning, viewed 1 October 2019, <https://evidenceforlearning.org.au/teaching-and-learning-toolkit/parental-engagement>.

Fox, S & Olsen, A 2014, *Education capital: our evidence base defining parental engagement*, November, prepared by the Australian Research Alliance for Children and Youth for the ACT Government, ACT Government, Canberra, viewed 22 November 2019,

<https://www.education.act.gov.au/__data/assets/pdf_file/0011/687476/52828-DET-Defining-Parental-Engagement-A4-Report_AccPDF_01.pdf>.

Hattie, J 2009, *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*, Routledge, London.

Jennings, K & Bosch, C 2011, *Parent engagement in children's education*, Family-School & Community Partnerships Bureau, viewed 22 November 2019, <http://www.sacppa.com.au/documents/conf_2013_parent-engagement-in-childrens-education.pdf>.

Kagan, SL (ed.) 2018, *The early advantage 1—early childhood systems that lead by example: a comparative focus on international early childhood education*, Teachers College Press, New York NY & National Center on Education and the Economy, Washington DC.

McFarland, L & Fenton, A 2017, 'Why it matters to transform parent involvement from early childhood to primary school', *The Conversation*, July 13, viewed 22 November 2019, <http://theconversation.com/why-it-matters-to-transform-parent-involvement-from-early-childhood-to-primary-school-80144>.

Perkins, K & Knight, P 2014, *Parents and teachers: working together to foster children's learning*, The research digest, no.10, Queensland College of Teachers, viewed 22 November 2019, <https://www.qct.edu.au/Publications/Periodical/QCTResearchDigest2014-10.pdf>.

Review of the Melbourne Declaration 2019, Education Council, viewed 20 November 2019, <https://www.reviewmelbournedeclaration.edu.au>.

Schleicher, A 2018, *Valuing our teachers and raising their status: how communities can help*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 18 September 2019, <https://doi.org/10.1787/9789264292697-en>.

Schleicher, A 2019, *Helping our youngest to learn and grow: policies for early learning*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 21 November 2019, <https://doi.org/10.1787/9789264313873-en>.

Simons, R 2013, 'Parental engagement in learning', *[rd] ACER*, November 11, viewed 22 November 2019, <https://rd.acer.org//article/parental-engagement-in-learning>.

Smith, TE, Myers, ZR, Moen, AL, Kim, EM & Sheridan, SM 2013, *A quantitative synthesis of family engagement interventions: a preliminary examination in rural context*, National Center for Research on Rural Education Working Paper 2013-7, viewed 22 November 2019, <https://r2ed.unl.edu/resources/downloads/2013-wp/2013_7_Smith_Myers_Moen_MoormanKim_Sheridan.pdf>.

Stewart, V 2019, *The future of teaching and learning: International Summit on the Teaching Profession 2019*, Helsinki, Finland, March 14-15, Asian Society, viewed 21 November 2019, <https://asiasociety.org/sites/default/files/inline-files/FINAL%20REPORT%20FINLAND%202019%5B2%5D_0.pdf>.

Tayler, C 2019, 'Australia: maintaining the reform momentum: a case study of the Australian early childhood education and care system', in *The early advantage: international case studies of early childhood education and care systems*, viewed 21 November 2019, <http://ncee.org/wp-content/uploads/2019/05/Australia-Case-Study-for-NCEE-052019.pdf>.

Van Poortvliet, M, Axford, N & Lloyd, JJ 2018, *Working with parents to support children's learning: guidance report*, Education Endowment Foundation, London, viewed 22 November 2019,

<https://educationendowmentfoundation.org.uk/tools/guidance-reports/working-with-parents-to-support-childrens-learning>.

Vaughan, T & Schoeffel, S 2019, 'Evidence-informed parental engagement', *Teacher*, 14 October, viewed 22 November 2019, <https://www.teachermagazine.com.au/articles/evidence-informed-parental-engagement>.

Weiss, HB, Lopez, ME & Caspe, M 2018*, Joining together to create a bold vision for next generation family engagement: engaging families to transform education*, October, prepared by Global Family Research Project for Carnegie Corporation of New York, viewed 22 November 2019, <https://globalfrp.org/Articles/Joining-Together-to-Create-a-Bold-Vision-for-Next-Generation-Family-Engagement-Engaging-Families-to-Transform-Education>.

Wylie, C, McDowall, S, Ferral, H, Felgate, R & Visser, H 2018, *Teaching practices, school practices, and principal leadership: the first national picture 2017: report summary*, NZCER, Wellington, viewed 22 November 2019, <https://www.nzcer.org.nz/system/files/TSP_Summary_2017.pdf>.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for Educational Assessment,* viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute of Teaching and School Leadership 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d. National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

3.8 Pedagogy

The growing evidence base of teaching and learning has fuelled recent policy reform and has had implications for the types of pedagogy that might best support students to achieve to their full potential. The work of teachers has become increasingly complex as they are expected to draw on new skills that require to keep abreast of the latest evidence based practice and research about the science of learning, while working with colleagues to evaluate the impact of their teaching on student learning.

3.8.1 Description

Pedagogy is a discipline that concerns the theory and practice of teaching. Guerriero (2017) clarifies that teaching should be viewed from the perspective of the learner and should be the focus of the teaching-learning process in terms of growth in student knowledge, skills and understandings. As an encompassing term of what a teacher may say and do to stimulate student learning, pedagogy informs the strategies teachers use, their actions, their judgment and decision making, and their knowledge of student's needs, background and interests (DET 2018). Quality teaching is well recognised as a key lever for improving student outcomes, and as a result the body of research behind this claim has increased our understandings of the practices that constitute effective teaching (Hattie 2009). Consequently, this knowledge-base has significant implications for the types of pedagogies teachers might adopt and how these might be reflected in contemporary teacher standards.

3.8.2 Sources

Table 3.8-1 displays key sources identified, related to pedagogy, in policy, research and practice.

Table 3.8-1 Overview of key sources that include a focus on pedagogy

Source type	Key sources
Policy	Alice Springs (Mparntwe) Education Declaration –see Education Council (2019a)
	DET (2018)
	DET Victoria (2019)
	Gomendio (2017)
	Guerriero (2017)
	Institute of Education Services (n.d.)
	Masters (NSW Standards Authority 2019)
	Ministry of Education New Zealand (2020)
	OECD (2019c)
	Schleicher (2018)
Journals/conferences	Bahr & Mellor (2016)
	Bruniges (2019)
	Cantor et al. (2019)
	Darling-Hammond et al. (2019)
	Deans for Impact (2015)
	Goss & Hunter (2015)
	Harris & Jones (2019)
	Hattie (2009)

Source type	Key sources
	Howard-Jones (2014)
	McLean Davies et al. (2013)
	Medina (2014)
	Timperley et al. (2020)
Other (inc. grey literature)	CORE Education (2019)
	Emery & Saunders (2018)
International teacher standards	Refer to Table 3.8-3

3.8.3 Current and changing landscape

Changes in the last decade

The work in schools today is becoming more multifaceted, with changing demands of the curriculum, students, parents, the school community, economic and societal challenges as well as government initiatives. These have all placed demands on schools to respond and reconceptualise ways to meet these expectations (Aspland, in Bahr & Mellor 2016; Schleicher 2018). The work of teachers is clearly becoming more complex as "teachers are now expected to meet the social and emotional needs of a diverse learner population, rapidly implement ever-evolving pedagogical practices, deal with major structural changes in learning environments, and do all of this more collaboratively" (CORE Education 2019, p. 23).

The increased recognition of the importance of quality teachers and their teaching has been the premise of many international and national improvement agendas. An intensified focus to address the learning needs of all students has seen a traditional age- and stage-based education system place a greater emphasis on pedagogy and curriculum that is varied and flexible, within a system that 'promotes excellence and equity' and 'aims to fulfil the individual capabilities and needs of learners' (Education Council, 2019). As Masters (NSW Standards Authority 2019) notes, "the size and diversity of today's student population mean that students come to school with very different backgrounds, starting point and learning. The principles of equity and inclusivity require that every student be given access to the same curriculum and the support they require to progress and succeed" (p. 5).

The advancement of research over the last decade has led to a significant understanding about how we learn and the types of teaching approaches that might be more effective than another. The proliferation of evidence-based practices has seen a greater emphasis on applying strategies of 'what works best' into the classroom. Evidence-based practices, with origins in the medical field, aim to support professional judgment in making decisions about what strategy might work best to address the individual learning needs. Goss and Hunter (2015) note that the application of these strategies within a targeted teaching approach focuses on teachers' assessing how students are responding, so that strategies may be adjusted accordingly to support students from their point of need.

Evidence-based practices have attached themselves firmly to the education landscape, including in pre-service and in-service training. The *Master of Clinical Teaching* established in 2008 at the University of Melbourne is one such model that is based on evidence-based, diagnostic, interventionist teaching to inform practice and move student learning forward (McLean Davies et al. 2013). Harris and Jones (2019) also note that the terms 'evidence-informed practice' and 'research-

informed teaching' have continued to show up in the latest wave of professional learning provisions as educators grapple with applying research and evidence in practice. One such example is the *Hard to Reach, Hard to Teach* program led by Emery and Saunders (2018) which used educational research to promote professional learning, supporting teachers to engage in and which educational research relevant to their professional concerns and interests.

The past decade has also "witnessed an explosion of knowledge about how children develop into whole individuals, how they become learners, and how contextual factors nourish or hinder their development" (Cantor et al. 2019 p. 307) and "growing calls to use evidence from the study of the human brain to influence what goes on in the classroom" (Ansari, Konig, Leask & Tokuhama-Espinosa in Guerriero 2017 p. 196). The latest developments of the science of learning, in an attempt to better understand the many facets that influence learning, have included a proliferation of information about how to thrive at work, home and school (Medina 2014) and provided new understandings about early brain development, including trauma exposure during childhood and its impact on learning (Tobin 2016). The science of learning, once viewed from individual viewpoints, has more recently taken a multidisciplinary approach, including the fields of neuroscience, developmental science, epigenetics, early childhood, psychology, adversity science, resilience science, the learning sciences and the social sciences (Cantor et al. 2018).

These learnings are influencing the specific pedagogical approaches that teachers are employing to support learning (Darling-Hammond et al. 2019). According to Ansari, Konig, Leask and Tokuhma-Espinosa (2017) "teachers are actively seeking to learn more about the latest research and how it might impact their practice" (p. 197), through the involvement in conferences and other learning opportunities focused on learning and the connections between neuroscience and education. While this area of study has great potential to contribute to interdisciplinary work and the generation of evidence, Howard-Jones (2014) cautions about the importance of accurately disseminating evidence and dispelling myths, to ensure the science of learning is properly interpreted and applied through meaningful and feasible education interventions and approaches and assessed for their educational impact.

Relevance to learning and teaching; issues, debates, implications

A shifting focus of 'delivering learning' to 'enabling learning to happen' and the employment of pedagogies that focus this learning has influenced teaching and learning and the role of education in contemporary society (CORE Education 2019). For some, the increasing focus on evidence-based practices and the increased scrutiny to address societal issues has led to educators feeling less confident in using this knowledge alongside their professional judgement and context as part of the picture when making evidence-based decisions. While research and experience of teachers should feed into the knowledge base of teachers, too often "policies and discussions of 'evidence-based teaching' overlook the importance of this broader, more integrated understanding of the role of evidence in teaching and learning" (NSW Standards Authority 2019 p. 5).

The field of knowledge related to the science of learning has also had practical implications for the types of pedagogies teachers may use to enhance student learning. Although this area of research does not cover everything a teacher should know or be able to do, it does offer new insights into cognition and learning. The *Deans for Impact* report (2015) provides an outline of this research base, explaining that this new knowledge-base informs how students understand new ideas, how they learn and retain new information, how they solve problems, how learning transfers to new

situations, what motivates students to learn and addresses common misconceptions about how students think and learn.

Teachers are expected to have a deep and broad understanding of what they teach and the students they teach. This includes "professional knowledge (i.e. about 21st-century disciplines, about the curriculum of specific disciplines and about how students learn in those disciplines), as well as knowledge about professional practice that enables teachers to create effective learning environments to foster the cognitive, social and emotional aspects leading to good learning outcomes. It also entails an understanding of the research-theory-practice nexus and the inquiry and research skills that allow teachers to become lifelong learners and grow in their profession" (Schleicher 2019, p. 3). Bruniges (2019) notes that teachers need to draw on a range of pedagogical approaches to cater for the full range of abilities within a single classroom and therefore must be adaptive and responsible to the different needs of each student. And, while differentiation is widely recognised as a method for being responsive to maximise the learning of each student, it is also challenging, placing demands on teachers to "continual update their teaching methods, employ innovative teaching practices and mobilise various sources of knowledge" (Van Damme, in Guerriero 2017 p. 3).

Timperley et al. (2020) claim a challenge for educators today is how to use evidence effectively in their practice and how to adopt strategies for evaluative thinking. That is, being able to identify what evidence is available and what more needs to be collected, analysed and interpreted to ensure things are on the right track. Part of this work includes understanding possible limitations of the evidence base and using evaluative thinking to make decisions, backed up with evidence of impact. This presents many challenges, including to learn new ways of working together to slow down, examine the evidence in terms of what it means and to make decisions about what needs to happen next (Timperley et al. 2020).

The changing nature of teaching has influenced the pedagogy teachers today have been asked to adopt. As such, this impacts on the prevalence of skill sets they may require, including evaluative thinking methods to use the increasing knowledge-based of evidence-based practices and the science of learning, to further differentiate practices to better support and enhance the learning of all students.

Influencing policy directives

The greater focus on teaching quality has seen a range of reform agendas focused on retaining quality teachers and improving teachers and their teaching. Frequent and widespread use of high leverage pedagogies and teaching practices (OECD 2019d), best evidence synthesis (Ministry of Education New Zealand 2020) and what works clearinghouses (Institute of Education Services n.d.) has seen increased emphasis on what pedagogical strategies to focus on and how to adopt these high impact teaching strategies into daily classroom practice. Nationally, this influence has included the introduction of the Evidence for Learning (n.d.) *Teaching and Learning Toolkit* which provided a freely accessible online database of research on education approaches, and a range of support documents to schools, such as the *High Impact Teaching Strategies* (HITS) developed in Victoria (DET Victoria 2019) to support educators in making evidence-informed decisions about how to improve learning outcomes for students.

This emerging area of knowledge has implications for in-service and preservice training for how to more effectively upskill teachers knowledge and skills and keep up with recent advancements and

learnings. "In-service training is increasingly important to upskill teachers who started their career at a time when more traditional methods were sufficient and to provide lifelong learning to all" (Gomendio 2017, p.18) This requires both top-down, and bottom-up approaches to learning with and from others as new knowledge emerges from research or is shared through professional communities. "This knowledge needs to be accessed, processed and evaluated, and transformed into knowledge for practice" (Guerriero & Deligiannidi, in Guerriero 2017 p. 30). As such, Gonski et al. (DET 2018) recommend that to accelerate the development of contemporary pedagogy requires a range of strategies including collaboration, mentoring, observation and feedback, from colleagues and students, to incorporate these practices into the core role of teachers and creating the conditions to enable teachers to engage in them.

Conclusion

While pedagogy and the many aspects that constitute teaching is well documented in the Australian Professional Standards for Teachers (AITSL 2011), these recent advancements have called greater attention to the skills that might be required for teachers to access the increasing research base around teaching and learning, to differentiate their instruction to meet the needs of all students and to employ skills to evaluate the impact of their teaching on student learning.

3.8.4 Examples in teacher standards

As outlined in Table 3.8-2, pedagogy is covered in many areas of the *Australian Professional Standards for Teachers* (AITSL 2011). A focus on pedagogy is predominately addressed in the following standards: *Know students and how they learn* (Standard 1), which focused on theories about learning and using research; *Know the content and how to teach it* (Standard 2), covering content knowledge and instruction; *Plan for and implement effective teaching and learning* (Standard 3) which includes planning and evaluating teaching programs; *Create and maintain supportive and safe learning environments* (Standard 4) which outlines student engagement and working with heterogeneous groups; and, *Assess, provide feedback and report on student learning* (Standard 5) which focuses on using data to assess learning.

Although there is significant coverage of pedagogy in the Standards, there is perhaps scope to refine an emphasis on teaching *and learning* strategies, keeping abreast of research, and evaluative thinking and inquiry methods to better understand the impact of teaching on learning and how this may support the next stage of each student's learning and development.

Table 3.8-2 Examples of pedagogy as reflected in the Australian Professional Standards for Teachers

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
1. Know students and how they learn	1.2 Understand how students learn	Structure teaching programs using research and collegial advice about how student learn.
3. Plan for and implement effective teaching and learning	3.6 Evaluate and improve teaching programs	Evaluate personal teaching and learning programs using evidence, including feedback from students and student assessment data, to inform planning.
5. Assess, provide feedback and report on student learning	5.4 Interpret student data	Use student assessment data to analyse and evaluate student understanding of

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
		subject/content, identifying interventions and modifying teaching practice.

Table 3.8-3 presents' examples of how pedagogy has been included in teacher standards internationally.

Table 3.8-3 Examples of the ways pedagogy is included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	They apply developmentally appropriate and meaningful pedagogy grounded on content knowledge and current research. Domain 1, Content Knowledge and Pedagogy, is composed of seven strands: 1. Content knowledge and its application within and across curriculum areas 2. Research-based knowledge and principles of teaching and learning 3. Positive use of ICT 4. Strategies for promoting literacy and numeracy 5. Strategies for developing critical and creative thinking, as well as other higher-order thinking skills 6. Mother Tongue, Filipino and English in teaching and learning 7. Classroom communication strategies
Southeast Asia Teachers Competency Framework (Teachers' Council of Thailand 2018)	Southeast Asia	4.3 Master my teaching practice 4.3.2.5 Work with my co-teachers to improve my teaching practice 4.3.2.6 Conduct action research to improve my practice
Chartered Teacher Professional Principles (Chartered College of Teaching 2017)	United Kingdom	2. Has a critical understanding of subject- or specialism-specific pedagogy 3. Has deep knowledge of the most effective pedagogical approaches and how children and young people develop and learn 8.1 Uses a repertoire of pedagogical approaches that ensure all children and young people are being challenged to think deeply and to articulate their thoughts in a range of ways

Standards	Country	Example
Myanmar Teacher Competency Standards (Teacher Competency Standards Framework 2017)	Myanmar	B1.1 Demonstrate capacity to teach the curriculum-related subject concepts and content B1.2 Demonstrate capacity to apply different strategies for teaching and learning B1.3. Demonstrate good lesson planning and preparation in line with students' learning ability and experience D3.1 Demonstrate understanding of the importance of inquiry and research-based learning to improve teaching practice D3.1.1 Identify relevant research to support teaching and learning D3.1.2 Seek information on current trends and research-based practices in [primary] education and for specific subjects taught
New Zealand Standards for the Teaching Profession (Teaching Council of New Zealand 2017)	New Zealand	Be informed by research and innovations related to: content disciplines; pedagogy; teaching for diverse learners, including learners with disabilities and learning support needs; and wider education matters. Select teaching approaches, resources, and learning and assessment activities based on a thorough knowledge of curriculum content, pedagogy, progressions in learning and the learners.
Fiji Teacher Competency Standards (Competency standards frameworks for Tuvalu teachers competency standards implementation 2014)	Fiji	Uses a variety of relevant teaching strategies/pedagogies (or patterns of interactions) to assist learning of students of different learning needs/styles
Saudi Arabia 2014 (Al-Saud, FAA-M & Alsadaawi, AS 2018)	Saudi Arabia	3. Understanding the central concepts, methods of inquiry, structures of the discipline, and pedagogy specific to the discipline. Elaborated at teaching fields level 4. Knowledge of general pedagogy

Standards	Country	Example
Graduand teacher competencies - 2018 (*Recommendation II n.d.*)	Singapore	The teacher: • draws on deep and well-integrated disciplinary knowledge; • draws on well-developed Pedagogical Content Knowledge; • has knowledge of recent developments in the field; • helps pupils associate concepts and principles to their everyday experiences; and, • is able to apply his/her subject knowledge to help learners of different levels understand core concepts and their applications • is aware of major areas of research on teaching and of resources for professional learning

3.8.5 Further questions/research agenda

This section raises questions and a possible research agenda for future consideration:

- How might in-service teachers be better supported to engage in current teaching methodology, specifically in relation to recent thinking around the science of learning and the application and use of evidence-based practices?

- How do current Standards reflect the pedagogical skills required of teachers in contemporary society?

- How might teachers be supported to develop their skills to diagnose, intervene, implement and evaluate their teaching practice in terms of the impact it has on student learning?

- How might system leaders strengthen teacher and leader capacity to differentiate teaching to target teaching to students and track their progress?

3.8.6 End of section references

Listed below are key references used to inform this section.

Bahr, N & Mellor, S 2016, *Building quality in teaching and teacher education*, Australian education review No. 61, Australian Council for Educational Research, Melbourne, viewed 18 December 2019, <https://research.acer.edu.au/aer/15>

Bruniges, M 2019, 'The science behind the art of teaching: evaluation as inspiration', paper presented at the *Research Conference 2019*, pp. 6-11, Australian Council for Educational Research, viewed 18 December 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1363&context=research_conference>

Cantor, P, Osher, D, Berg J, Steyer, L & Rose, T 2019, 'Malleability, plasticity, and individuality: how children learn and develop in context', *Applied Developmental Science*, vol. 23, no. 4, pp. 307–337, <https://doi.org/10.1080/10888691.2017.1398649>.

CORE Education 2019, *Ten Trends – 2019*, viewed 18 December 2019, <https://core-ed.org/research-and-innovation/ten-trends/2019>.

Darling-Hammond, L et al. 2019, 'Implications for educational practice of the science of learning and development', *Applied Developmental Science*, pp.1–44, <https://doi.org/10.1080/10888691.2018.1537791>.

Deans for Impact 2015, *The science of learning*, Deans for Impact, Austin TX, viewed 18 December 2019, <https://deansforimpact.org/wp-content/uploads/2016/12/The_Science_of_Learning.pdf>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 17 September 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Department of Education and Training (DET) Victoria 2019, *High Impact teaching strategies: excellence in teaching and learning*, Victoria State Government, viewed 13 January 2020, <https://www.education.vic.gov.au/Documents/school/teachers/support/high-impact-teaching-strategies.pdf>.

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration*, Education Council, Carlton South, Australia, viewed 23 December 2019, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

Emery, H & Saunders, N 2018, 'Developing research capacity in teachers', *Teacher*, 9 May, viewed 18 December 2019, <https://www.teachermagazine.com.au/articles/developing-research-capacity-in-teachers>.

Evidence for Learning n.d., *Teaching and learning toolkit*, Evidence for Learning, viewed 13 January 2020, <https://evidenceforlearning.org.au/the-toolkits/the-teaching-and-learning-toolkit>

Gomendio, M 2017, *Empowering and enabling teachers to improve equity and outcomes for all*, International Summit on the Teaching Profession, OECD Publishing, Paris, <https://doi.org/10.1787/9789264273238-en>.

Goss, P, & Hunter, J 2015, *Targeted teaching: how better use of data can improve student learning*, Grattan Institute, Melbourne, <https://grattan.edu.au/wp-content/uploads/2015/07/827-Targeted-Teaching.pdf>.

Guerriero, S (ed.) 2017, *Pedagogical knowledge and the changing nature of the teaching profession*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 18 December 2019, <https://doi.org/10.1787/9789264270695-en>.

Harris, A & Jones, M 2019, 'Leading professional learning with impact', *School Leadership & Management*, vol. 39, no. 1, pp. 1–4, <https://doi.org/10.1080/13632434.2018.1530892>.

Hattie, J 2009, *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*, Routledge, London.

Howard-Jones, P 2014, *Neuroscience and education: a review of educational interventions and approaches informed by neuroscience*, Education Endowment Foundation, London, viewed 18 December 2019, <https://educationendowmentfoundation.org.uk/public/files/Presentations/Publications/EEF_Lit_Review_NeuroscienceAndEducation.pdf>.

Institute of Education Sciences n.d., *What works clearinghouse*, viewed 13 January 2020, <https://ies.ed.gov/ncee/wwc>.

McLean Davies, L, Anderson, M, Deans, J, Dinham, S, Griffin, P & Kameniar, B, 2013, 'Masterly preparation: embedding clinical practice in a graduate pre-service teacher education programme', *Journal of Education for Teaching*, vol. 39, no. 1, pp. 93–106, <https://doi.org/10.1080/02607476.2012.733193>.

Medina, J 2014, *Brain rules: 12 principles for surviving and thriving at work, home, and school*, 2nd ed, Pear Press, Seattle, WA.

Ministry of Education 2020, *BES (iterative best evidence synthesis) programme – what works evidence – Hei Kete Raukura*, New Zealand Government, viewed 13 January 2020, <https://www.educationcounts.govt.nz/topics/BES>.

NSW Education Standards Authority 2019, *Nurturing wonder and igniting passion, designs for a future school curriculum: NSW curriculum review interim report*, Independent Review Lead Professor Geoff Masters, NSW Education Standards Authority, Sydney, viewed 18 December 2019, <https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/interimreport/chapters/NSW-Curriculum-Review-Interim-Report.pdf>.

OECD 2019c, *TALIS 2018 results (volume I): teachers and school leaders as lifelong learners*, TALIS, OECD Publishing, Paris, viewed 14 January 2020, <https://doi.org/10.1787/1d0bc92a-en>.

OECD 2019d, *Trends shaping education 2019*, Centre for Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/trends_edu-2019-en>.

Schleicher, A 2018, *Valuing our teachers and raising their status: how communities can help*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 6 February 2020, <https://doi.org/10.1787/9789264292697-en>.

Timperley, H, Ell, F, Le Fevre, D & Twyford, K 2020, *Leading professional learning: practical strategies for impact in schools*, ACER Press, Camberwell.

Tobin, M 2016, *Childhood trauma: developmental pathways and implications for the classroom.* Australian Council for Educational Research, viewed 25 February 2020, <https://research.acer.edu.au/learning_processes/20>.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for Educational Assessment*, viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute for Teaching and School Leadership (AITSL) 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d. National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>

3.9 Professional learning

As the importance of quality teaching has been confirmed, and demands for deeper and more complex student learning have intensified, professional learning has taken a prominent place as a mechanism for building teacher knowledge and skills (Darling-Hammond, Hyler & Gardner 2017). With higher expectations on education systems, demands continue to be placed on teachers to continue improving as "student learning depends on every teacher learning all the time" (Fullan 2007 p. 35).

3.9.1 Description

Teacher professional learning has been broadly defined as the activities "that develop an individual's skills, knowledge, expertise and other characteristics as a teacher" (OECD 2009 p. 49). Teacher learning, change and growth is a complex process, with different kinds of stimuli for teacher learning and multiple growth pathways (Clarke & Hollingsworth 2002). According to Fullan and Hargreaves (2016), professional learning focuses on learning something new, of value, and refers to growth in terms of who teachers are and what they can do. Cole (2012) specifies that professional learning focuses on improving "individual professional practice and the school's collective effectiveness as measured by improved student engagement and learning outcomes" (p. 5), while Darling-Hammond et al. (2017) define effective professional learning as that which results in changes to teacher knowledge and practices, and improvements in student learning outcomes.

Moving away from the "perceptions and presumed 'baggage' associated with poorly conceived, fragmented, one-shot and de-contextualised 'in-service workshops'" (Mayer & Lloyd 2011 p. 3), professional learning is broadening from this style of professional development workshop, to include a range of activities that teachers engage in to improve their practice. Professional learning occurs through a range of activities including learning from and in practice (Horn & Little 2010); as the development of knowledge and skills related to 'school-wide', or government-identified, priorities (van der Veen & Sleegers 2009); through inquiry (Timperley 2008); and where teacher learning takes place within professional communities (Gilbert 2011).

While well-designed and implemented professional learning can lead to enhancements in teacher practice and student outcomes, not all types of professional learning are effective. High-quality professional learning is most impactful when it takes place over an extended period of time, when it is relevant and job-embedded, when it incorporates active learning, when it supports collaboration, when it offers feedback and reflection and when it supports teachers to consciously improve their practice so that they can better meet the needs of their students current levels of attainment and implement teaching methods that maximise their learning growth (DET 2018; Darling-Hammond et al. 2017; Lawrence, Meiers & Beavis 2005).

3.9.2 Sources

Table 3.9-1 displays key sources related to professional learning in policy, research and practice.

Table 3.9-1 Overview of key sources that include a focus on professional learning

Source type	Key sources
Policy	DET (2018)
	Freeman, O'Malley & Eveleigh (2014)
	OECD (2019c)

Source type	Key sources
	OECD Gomendio (2017)
	OECD TALIS 2008 results (2009)
	OECD TALIS 2013 results (2014)
	OECD TALIS 2018 results (2019)
	Review of the Melbourne Declaration (2019)
	Schleicher (2016)
	Thomson, De Bortoli & Underwood (2017)
Journals/conferences	Clarke & Hollingsworth (2002)
	Cole (2012)
	Darling-Hammond, Hyler & Gardner (2017)
	Donohoo (2017)
	Fullan & Hargreaves (2016)
	Fullan (2007)
	Gilbert (2011)
	Guskey (1997)
	Guskey (2014)
	Harris & Jones (2019)
	Hattie (2009)
	Hattie (2015)
	Hilton, Flores & Niklasson (2013)
	Horn & Little (2010)
	Lawrence, Meiers & Beavis (2005)
	Mayer & Lloyd (2011)
	Timperley (2008)
	van der Veen & Sleegers (2009)
Other (inc. grey literature)	AITSL (2017b)
	AITSL (2019)
	Jacob (2015)
	Jensen (2014)
	Jensen, Sonnemann, Roberts-Hull & Hunter (2016)
	Perry, Boylan & Booth (2019)
International teacher standards	Refer to Table 3.9-3

3.9.3 Current and changing landscape

Changes in the last decade

Societal advancements in the last decade that require students to prepare for a complex and rapidly changing world, and declining academic performance in key areas such as reading, science and mathematics (Thomson, De Bortoli & Underwood 2017) have led to a greater focus in professional learning that focuses on ongoing learning and continuous improvement (DET 2018). Greater collaboration is increasingly becoming a prominent area of focus amongst education systems (OECD 2019c), with results across the OECD countries demonstrating that those education systems that have higher rates of professional collaboration get stronger results (Schleicher 2016).

There is a wealth of international evidence highlighting the importance of professional collaboration as a potential catalyst for changing teachers' practice for the better (Harris & Jones 2019). A culture of collaboration enables teachers to adjust and adapt their methods as new research-based practices become available and is strongly related to positive effects on collective teacher efficacy. Hattie's 2009 research highlights that professional collaboration is one of the best investments a system can make, provided it is well-led, well-supported, and includes quality content (Fullan & Hargreaves 2016). As a strong predictor of student achievement, teachers with a strong sense of collective efficacy are more likely to develop shared understandings and collective responsibility that they have the capacity and the shared obligation to influence student learning (Hattie 2015). Where collective teacher efficacy is present, teachers are more likely to have positive attitudes toward professional learning (Donohoo 2017).

Relevance to learning and teaching; issues, debates, implications

According to TALIS 2018, the characteristics of professional learning that teachers found most impactful were those based on strong subject and curriculum content, collaboration and incorporation of active learning and collaborative approaches to instruction (OECD 2019c). The types of professional learning attended by teachers and principals varied across OECD countries and economies participating in TALIS. Only 44% of teachers participated in professional development based on peer learning and networking, which is relatively modest compared to participation rates of over 70% in out-of-school activities, such as attending courses or seminars.

Hattie (2015) reports that "too often attempts at collective action lead to forming groups, such as professional learning communities or networks of schools, but the focus of these groups is rarely on sharing evaluative evidence and thinking about what has been effective and even less on dependably identifying success and expertise and then privileging and sharing it" (p. 23). According to Donohoo (2017), more in-depth conversations about the connections between professional learning and student progress in the interpretation of results that lead to shifts may account for better collaboration and impactful professional learning. This is of significance in Australia, where twice as many teachers, between 37 and 42%, compared with the OECD average of 20 to 23% of those surveyed in the Teaching and Learning International Survey (TALIS), reported professional learning had little to no impact on their teaching practice (OECD 2014). Guskey (2014), who has written extensively on professional learning, signals the importance of evaluating its effectiveness. He notes that since the main goal of professional learning is to improve teaching practice so that student learning outcomes improve, planning of professional learning activities must begin with clarifying those student learning outcomes.

Influencing policy directives

With a greater understanding of the contributions of teachers in enhancing student achievement, the significance of teacher and teaching quality has taken a prominent place in education policy. A desire to define and develop quality teaching, and teachers, has contributed to many policy directives. 'Quality teaching' has become a key phrase in education policy and practice worldwide (Hilton, Flores, & Niklasson 2013). Over the past decade, education systems around the world have established policies targeting professional learning (OECD 2019c), some mandated by the school or system. These acknowledge that ongoing professional learning for teachers is an essential part of a high-performing education system (DET 2018).

In Jensen, Sonnemann, Roberts-Hull and Hunter's (2016) study of high performing systems, professional learning was seen as central. These systems anchored improvement strategies in teacher professional learning with a focus on lifting teacher and student learning. As high-performing systems, British Columbia, Hong Kong, Shanghai, and Singapore set clear strategic directions for quality professional learning sending a clear message to schools that student learning is what matters, effective professional learning is the core lever for improving student learning, and effective professional learning is central to school improvement and school evaluation. Setting strategic directions for these systems did not focus on tight regulations of professional learning hours or programs, but rather the focus was on supporting the design of quality professional learning across schools and helping schools to organise school improvement around the principles of effective professional learning while holding schools accountable for doing so.

According to Jensen et al. (2016), the strategic approach adopted by these systems was developed around an improvement cycle tied to student learning. While not a new concept (see Timperley 2008; Guskey 1997) the cycle includes: assessing students' learning to identify their next stage of learning (at either an individual or school level), developing teaching practices that provide for the next stage of student learning (and being clear what evidence supports this), and evaluating the impact of new practices on student learning so that teachers can refine their practice. While monitoring of effective professional learning is important to inform policy directives, improvement cycles have often failed due to an undeveloped focus on monitoring and evaluation in many educational systems (Jensen et al. 2016).

International studies suggest that the average teacher spends 10.5 days per year engaged in courses, workshops, observations visits, or in-service training for the purpose of continuing professional learning (Harris & Jones 2019). While policymakers have committed to professional learning as a means to support teacher learning, studies show that traditional forms of professional learning, such as short workshops and seminars, are more prevalent in the education sector than approaches such as networking, mentoring, classroom observations and building professional learning communities that are more likely to lead to a change in teaching practice (Freeman, O'Malley & Eveleigh 2014). This has implications for how systems best allocate resources to support teacher professional learning and how they monitor and evaluate policy reforms.

At a national level, the *Australian Charter for Professional Learning of Teachers and School Leaders* (AITSL 2012a), and the *Australian Teacher Performance and Development Framework* (AITSL 2012b) provide guidance for teacher professional learning that can be adapted to local contexts and system requirements. However, according to a recent review (AITSL 2017b), there is an opportunity to update the two policies and strengthen the implementation and use of them in schools. The review's findings suggest teachers advocated for programs and opportunities that made clear connections to practice so that they could make relevant choices and connections to the Australian Professional Standards for Teachers, and that they wanted further opportunities for job-embedded learning, action-research and mentoring arrangements.

The Gonski report, *Review to Achieve Educational Excellence in Australian Schools* (DET 2018), confirms that teachers require high-quality professional learning appropriate to their career stage, development needs, and the changes rapidly occurring in society. However, while many school leaders and systems are committed to supporting professional learning opportunities for teachers, improving learning and teaching is time-intensive, requires considerable resources, and too often leaders cannot find the time or resources to do so (Jensen 2014).

Conclusion

Given there is a plethora of research of the kinds of professional learning that can lead to instructional improvement and deeper student learning, the challenge is for policymakers, professional development providers and practitioners to work together to better support the implementation and scaling of effective teacher professional learning opportunities so that all teachers' are better supported to engage with others in collaborative efforts that improve their practice.

3.9.4 Examples in teacher standards

Table 3.9-2 displays focus areas related to teacher professional learning included in the Australian Professional Standards for Teachers (AITSL 2011).

Table 3.9-2 Professional learning reflected in the Australian Professional Standards for Teachers

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
6. Engage in professional learning	6.1 Identify and plan professional learning needs	Use the Australian Professional Standards for Teachers and advice from colleagues to identify and plan professional learning needs
	6.2 Engage in professional learning and improve practice	Participate in learning to update knowledge and practice, targeted to professional needs and school and/or system priorities
	6.3 Engage with colleagues and improve practice	Contribute to collegial discussions and apply constructive feedback from colleagues to improve professional knowledge and practice
	6.4 Apply professional learning and improve student learning	Undertake professional learning programs designed to address identified student learning needs
7. Engage professionally with colleagues, parents/carers and the community	7.4 Engage in professional teaching networks and broader communities	Participate in professional and community networks and forums to broaden knowledge and improve practice

Table 3.9-3 presents' examples of the ways professional learning has been included in teacher standards internationally.

Table 3.9-3 Examples of the ways professional learning is included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	Domain 7. Personal Growth and Professional Development Domain 7 focuses on teachers' personal growth and professional development. It accentuates teachers' proper and high personal regard for the profession by maintaining qualities that uphold the dignity of teaching such as caring attitude, respect and integrity. This Domain values personal and professional reflection and learning to improve practice. It recognizes the importance of teachers' assuming responsibility for

Standards	Country	Example
		personal growth and professional development for lifelong learning.
Southeast Asia Teacher Competency Framework (Teachers' Council of Thailand 2018)	Southeast Asia	4.3.2 Take responsibility in my own personal and professional growth 4.3.2.1 Become a self-directed learner 4.3.2.2 Identify my areas of growth and work on them 4.3.2.3 Set my professional learning goals 4.3.2.4 Join learning groups and programs 4.3.2.5 Work with my co-teachers to improve my teaching practice 4.3.2.6 Conduct action research to improve my practice 4.3.2.7 Plan the best use of my time and resources to learn effectively
Chartered Teacher Professional Principles (Chartered College of Teaching 2017)	United Kingdom	12. Is committed to engaging in relevant, career-long professional learning 12.1 Can identify their own learning needs and professional development goals, and uses these to create a long-term plan for professional learning 12.2 Engages in a range of different formal and informal professional learning opportunities to ensure they maintain an up-to-date professional knowledge 12.3 Proactively seeks out appropriate professional learning opportunities and evaluates professional learning opportunities to determine quality and suitability 12.4 Understands effective methods for engaging in, and evaluating professional learning, both for individuals and when working with colleagues 12.5 Is open to questioning and challenging their own practice, values and beliefs in light of new evidence and expert input.
Myanmar Teacher Competency Standards (Teacher competency Standards Framework 2017)	Myanmar	D1 Reflect on own teaching practice D1.1 Use evidence of students' learning to reflect on own teaching practice D2 Engage with colleagues in improving teaching practice D2.1 Improve own teaching practice through learning from other teachers and professional development opportunities

Standards	Country	Example
		D3 Participate in professional learning to improve teaching practice D3.1 Demonstrate understanding of the importance of inquiry and research-based learning to improve teaching practice
New Zealand Standards for the Teaching Profession (Teaching Council of New Zealand 2017)	New Zealand	Professional learning Use inquiry, collaborative problem solving and professional learning to improve professional capability to impact on the learning and achievement of all learners.
Fiji Teacher Competency Standards (Competency standards frameworks for Tuvalu teacher competency standards implementation 2014)	Fiji	Engaging in professional learning Uses the competency standards to reflect on professional actions Obtains feedback from reliable and valid sources to prompt reflection on teaching actions Established goals for own professional development Engages in professional development activities
Graduand teacher competencies -2018 (*Recommendation II n.d.)*	Singapore	Reflective thinking The teacher adopts a critically reflective stance towards his/her own professional practice as a basis for ongoing monitoring and refinement of those practices, including the identification of strengths and areas for improvement. The teacher: seeks opportunities to grow professionally; and, is aware of major areas of research on teaching and of resources for professional learning. Analytic thinking The teacher demonstrates a capacity to engage with problems. The teacher identifies possible cause-and-effect relationships, develops plans to respond, prioritises tasks in order of importance, and carefully monitors responses; makes and defends complex choices and decisions; and, frames, analyses and synthesises information in order to solve problems and provide solutions. Initiative The teacher seeks opportunities to take initiative to improve his/her professional practices. The teacher is

Standards	Country	Example
		aware of the value of, and need for skills in innovation and entrepreneurship.
		Working in teams
		The teacher actively seeks out opportunities for professional collaboration within and beyond the school. The teacher: cooperates with and supports colleagues; shares information and good ideas; expresses positive expectations of others; and, speaks positively of team members.

3.9.5 Further questions/research agenda

This section raises questions and a possible research agenda for future consideration:

- How might schools and systems better evaluate the effectiveness of professional learning activities that support enhanced teacher practice and student learning?

- Are teachers getting accurate information about their performance? Do they have a clear vision of success to aim for and clear metrics to track their progress?

- How might teachers be better supported to understand how to improve and to evaluate the impact of their teaching on student learning? Are school leaders equipped to guide teachers through the process?

3.9.6 End of section references

Listed below are key references used to inform this section.

Australian Institute for Teaching and School Leadership (AITSL) 2012a, *Australian charter for the professional learning of teachers and school leaders*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/tools-resources/resource/australian-charter-for-the-professional-learning-of-teachers-and-school-leaders>

--2012b, *Australian teacher performance and development framework*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/docs/default-source/national-policy-framework/australian-teacher-performance-and-development-framework.pdf>.

--2017b, *Uncovering the current state of professional learning for teachers: summary findings report*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/docs/default-source/hqpl/aitsl-hqpl-summary-findings-report-final.pdf>.

--2018, *The essential guide to professional learning: collaboration*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/docs/default-source/default-document-library/the-essential-guide-to-professional-learning---collaboration2dc5ac91b1e86477b58fff00006709da.pdf>.

Clarke, D & Hollingsworth, H 2002, 'Elaborating a model of teacher professional growth', *Teaching and Teacher Education*, vol. 18, no. 8, pp. 947–967, <https://doi.org/10.1016/S0742-051X(02)00053-7>.

Cole, P 2012, *Linking effective professional learning with effective teaching practice*, PTR Consulting & AITSL, Melbourne, <https://ptrconsulting.com.au/wp-content/uploads/2018/03/linking_effective_professional_learning_with_effective_teaching_practice_-_cole.pdf>.

Darling-Hammond, L, Hyler, ME & Gardner, M 2017, *Effective teacher professional development*, Learning Policy Institute, 5 June, Palo Alto, CA, viewed 20 December 2020, <https://learningpolicyinstitute.org/product/teacher-prof-dev>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Donohoo, J 2017, 'Collective teacher efficacy research: implications for professional learning', *Journal of Professional Capital and Community*, vol. 2, no. 2, pp. 101–116.

Freeman, C, O'Malley, K, & Eveleigh, F 2014, *Australian teachers and the learning environment: an analysis of teacher response to TALIS 2013: final report*, Australian Council for Educational Research, viewed 20 December 2020, <https://research.acer.edu.au/talis/2/>.

Fullan, M & Hargreaves, A 2016, *Bringing the profession back in: call to action*, Learning Forward, Oxford, OH, <https://learningforward.org/wp-content/uploads/2017/08/bringing-the-profession-back-in.pdf>.

Fullan, M 2007, 'Change the terms for teacher learning', *JSD*, vol. 28, no. 3, pp. 35–36, <http://michaelfullan.ca/wp-content/uploads/2016/06/13396074650.pdf>.

Gilbert, R 2011, *Professional Learning Flagship Program: leading curriculum change: literature review*, AITSL, Melbourne, viewed 20 December 2020, <https://www.yumpu.com/en/document/read/52160627/professional-learning-flagship-program-leading-curriculum-change>.

Guskey, TR 1997, 'Research Needs To Link Professional Development and Student Learning', *Journal of Staff Development*, vol. 18, no. 2, pp. 36–40.

Guskey, TR 2014, 'Planning professional learning', *Educational Leadership*, vol. 71, no. 8, pp. 10-16, viewed 20 December 2019, <https://uknowledge.uky.edu/edp_facpub/15>.

Harris, A & Jones, M 2019, 'Leading professional learning with impact', *School Leadership & Management*, vol. 39, no. 1, pp. 1–4, <https://doi.org/10.1080/13632434.2018.1530892>.

Hattie, J 2009, *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*, Routledge, London.

Hattie, J 2015, *What works best in education: the politics of collaborative expertise*, Pearson, London, viewed 20 December 2019, <https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/hattie/150526_ExpertiseWEB_V1.pdf>.

Hilton, G, Flores, M, & Niklasson, L 2013, 'Teacher quality, professionalism and professional development: findings from a European project', *Teacher Development*, vol. 17, no. 4, pp. 431–447.

Horn, I & Little, J 2010, 'Attending to problems of practice: routines and resources for professional learning in teachers' workplace interactions', *American Educational Research Journal*, vol. 47, no. 1, pp. 181–217.

Jacob, A & McGovern, K 2015, *The mirage: confronting the hard truth about our quest for teacher development*, TNTP, New York, viewed 20 December 2019, <https://tntp.org/assets/documents/TNTP-Mirage_2015.pdf>.

Jensen, B 2014, *Making time for great teaching*, Grattan Institute, Melbourne, viewed 20 December 2020, <https://grattan.edu.au/wp-content/uploads/2014/03/808-making-time-for-great-teaching.pdf>.

Jensen, B, Sonnemann, S, Roberts-Hull, K & Hunter, A, 2016, *Beyond PD: teacher professional learning in high-performing systems*, National Center on Education and the Economy, Washington, DC, viewed 20 December 2020, <http://ncee.org/wp-content/uploads/2015/08/BeyondPDDec2016.pdf>.

Ingvarson, L, Meiers, M, & Beavis, A 2005, *Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes & efficacy*, Australian Council for Educational Research, viewed 20 December 2020, <https://research.acer.edu.au/professional_dev/1/>.

Mayer, D & Lloyd, M 2011, *Professional learning: an introduction to the research literature*, AITSL, Melbourne, viewed 20 December 2020, <http://doereforms.weebly.com/uploads/5/3/5/2/53522887/professional_learning_an_introduction_to_the_research_literature_mayer_-amp-_lloyd_oct_2011.pdf>.

OECD 2009, *Creating effective teaching and learning environments: first results from TALIS*, TALIS, OECD Publishing, Paris, viewed 20 December 2020, <https://doi.org/10.1787/9789264068780-en>.

OECD 2019c, *TALIS 2018 results (volume I): teachers and school leaders as lifelong learners*, TALIS, OECD Publishing, Paris, viewed 20 December 2019, <https://doi.org/10.1787/1d0bc92a-en>.

Perry, E, Boylan, M, & Booth, J, 2019, *Quality assurance of teachers' continuing professional development: rapid evidence review*, Welcome Trust, London, viewed 20 December 2019, <https://educationendowmentfoundation.org.uk/public/files/Quality_Assurance_of_Teachers_Continuing_Professional_Development_2019.pdf>.

Schleicher, A 2016, *Teaching excellence through professional learning and policy reform: lessons from around the world*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 20 December 2019, <https://doi.org/10.1787/9789264252059-en>.

Thomson, S, De Bortoli, L, & Underwood, C 2017, *PISA 2015: reporting Australia's results,* Australian Council for Educational Research, Melbourne, viewed 20 December 2020, <https://research.acer.edu.au/ozpisa/22/>.

Timperley, H, 2008, *Teacher professional learning and development*, International Bureau of Education (IBE), & International Academy of Education, Belgium, viewed 20 December 2019, <http://edu.aru.ac.th/childedu/images/PDF/benjamaporn/EdPractices_18.pdf>.

Timperley, H, Ell, F, Le Fevre, D & Twyford, K 2020, *Leading professional learning: practical strategies for impact in schools*, ACER Press, Camberwell.

van der Veen, K & Sleegers, PJC 2009,'Teachers' emotions in a context of reforms: to a deeper understanding of teachers and reforms', in PA Schutz & M Zembylas (eds.), *Advances in teacher emotion research: the impact on teachers' lives*, Springer, Dordrecht, pp.233–252, viewed 20 December 2019, <https://research.utwente.nl/en/publications/teachers-emotions-in-a-context-of-reforms-to-a-deeper-understandi>.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented *at 40th Annual Conference (2014), International Association for Educational Assessment,* viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d. National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

3.10 Student wellbeing

Young Australians are at the centre of the *Alice Springs (Mparntwe) Education Declaration* (Education Council 2019) confirming a commitment from the Australian Governments to the vital role education plays in "promoting intellectual, physical, social, emotional, moral, spiritual and aesthetic development and wellbeing of young Australians, and in ensuring the nation's ongoing economic prosperity and social cohesion" (p. 2). Student resilience and wellbeing are essential for both academic and social development and are optimised by safe, supportive and respectful learning environments. Schools and education settings play a key role in supporting the development of student wellbeing through enhancing cognitive, social and emotional skills.

3.10.1 Description

Student wellbeing has been described as relating to a student's overall development and quality of life (OECD 2017e). Wellbeing is recognised as a multifaceted construct of domains relating to both physical and mental health (PISA, 2018; SAHMRI 2016) and includes cognitive, psychological, physical, social and material wellbeing (OECD 2017a). The World Health Organisation (WHO) Constitution (1946) states that good health is not just the absence of disease but is an optimal state of physical, mental and social wellbeing. Seligman (2011) further describes five pillars for wellbeing, including positive emotion, engagement, relationships, meaning and accomplishment (PERMA). Under this model, wellbeing centres on striving for and having these positive attributes in life whether you have an illness or not.

The focus on the physical, mental and social aspects to an individual's overall wellbeing acknowledges the growing body of research on the importance of individuals having the physical, psychological and social resources they need to meet a particular psychological, social and/or physical challenge (Dodge et al. 2012). Wellbeing is about individuals being able to realise their potential, to cope with the normal stresses of life, to work productively and to make a contribution to his or her community (World Health Organisation 2004).

Physical health, physical and emotional safety, emotional wellbeing, satisfying relationships, inner strength and spirit, confidence in their capabilities, pleasure and joy in learning, sense of interconnection with life and an overall satisfaction with life have been considered to influence young people's overall sense of wellbeing (Awartani, Whitman, & Gordon 2008). Oades (2019) claims that wellbeing is everyone's business and his theory of wellbeing, 'thrivability theory', highlights wellbeing as feeling connected, capable and content. The term 'student wellbeing' has tended to replace more traditional terms such as student welfare or student health, indicating a shift in the definition to include the social and relational aspects of wellbeing and young people's experiences as they engage in life and learning (Cahill, Beadle, Farrelly, Forster & Smith 2014).

3.10.2 Sources

Table 3.10-1 displays key sources identified related to student wellbeing in policy, research and practice.

Table 3.10-1 Overview of key sources that include a focus on student wellbeing

Source type	Key sources
Policy	Alice Springs (Mparntwe) Education Declaration – see Education Council (2019a)
	Australian Student Wellbeing Framework (2018)
	CESE NSW (2018)
	OECD (2016)
	OECD (2017a
	OECD (2017d)
	OECD (2017e)
	OECD (2018)
	OECD (2019a)
	Schleicher (2019)
	World Health Organisation (2004)
	World Health Organisation Constitution (1946)
Journals/conferences	Awartani, Whitman & Gordon (2008)
	Cahill, Beadle, Farrelly, Forster & Smith (2014)
	Dodge, Daly, Huyton & Sanders (2012)
	Lawrence, Dawson, Goodsell & Sawyer (2019)
	O'Connor, Cloney, Kvalsvig & Goldfeld (2019)
	Oades (2018)
	Seligman (2011)
	Thomson (2019)
Other (inc. grey literature)	SAHMRI (2016)
	Goss (2019)
	Gillard (2019)
	Masters (NSW Standards Authority2019)
	Melbourne Graduate School of Education (2016)
	Mogato (2019a)
	Wylie, McDowall & Ferral (2019)
International teacher standards	Refer to Table 3.10-3

3.10.3 Current and changing landscape

Changes in the last decade

Despite better access to services and significant improvements to the quality of life, there is evidence that levels of stress, anxiety and depression among students are on the rise (OECD 2018; Mogato 2019a). Mental health problems are among the most common disabling health conditions in young people (Gillard 2019). Approximately 20% of adolescents report experiencing a mental health problem in any given year (World Health Organisation 2014), and in 2015 one in seven Australian children aged 4 -17 met the criteria for a mental health disorder (Lawrence et al. 2018). The Programme for International Student Assessment (PISA) 2015 surveys showed that 19% of students reported being victims of bullying at least a few times a month and more than 1 in 2 students reported that they felt very anxious even if they were well prepared for a test. PISA 2018 shows that the share of students who reported being frequently bullied has increased by around

four percentage points since 2015 on average across OECD countries, and the percentage of students who reported that they are satisfied with their lives has reduced by 5 percentage points between PISA 2015 and 2018.

Another key area of research in the last decade has been the effect of trauma on development and learning and its impact on health and wellbeing (CESE 2020; Krakouer, Mitchell, Trevitt & Kochanoff 2017; Tobin 2016; Donaldson 2018). This awareness has fuelled the development of strategies to help support people to respond more appropriately to trauma including, for example, those offered through Berry Street Child and Family Services, the Australian Centre for Post-traumatic Mental Health and the Early Childhood Foundation.

Recent studies have provided strong evidence to suggest that improving children's mental health may help to optimise their learning at school (O'Connor et al. 2019), and positive teacher-student relationships have been linked to increased cognitive, behaviour and emotional engagement in learning (Cahill et al. 2014). In addition, higher levels of wellbeing are associated with better academic outcomes, increased connectedness to school and a more pro-social responsible lifestyle (Goss 2019; NSW 2018). According to Cahill et al. (2014), education needs to take its place as the foundation for supporting and enhancing the wellbeing of all students. Helping students feel connected and engaged in their learning and to each other through collaborative partnerships between home and school, will help support students to become successful members of their school and the wider community (NSW 2018).

Relevance to learning and teaching; issues, debates, implications

The importance of wellbeing for learning is well evidenced. Schools are increasingly concerned not only with students' academic performance but also with students' wellbeing. Educators refer to this as the need to develop a "whole child" perspective in education, with a balanced focus on cognitive, social, and emotional skills (OECD 2016). The OECD's 2015 PISA reveals a positive relationship between sense of belonging at school, satisfaction with life, and academic performance (OECD 2017d). A range of factors, including psychological (sense of purpose, self-awareness absence of emotional problems), physical (student's overall health), cognitive (students' proficiency in applying what they know) and social (relationship with family, peers, teachers and feelings about their social life), contribute to students' wellbeing at school with bullying and anxiety being some of the major threats to wellbeing (OECD 2017e).

Given the large amount of time students spend at school, it is essential that teachers are equipped with knowledge about how to support all students, and refer students where appropriate to additional services (Cahill et al. 2014). According to Cahill et al. (2014), professional training and development with an emphasis on how to lead collaborative learning strategies which include activities such as role-play, small group problem-solving discussion, critical thinking, skills development exercise and themed games are a central feature of effective social and emotional learning and health promotions programs. Supportive teachers, positive peer relationships, a strong sense of belonging through a disciplined learning environment, and caring parents, can help improve students' wellbeing (OECD 2017e).

It is important to note that the prevalence of students in need of specialised support is not about expecting or asking teachers to be therapists but rather as in the case of supporting students with trauma, it is about adopting trauma informed practice. This practice takes a strengths-based approach "in which education systems, schools and school staff can better understand, recognise

and respond effectively to the impact of trauma on students" (CESE 2020 p. 4) and support staff "to teach with an understanding of the impacts of trauma and in ways that can help students feel safe" (CESE 2020 p. 5).

According to the *Australian Student Wellbeing Framework* (2018), there is a range of preventative factors that schools can undertake to support and enhance student wellbeing. These include:

- providing opportunities for students to be involved in decision-making over matters that affect them
- creating and maintaining an inclusive learning environment that fosters a sense of connectedness
- actively engaging students through the use of evidence-informed, strengths-based approaches to enhance their own learning and wellbeing
- explicitly teaching social and emotional skills (SEL)
- collaborating with students to develop strategies to enhance wellbeing, promote safety and counter-violence, bullying and abuse in online and physical spaces

The Australian Curriculum includes a focus on teaching SEL through the general capabilities of Personal and Social Capability and Ethical Understanding. Addressing these is the responsibility of all teachers through the content of their learning areas. There are also strands within the Health and Physical Education learning area that specifically address Personal and Social Capabilities and Ethical Understandings. However formal assessment and reporting of these general capabilities, as discussed earlier in the general capabilities' sections, is determined by state and territory education authorities and how these are consistency interpreted and addressed remains an issue.

Improving student wellbeing requires safe and supportive physical and emotional environments. This works best when teachers, parents, and communities work together to help students better understand and manage their emotions and their relationships with others. On average, SEL interventions have an identifiable and valuable impact on attitudes to learning and social relationships in school. They also have an average overall impact of four months' additional progress on achievement. SEL has increasingly been integrated into school activities, with many schools taking on more responsibility for fostering student wellbeing and responding to mental health issues (Melbourne Graduate School of Education 2016). While there is growing recognition of the importance of student wellbeing as an essential part of students' development, studies have highlighted that teachers need greater guidance on how to assist students with social and emotional learning in the classroom (Melbourne Graduate School of Education 2016; OECD 2019a).

Influencing policy directives

Student wellbeing has increasingly been incorporated into education policy with a growing interest in how well different education systems promote student development and quality of life. Examined in programs such as PISA (OECD 2017d), policies have continued to acknowledge that students need to acquire other skills beyond knowledge in order to navigate a changing world, and a more multidimensional understanding of student learning is required (OECD 2019a). The role of schools in wellbeing and mental health was a common theme in consultation for the *2019 New South Wales*

Curriculum Review, with an increasing need to give priority to student's wellbeing and social and emotional development (NSW Standards Authority 2019).

The *Melbourne Education Declaration* (2008) was the first formal recognition in Australia that schooling has a broader role in the development of students beyond academic outcomes, and has since guided policy directives, including the recent *Alice Springs (Mparntwe) Declaration*. The Australian Government has recognised that schools play a vital role in promoting the social and emotional development and wellbeing of young Australians and in 2018, the *Australian Student Wellbeing Framework* was launched, informed by relevant national, state and territory policies, initiatives and legislative requirements. These provide Australian schools with a set of guiding principles to support and guide the review of current safety and wellbeing policies.

The *Australian Student Wellbeing Framework* aims to support school communities to build positive learning environments and to consider reviewing their current safety and wellbeing policies and support requirements. The Framework provides school communities with advice on developing and implementing policies and support mechanisms to help all students from the first year of school to year 12. The five key elements of the Framework are:

- Leadership: Principals and school leaders play an active role in building a positive learning environment where the whole school community feels included connected, safe and respected.
- Inclusion: All members of the school community are active participates in building a welcoming school culture that values, diversity, and fosters positive, respectful relationships.
- Student Voice: Students are active participants in their own learning and wellbeing, feel connected and use their social and emotional skills to be respectful, resilient and safe.
- Partnerships: Families and communities collaborate as partners with the school to support student learning, safety and wellbeing.
- Support: School staff, students and families share and cultivate an understanding of wellbeing and support for positive behaviour and how this supports effective teaching and learning.

The Framework has been endorsed by Ministers of Education through the Education Council with input from all states and territories, education authorities and a range of national and international experts fuelling state/territory jurisdiction strategic plans to meet wellbeing indicators in schools. The principles are endorsed by the Council of Australian Governments (COAG) and were developed by the Australian Human Rights Commission, reflecting the Child Safe Standards recommended by the Royal Commission into Child Sexual Abuse. They are underpinned by a child-rights approach to build capacity and deliver child safety and wellbeing in organisations, families and communities, and they are aligned to state, territory and other national wellbeing and safety initiatives and to the Australian Curriculum and the Australian Professional Standards for Teachers and Principals.

A range of resources and initiatives have been developed, including:

- Be You, beyou.edu.au launched in 2018 and was designed to support mental health in schools and early learning services
- National Day of Action Against Bullying and Violence, https://bullyingnoway.gov.au/NationalDay

- Safe Schools Coalition Australia, safeschoolscoalition.org.au aimed at creating safe and supportive school environments for same-sex attracted, intersex and gender diverse people by reducing homophobic and transphobic bullying and discrimination in schools.

Conclusion

In response to growing concern about the wellbeing of students and its importance for learning and for quality of life, there is an ongoing priority for teachers who know how schools can best promote wellbeing and resilience in all students, so that they feel connected, capable and content at school, and in their life more generally.

3.10.4 Examples in teacher standards

Table 3.10-2 displays the Australian Professional Standards for Teachers that include focus areas on student wellbeing.

Table 3.10-2 Student wellbeing reflected in the Australian Professional Standards for Teachers

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
1. Know students and how they learn	1.1 Physical, social and intellectual development and characteristics of students	Use teaching strategies based on knowledge of students' physical, social and intellectual development and characteristics to improve student learning
4. Create and maintain supportive and safe learning environments	4.1 support student participation 4.4 Maintain student safety	Establish and implements inclusive and positive interactions to engage and support all students in classroom activities Ensure students' well-being and safety within school by implementing school and/or system, curriculum and legislative requirements.

Table 3.10-3 presents examples of the how student wellbeing has been included in teacher standards internationally.

Table 3.10-3 Examples of the ways student wellbeing has been included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (Department of Education, Republic of Philippines 2017)	Philippines	2.2.2. Maintain learning environments that promote fairness, respect and care to encourage learning
Southeast Asia Teachers Competency Framework (Teachers' Council of Thailand 2018)	Southeast Asia	Nurture my student's confidence on what they can do and become 4.2.3.6 Support ways that nurture my students' aspirations and well-being

Standards	Country	Example
Chartered Teacher Professional Principles (Chartered College of Teaching 2017)	United Kingdom	6.4 Ensures a safe environment that supports the emotional and physical wellbeing of children and young people 10.3 Is able to implement a range of strategies to support the emotional and physical wellbeing of all children and young people, identifying and sharing any areas for concern as appropriate
Myanmar Teacher Competency Standards (Teacher competency Standards Framework 2017)	Myanmar	B3.1 Demonstrate capacity to create a safe and effective learning environment for all students
New Zealand Standards for the Teaching Profession (Teaching Council of New Zealand 2017)	New Zealand	Promoting the wellbeing of learners and protecting them from harm Establish and maintain professional relationships and behaviours focused on the learning and wellbeing of each learner
Graduand teacher competencies - 2018 (*Recommendation II n.d.*)	Singapore	Nurturing the whole child Develops a culture of care, trust and friendliness that enhances the wellbeing and character development of pupils; Encourages practices that support the physical, emotional and social well-being of pupils

3.10.5 Further questions/research agenda

This section raises questions and a possible research agenda for future consideration:

- How might teachers actively engage students through the use of evidence-informed, strengths-based approaches to enhance their own learning and wellbeing?

- How might teachers be further supported to develop their capabilities to explicitly teach social and emotional skills using evidence-informed practices related to personal safety, resilience, help-seeking and protective behaviours across the curriculum?

- How might schools further collaborate with students and the wider community to develop strategies to enhance wellbeing, promote safety and counter-violence, bullying and abuse in online and physical spaces?

- What sort of training might teachers require to better identify and support student wellbeing for learning?

3.10.6 End of section references

Listed below are key references used to inform this section.

Australian Student Wellbeing Framework 2018, Education Services Australia, viewed 22 November 2019, <https://studentwellbeinghub.edu.au/educators/framework>.

Awartani, M, Whitman, C V & Gordon, J 2008, 'Developing instruments to capture young people's perceptions of how school as a learning environment affects their wellbeing', *European Journal of Education*, vol. 43, no. 1, pp. 51-70, viewed 22 December 2019, <https://doi.org/10.1111/j.1465-3435.2007.00337.x>.

Berry Street 2018, 'Why language matters: wellbeing is everyone's business', interview with L Oades, *The good childhood blog,* web log post, 23 July, viewed 22 December 2019, <https://blog.goodchildhood.org.au/2018/07/23/why-language-matters-wellbeing-is-everyones-business-2>.

Borgonovi, F & Pál, J 2016, *A framework for the analysis of student well-being in the PISA 2015 study: being 15 in 2015*, OECD education working papers, no. 140, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/5jlpszwghvvb-en>.

Cahill, H, Beadle, S, Farrelly, A, Forster, R & Smith, K 2014, *Building resilience in children and young people: a literature review for the Department of Education and Early Childhood Development (DEECD)*, Melbourne Graduate School of Education, viewed 22 December 2019, <https://www.education.vic.gov.au/Documents/about/department/resiliencelitreview.pdf>.

Centre for Education Statistics and Evaluation 2018, *Every student is known, valued and cared for in our schools – an environmental scan*, NSW Department of Education, viewed 22 November 2019, <https://www.cese.nsw.gov.au/images/stories/PDF/Wellbeing-environmental-scan.pdf>.

Centre for Education Statistics and Evaluation 2020, *Trauma-informed practice in schools: an explainer*, NSW Department of Education, viewed 27 February 2020, <https://www.cese.nsw.gov.au//images/stories/PDF/trauma-informed-practice.pdf>.

Constitution of the World Health Organisation 1946, *American Journal of Public Health*, vol. 36, no. 11: pp. 1315-1323, viewed 22 December 2019, <https://doi.org/10.2105/AJPH.36.11.1315>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Dodge, R et al. 2012, 'The challenge of defining wellbeing', *International Journal of Wellbeing*, vol. 2, no. 3, pp. 222–235, 22 December 2019, doi:10.5502/ijw.v2i3.4

Donaldson, W 2018, *Trauma-informed care: Literature scan*, Te Pou o te Whakaaro Nui, Auckland, New Zealand, https://www.tepou.co.nz/uploads/files/resource-assets/Trauma-informed%20Care%20Literature%20Scan%20Final.pdf

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration,* Education Council, Carlton South, Australia, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

EducationMelbourne 2018, *How do we learn to thrive? The emergence of wellbeing science*, online video, presented by L Oades, 21 November, viewed 6 January 2020, <https://www.youtube.com/watch?v=ocqFzGjMDa4>.

Melbourne Graduate School of Education 2016, *Social and emotional learning: Australasian research summary*, Evidence for Learning, viewed 22 December 2019, <https://evidenceforlearning.org.au/the-toolkits/the-teaching-and-learning-toolkit/australasian-research-summaries/social-and-emotional-learning>.

Gillard, J 2019, 'Building a mentally healthy generation', *Teacher*, 18 February, viewed 22 December 2019, <https://www.teachermagazine.com.au/columnists/julia-gillard/building-a-mentally-healthy-generation>.

Goss, P 2019, 'Mental health and wellbeing matters', *Education Matters Magazine*, viewed 22 December 2019, <https://www.educationmattersmag.com.au/mental-health-and-wellbeing-matters>.

Krakouer, J, Mitchell, P, Trevitt, J & Kochanoff, A 2017, *Early years transitions: supporting children and families at risk of experiencing vulnerability: rapid literature review*, Victoria State Government Department of Education, East Melbourne, viewed 20 November 2019, <https://research.acer.edu.au/early_childhood_misc/9>.

Lawrence, D, Dawson, V, Houghton, S, Goodsell, B, Sawyer, MG, 2019, 'Impact of mental disorders on attendance at school', *Australian Journal of Education*, vol. 63, no. 1, pp. 5–21, viewed 22 December 2019, <https://doi.org/10.1177/0004944118823576>.

Melbourne Declaration on Educational Goals for Young Australians, 2008, Ministerial Council on Education, Employment, Training and Youth Affairs, Melbourne, viewed 22 December 2019, <http://www.curriculum.edu.au/verve/_resources/national_declaration_on_the_educational_goals_for_young_australians.pdf>.

Mogato, A 2019a, 'The connection between student wellbeing and outcomes', *The Educator K/12*, 28 October, viewed 22 December 2019, <https://www.theeducatoronline.com/k12/news/the-connection-between-student-wellbeing-and-outcomes/267628>.

NSW Education Standards Authority 2019, *Nurturing wonder and igniting passion, designs for a future school curriculum: NSW curriculum review interim report*, Independent Review Lead Professor Geoff Masters, NSW Education Standards Authority, Sydney, viewed 18 December 2019, <https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/interimreport/chapters/NSW-Curriculum-Review-Interim-Report.pdf>.

O'Connor, Cloney, D, Kvalsvig, A & Goldfeld, S, 2019, 'Positive mental health and academic achievement in elementary school: new evidence from a matching analysis', *Educational Researcher*, vol. 48, no. 4, pp. 205–216, viewed 22 December 2019, <https://doi.org/10.3102/0013189X19848724>.

OECD 2017a, 'Overview: students' well-being', in *PISA 2015 results (volume III): students' well-being*, OECD Publishing, pp. 37-57, Paris, viewed 22 December 2019, <https://doi.org/10.1787/9789264273856-5-en>.

OECD 2017d, Starting strong 2017: key OECD indicators on early childhood education and care, Starting strong, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/9789264276116-en>.

OECD 2017e, 'Students' well-being: what it is and how it can be measured', in *PISA 2015 results (volume III): students' well-being*, pp. 59-66, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/9789264273856-6-en>.

OECD 2018, *Trends shaping education spotlight 14: good vibrations: students' well-being*, viewed 22 December 2019, <http://www.oecd.org/education/ceri/Spotlight-14-Good-Vibrations-Students'-Well-being.pdf>.

OECD 2019a, *Education policy outlook 2019: working together to help students achieve their* potential, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/2b8ad56e-en>.

OECD 2019b, 'PISA 2018 well-being framework 2018', in *PISA 2018 assessment and analytical framework*, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/38a34353-en>.

SAHMRI 2016, *PERMA+*, South Australian Health & Medical Research Institute, Adelaide, viewed 22 December 2019, <https://www.wellbeingandresilience.com/sites/swrc5/media/pdf/permaandcentreoverview.pdf>.

Schleicher, A 2019, *Helping our youngest to learn and grow: policies for early learning*, International Summit on the Teaching Profession, viewed 22 December 2019, <https://doi.org/10.1787/9789264313873-en>.

Seligman, MEP 2011, *Flourish: a visionary new understanding of happiness and well-being*, Free Press, New York.

Thomson, S 2019,'Assessing and understanding social and emotional skills: the OECD study on social and emotional skills', paper presented at *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, 4-5 August, Melbourne, Australian Council for Educational Research, viewed 22 December 2019, <https://research.acer.edu.au/research_conference/RC2019/5august/4>.

Tobin, M 2016, *Childhood trauma: developmental pathways and implications for the classroom.* Australian Council for Educational Research, viewed 25 February 2020, <https://research.acer.edu.au/learning_processes/20>.

World Health Organization (WHO) 2004, *Promoting mental health: concepts, emerging evidence, practice: summary report*, World Health Organization, Geneva, viewed 22 December 2019, <https://www.who.int/mental_health/evidence/en/promoting_mhh.pdf>.

World Health Organization (WHO) 2014, *Mental health: a state of well-being* (WHO fact file, August, p. 1), WHO, Geneva.

Wylie, C, McDowall, S, & Ferral, H 2019, *Teaching, School, and Principal Leadership Practices Survey 2018*, New Zealand Council for Educational Research, Wellington, New Zealand, viewed 22 December 2019, <https://www.nzcer.org.nz/system/files/TSP%202018%20report%20FINAL.pdf>.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for Educational Assessment,* viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute for Teaching and School Leadership (AITSL) 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, Suva, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian

Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d., National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

3.11 Teacher wellbeing

There is increasing research to suggest that wellbeing, efficacy, and confidence are integral to learning (Cahill et al. 2014; O'Connor et al. 2019). Therefore, it can be argued that if wellbeing is important to learning and educators need to be lifelong learners, then understanding the connection between teacher wellbeing and being an effective teacher, and how it relates to student wellbeing is paramount (Schleicher 2018). It is well accepted that teachers are a most important in-school factor contributing to student achievement, and consequently, if teacher wellbeing is connected to the quality of their work, then teacher wellbeing is important to the future of education (McCallum et al. 2017).

3.11.1 Description

Wellbeing as a construct has several dimensions. According to Schleicher (2018), teacher wellbeing is made up of four key aspects: cognitive well-being, including self-efficacy; psychological well-being, including job satisfaction, stress, commitment, and a feeling of trust; physical well-being, such as burn out; and, social well-being, such as workplace relationships. The World Health Organization (2004), notes that good mental health and wellbeing is "a state in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community." Thus, an individual is said to be in a state of 'optimal wellbeing' or to be 'flourishing' when they feel positive, engaged and fulfilled (Education NT 2019), as in the case of Oades' (2018) thrivability theory, when an individual feels connected, capable and content.

Gillett-Swan and Grant-Smith (2018) suggest that wellbeing encompasses an "individual's capacity to manage the social, economic, personal and physical factors that impact on the work-integrated learning experience and how the work-integrated learning experience impacts on an individual's social, economic, personal and physical wellbeing domains" (p. 133). Given the changing nature of wellbeing, it is important to acknowledge that wellbeing does fluctuate, and can change, depending on circumstances. Factors impacting on wellbeing can include personal and professional challenges, different stressors and demands, workload, challenging contexts and relationships; and critical incidents (Education NT 2019). Thus, McCallum and Price (2016), offer an encompassing definition of wellbeing, noting that "wellbeing is diverse and fluid respecting individual, family and community beliefs, values, experiences, culture, opportunities and contexts across time and change. It is something we all aim for, underpinned by positive notions, yet is unique to each of us and provides us with a sense of who we are which needs to be respected" (p. 17).

3.11.2 Sources

Table 3.11-1 below displays key sources identified, related to teacher wellbeing in policy, research and practice.

Table 3.11-1 Overview of key sources that include a focus on teacher wellbeing

Source type	Key sources
Policy	AITSL (2016)
	Education Northern Territory (2019)
	OECD (2019c)
	Parliament of Australia (2019)

Source type	Key sources
	Schleicher (2018)
	Wang & Zuccollo (2020)
	World Health Organization (2004)
	World Health Organization (2019)
Journals/conferences	Allen, Rowan & Singh (2019)
	Berryhill, Linney & Fromewick (2009)
	Cahill, Beadle, Farrelly, Forster & Smith (2014)
	Heffernan, Longmuir, Bright & Kim (2019)
	Leithwood and Beatty (2008)
	Gracia-Moya et al. (2019)
	Gillett-Swan & Grant-Smith (2018)
	McLean & Connor (2015)
	McCallum & Price (2016)
	McCallum et al. (2017)
	O'Connor et al. (2019)
	Oades (2018)
	Owen (2016)
	Richardson, Watt & Devos (2013)
	Riley (2016)
	Roffey (2012)
	Spilt, Koomen & Thijs (2011)
Other (inc. grey literature)	NESLI (2019)
	Gillard (2019)
	Mogato (2020)
International teacher standards	Refer to Table 3.11-3

3.11.3 Current and changing landscape

Changes in the last decade

The last decade has seen increasing demands on schools, amid continual policy reforms and curriculum mandates. The need for continual learning and to be resilient in the face of increased scrutiny has all placed extra demands on teachers which has no doubt impacted on their wellbeing. Globally there are concerns about teacher supply for a stable and effective workforce (McCallum et al. 2017). Stress and emotional exhaustion levels in classrooms are at a high, as teachers grapple with growing workloads and difficult behaviour from students and parents (Gillard 2019). These changes in the last decade have had significant consequences on the broader education system, with wellbeing found to be impacting on resilience and self-efficacy, social-emotional competence/emotional intelligence and personal responses to teachers' work: burnout, fatigue, exhaustion and stress (McCallum et al. 2017).

A recent health and wellbeing study from Monash University shows that as much as 71% of Australia's educators feel under-appreciated in the classroom and struggle with excessive workloads (Mogato 2020). This study titled *Perceptions of Teachers and Teaching in Australia*, of 2,444 educators found that while just over half of teachers are satisfied with their job (56%), a third

of teachers (34%) expressed dissatisfaction with their role as a teacher (Heffernan, Longmuir, Bright & Kim 2019).

Other studies have reported that many teachers do not feel valued by society, which may also be impacting on their sense of wellbeing. While teachers play a crucial role in a student's life, the OECD 2013 Teaching and Learning International Survey (TALIS) found that less than one-third of teachers believed that their profession is valued in society. In all but one of the countries and economies that participated in TALIS, the extent to which teachers can participate in decision-making has a strong, positive association with the likelihood of reporting that teaching is valued by society (Schleicher 2018). While a report from TALIS 2019, *Teachers and School Leaders as Lifelong Learners*, has been released, a second volume, *Teachers and School Leaders as Valued Professionals*, to be published in early 2020 (OECD 2019c) highlighted the increasing interest in this area.

These studies have cited teachers are struggling with unmanageable workloads, feeling less confident that they could handle the workload and with increasing levels of burnout. Burnout named an occupation phenomenon by the World Health Organization (WHO 2019) has significant implications for the wellbeing of the workforce, with a recent WHO study suggesting that depression and anxiety costing the global economy US $1 trillion each year in lost productivity.

The demands of the role and changing perceptions of the value of the profession may also be contributing factors to the attrition rate among early career teachers. With less early career teachers wanting to stay in the profession, some estimates suggest that about 25% of teachers will leave the profession within five years of starting, although this figure could be as high as 50% (AITSL 2016).

McCallum et al. (2017) note that there is a link between employee wellbeing and effectiveness. That "a positive sense of wellbeing does indeed contribute to work satisfaction and productivity, and most importantly, teachers' positive influence on their student's wellbeing and academic achievement" (p. 30) and "positive relationships with students, parents, colleagues and leadership can have an affirmative influence on teachers' sense of wellbeing, and this is an area worthy of further research (McCallum et al. 2017 p. 30). The importance of wellbeing has been attributed to efficacy, agency and self-confidence. Research has shown that teacher efficacy is strongly associated with the quality of teacher instruction, ability to persist with challenges, and that those with efficacy show higher job satisfaction, are less likely to experience burnout, and are more resilient amongst adversity (OECD 2019c).

The importance of collegial support and opportunities for professional learning have been prevalent in supporting teachers to adapt and meeting demands in education today. It is through ongoing professional learning in a supportive context, and genuinely engaging and connecting with peers beyond teamwork that teacher wellbeing can be enhanced (Owen 2016). Professional learning communities provide scope for "challenging ideas to increase the potential for success, gaining greater accomplishment through joint work and nurturing positive emotion and sharing of good feelings" (Owen 2016 p. 217).

Relevance to learning and teaching; issues, debates, implications

A positive sense of wellbeing contributes to work satisfaction and productivity and importantly, demonstrates a positive influence on the levels of student wellbeing and academic achievement (Spilt, Koomen & Thijs 2011). There is growing recognition of the importance of student-teacher relationships on wellbeing and academic performance (Garcia-Moya et al. 2019). Therefore, for

teaching and learning to be effective, it is important that teachers have a high level of wellbeing, self-efficacy and confidence (Schleicher 2018).

Like students, teachers who have a good sense of wellbeing are going to be better teachers, able to thrive in life and have skills to manage own wellbeing, have greater levels of resilience, efficacy and agency; there are important attributes in an era of continual change. However, "when teachers become burned out, or worn out, their students' achievement outcomes are likely to suffer because they are more concerned with their personal survival" (Richardson, Watt & Devos 2013 p. 231).

If teachers have a high sense of wellbeing, this is likely to also increase their relationships with others, including students. One study focused on how teacher-child relationships positively impact on the personal and professional wellbeing of teachers found that the "interpersonal relationships between teachers and students have been largely ignored as a factor of significance to teacher wellbeing" (Spilt et al. 2011, p. 458) and that "teachers have a basic need for relatedness with the students in their class" (p. 457), suggesting that teacher wellbeing and connectedness is just as important as is student connection to teachers (Cahill et al. 2014).

School climate is a crucial aspect of teacher and student wellbeing and student learning (OECD 2019c). Leithwood and Beatty (2008) note that it is imperative for leaders to attend to the feelings, dispositions or affective states of staff members, both individually and collectively. They argue that teachers' perceptions and motivations can have significant effects on the quality of instruction, student learning, engagement in the school or profession, staff retention, job satisfaction, organizational commitment, morale, stress, and staff trust in colleagues, parents and students.

The quality of teachers' instruction and practice is also at risk, as stressed or burnt-out teachers can hardly operate effectively in the classroom. While the evidence is more limited on this aspect, a small-scale study in the United States suggests that teacher stress and depression symptoms are linked to lower gains in student achievement in third-grade maths (McLean & Connor 2015). Thus, in examining the quality of teaching, it is necessary to explore how the quality of teachers' working conditions can affect their performance. As part of a project on supporting teachers' professional learning and wellbeing for quality teaching, Figure 1 illustrates that teacher wellbeing is an integral part of a quality working environment that enables quality teaching.

E. Context: National system - Characteristics of the teaching profession
- Requirements to enter and stay in the teaching profession
- Statutory salaries
- Status of the profession according to teachers

E. Context: School characteristics
- school type
- school location
- school size
- school leadership
- school climate
- school socio-demographic characteristics

E. Context: Teacher characteristics
- socio-demographic characteristics (e.g. age, gender)
- years of experience as a teacher
- years working in the school
- higher education level attained
- type of certification
- job security (part time vs indefinite contract)
- content of teacher preparation

B. Quality of the working environment

Job demands
- Physical learning environment
- Work overload
- Classroom composition
- Performance evaluation

Job resources
- Work autonomy
- Support for learning and development
- Material resources and school facilities
- Appraisal and feedback

A. Well-being dimensions
- Cognitive well-being (i.e. self-efficacy)
- Psychological well-being (i.e. job satisfaction, stress, commitment, feeling of trust)
- Physical well-being (i.e. burn out)
- Social well-being (i.e. workplace relationships)

C. Quality teaching

Quality processes
- Students' active engagement with teachers
- Reinforcement content and feedback
- Classroom climate
- Teacher co-operation

Quality outcomes
- Students' achievement
- Students' motivation and attitude towards learning
- Students' self-efficacy
- Students' well-being

D. Career plans and trajectories

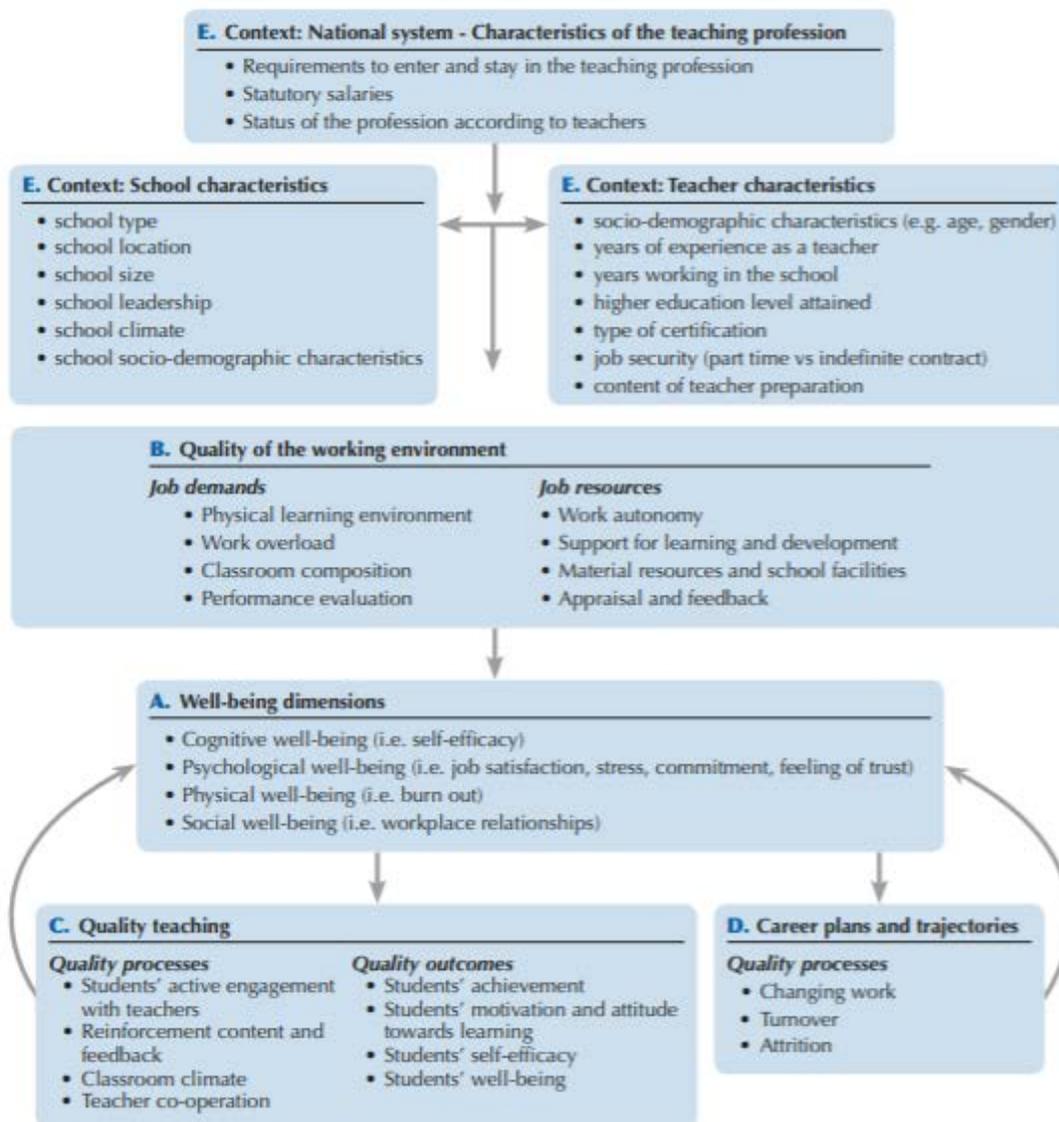*Quality processes*
- Changing work
- Turnover
- Attrition

Figure 1 Working diagram of teachers' wellbeing and quality teaching from the OECD's project on supporting teachers' professional learning and wellbeing for quality teaching. Source: Schleicher 2018 p. 93

This figure shows that the psychological, cognitive, emotional and social dimensions of wellbeing impacts on quality teaching and teacher career plans and trajectories, therefore suggesting the importance of a holistic approach to supporting the wellbeing of teachers.

Influencing policy directives

Teacher wellbeing is a growing priority nationally and internationally as a growing list of headlines seems to indicate that educators' mental health is worsening and their job satisfaction is falling (Wang & Zuccollo 2020). The wellbeing of teachers can have a direct implication on education systems since high levels of burnout and stress can lead to frequent turnover (Schleicher 2018), with enduring consequences for their well-being, stress levels, confidence and, eventually, for their retention in the profession (OECD 2019c).

Burnout, stress, and fatigue impact heavily on an educator's wellbeing, and there are a number of initiatives that seek to augment the wellbeing of educators in Australian schools. It is well documented that teacher stress is high, burnout is increasing, and there are growing concerns about the recruitment and retention of teachers (Allen, Rowan & Singh 2019). In 2018 the Australian Government announced an inquiry into the status of teacher profession. While the inquiry proceedings lapsed following the calling of a federal election in April 2019 it had identified the following issues related to attracting, retaining and developing teachers:

- Affording higher levels of respect and recognition for teachers and the profession;

- Supporting teachers through proper induction and mentoring programs;

- Increasing funding to help schools manage the range of social, behavioural and health-related issues of students;

- Alleviating out-of-hours work undertaken by teachers, and improving administrative support within schools; and

- Supporting continuous professional learning and development of teachers, and providing a career trajectory (Parliament of Australia 2019)

Following election commitments, the federal government has aimed to introduce a range of measures to support teachers including a review to cut red tape for teachers 'so they can focus on teaching and not paperwork' and a national strategy to address abuse of teachers (Jenkins 2019).

Policies across Australia, such as the Education NT (2019) *Teacher Wellbeing Strategy 2019-22* has outlined priority areas and actions to improve teacher wellbeing. In addressing issues in this area, the department aims to: support teachers for success, with a strong focus on teachers in the first five years of teaching and strengthening collegial connections; optimise time to teach, by reducing administrative workload; and, to promote a safe and respectful workplace based on respectful relationships.

Teaching requires cognitive, social and emotional resources, yet most professional development opportunities focus on subject knowledge, curriculum development or student needs. With more resources required to support the psychological wellbeing of teachers (NESLI 2019). The *Staff Wellbeing Toolkit* is one example that has been developed in response to the wellbeing issues faced by Australian educators, and the gaps in current professional learning mechanisms that support a whole school approach to relationships and wellbeing. The *Toolkit* is informed by research into Australian Principal Health and Wellbeing (Riley 2016), which looks at the impact of social capital on wellbeing in schools. This research shows that when social capital increases within an organisation everyone improves together, and the *Staff Wellbeing Toolkit* is therefore designed around the maxim of improving relationships and wellbeing at a whole school level (NESLI 2019).

Providing early career teachers with fulfilling working conditions to keep them in teaching has also been the focus on reform. As Roffey (2012) explains "training teachers who then leave because their lives are unfulfilled at best and miserable at worst is not only devastating to those individuals and damaging to students, but also expensive on the public purse" (p. 9). McCallum et al. (2017) note that the effectiveness of mentor relationships and factors including proximity between mentor/ mentee in the physical geography of the school, and mentor responsive to emotional, social, relational and professional needs is important to supporting early career teachers. The OECD (2019) notes there is a greater need for support activities and structures in the initial years which

they suggest, "can help teachers to cope with the challenges they face, as well as to maintain their motivation levels. Both are critical to making them competent and effective, and also to convince them to remain in the profession" (OECD 2019c p. 39).

Evidence shows that individuals and schools play a significant role in improving and sustaining positive teacher wellbeing, as "educator and learner wellbeing is an individual, collective and community responsibility … (with) a clear link between teachers' wellbeing, their role in the classroom and school community, and the success and satisfaction of children and young people while in the educational years" (McCallum & Price, 2016, p.128). However, Berryhill, Linney and Fromewick (2009) caution that "making changes in individuals when the system is part of the problem leaves basic structures intact and is unlikely to affect the problem ... Therefore, policymakers should consider making changes for teachers rather than in teachers" (p. 9). This suggests the issue of teacher wellbeing is a complex issue that is best addressed using a holistic approach (McCallum et al. 2017).

Conclusion

Wellbeing is important to workforce productivity and an important precondition of effective teaching and learning. With growing concerns of the wellbeing of teachers and students, there is an imperative to examine teacher wellbeing and its relevance in teacher standards.

3.11.4 Examples in teacher standards

As outlined in Table 3.11-2, connections to teacher wellbeing are implicitly stated in Standard 7, Engage professionally with colleagues, parents/carers and the community, with associations to connecting with others and meeting professional responsibilities, such as being 'fit' to teach.

Table 3.11-2 Teacher wellbeing reflected in the Australian Professional Standards for Teachers

Standard(s)	Focus area(s)	Descriptors (at a proficient level)
7. Engage professionally with colleagues, parents/carers and the community	7.1 Meet professional ethics and responsibilities 7. 2 Comply with legislative, administrative and organisational requirements 7. 4 Engage with professional teaching networks and broader communities	Meet codes of ethics and conduct established by regulatory authorities, systems and schools. Understand the implications of and comply with relevant legislative, administrative, organisational and professional requirements, policies and processes Participate in professional and community networks and forums to broaden knowledge and improve practice.

At an international level, Table 3.11-3 presents examples of how teacher wellbeing has been included in teacher standards.

Table 3.11-3 Examples of how teacher wellbeing has been included in teacher standards internationally

Standards	Country	Example
Philippine Professional Standards for Teachers (2017)	Philippines	6.3 Professional ethics Teachers' understanding and fulfilling their obligations in upholding professional ethics, accountability and transparency to promote professional and harmonious relationships with learners, parents, schools and the wider community. 6.3.2 Review regularly personal teaching practice using existing laws and regulations that apply to the teaching profession and the responsibilities specified in the Code of Ethics for Professional Teachers.
Southeast Asia Teachers Competency Framework (2018)	Southeast Asia	4.1.2 Become more aware and responsible for my emotions and health 4.1.2.1 Understand deeply what affects me 4.1.2.2 Be calm and composed in resolving conflicts 4.1.2.3 Practice effective ways to manage stress 4.1.2.4 Handle and express my emotions thoughtfully and carefully 4.1.2.5 Take care of my physical and psychological health 4.1.2.6 Give equal importance to other aspects of my personal life
Chartered Teacher Professional Principles (2017)	United Kingdom	Work effectively with others to provide appropriate academic and pastoral support Exhibits collegiality by supporting, and learning from others Demonstrated high professionalism
Myanmar Teacher Competency Standards (2017)	Myanmar	C1.1 Demonstrate values and attitudes consistent with Myanmar's tradition of perceiving teachers as role models
New Zealand Standards for the Teaching Profession (2017)	New Zealand	Engage in reciprocal, collaborative learning-focused relationships with: – learners, families and whānau – teaching colleagues, support staff and other professionals – agencies, groups and individuals in the community. Communicate

Standards	Country	Example
		effectively with others. Actively contribute, and work collegially, in the pursuit of improving my own and organisational practice, showing leadership, particularly in areas of responsibility.
Graduand teacher competencies (2018)	Singapore	Personal Effectiveness

7. Knowing Self and Others

i. tuning into self

The teacher takes care to: monitor his/her emotional and professional self in order to identify immediate support and/or developmental needs; and, to achieve work-life balance, and seeks guidance where necessary.

ii. Exercising Personal Integrity and Legal responsibilities

The teacher is aware of the need for professionalism in all aspects of his/her demeanour. The teacher is aware of his/her legal responsibilities and the need to maintain high standards of professional integrity when discharging his/her duties and responsibilities.

iii. Understanding and Respecting Others

The teacher is committed to National Education, and to valuing diversity in all its forms. The teacher demonstrates sensitivity to cultural and religious differences.

iv. Resilience and Adaptability

The teacher: is tough in spirit, able to persevere in times of challenge, keeping a positive disposition; stays the course though there may be obstacles to surmount (he/she is optimistic); is able to think on his/her feet and make decisions appropriate to the situation at hand; and, encourages and teaches her/his pupils to be resilient and adaptable.

ii. Developing Others

The teacher takes initiative to support peers and colleagues. |

3.11.5 Further questions/research agenda

This section raises questions and a possible research agenda for future consideration:

- How might effective, evidence-based mental health and wellbeing strategies be promoted to provide targeted support to build a positive school culture of wellbeing that enables enhanced teaching and learning?

- How might preservice education better prepare teachers to manage everyday challenges that they may experience in the classroom?

- What strategic actions are required to support early-career teachers to stay in the profession?

- How might a holistic, systemic approach to wellbeing, support teacher, leader and student wellbeing?

3.11.6 End of section references

Listed below are key references used to inform this section.

Allen, J, Rowan, L, & Singh, P 2019, 'Status of the teaching profession – attracting and retaining teachers', *Asia-Pacific Journal of Teacher Education*, vol. 47, no. 2, pp. 99–102, viewed 20 January 2020, <https://doi.org/10.1080/1359866X.2019.1581422>.

Australian Institute for Teaching and School Leadership (AITSL) 2016, *What do we know about early career teacher attrition rates in Australia?*, Spotlight, AITSL, viewed 20 January 2020, <https://www.aitsl.edu.au/docs/default-source/research-evidence/spotlight/spotlights-attrition.pdf>.

Berryhill, J, Linney, JA, & Fromewick, J 2009, 'The effects of educational accountability on teachers: are policies too stress provoking for their own good?', *International Journal of Education Policy and Leadership*, vol. 4, no. 5, pp. 1-14, viewed 19 February 2020, <https://files.eric.ed.gov/fulltext/EJ898886.pdf>.

Cahill, H, Beadle, S, Farrelly, A, Forster, R & Smith, K 2014, *Building resilience in children and young people: a literature review for the Department of Education and Early Childhood Development (DEECD)*, Melbourne Graduate School of Education, viewed 22 December 2019, <https://www.education.vic.gov.au/Documents/about/department/resiliencelitreview.pdf>.

Education Northern Territory 2019, *Teacher Wellbeing Strategy 2019-22*, Northern Territory Government, viewed 20 January 2020, <https://www.teachintheterritory.nt.gov.au/sites/default/files/uploads/files/eduaction-nt_teacher-wellbeing-strategy.pdf>.

EducationMelbourne 2018, *How do we learn to thrive? The emergence of wellbeing science*, online video, presented by L Oades, 21 November, viewed 6 January 2020, <https://www.youtube.com/watch?v=ocqFzGjMDa4>.

Garcia-Moya, I et al. 2019, 'The conceptualisation of school and teacher connectedness in adolescent research: a scoping review of literature', *Educational Review*, vol. 71, no. 4, pp. 423–444, viewed 20 January 2020, <https://doi.org/10.1080/00131911.2018.1424117>.

Gillard, J 2019, 'The mental health of teachers', *Teacher*, 29 April, viewed 20 January 2020, <https://www.teachermagazine.com.au/columnists/julia-gillard/the-mental-health-of-teachers>.

Gillett-Swan, J & Grant-Smith, D 2018, 'A framework for managing the impacts of work-integrated learning on student quality of life', *International Journal of Work-Integrated Learning (IJWIL)*, vol. 19, no. 2, pp. 129-140, viewed 20 January 2020, <https://www.ijwil.org/files/IJWIL_19_2_129_140.pdf>.

Heffernan, A, Longmuir, F, Bright, D & Kim, M 2019, *Perceptions of teachers and teaching in Australia*, Monash University Faculty of Education, Melbourne, viewed 20 January 2020, <https://www.monash.edu/thank-your-teacher/docs/Perceptions-of-Teachers-and-Teaching-in-Australia-report-Nov-2019.pdf>.

Jenkins, S 2019, December 3, 'Federal government announces new plans to support teachers', *The Mandarin*, viewed 27 February 2020, <https://www.themandarin.com.au/121935-federal-government-announces-new-plans-to-support-teachers>.

Leithwood, K & Beatty, B 2008, *Leading with teacher emotions in mind*, Corwin Press, Thousand Oaks, CA.

McCallum, F & Price, D 2016, *Nurturing wellbeing development in education: from little things, big things grow*, Routledge, London.

McCallum, F, Price, D, Graham, A & Morrison, A 2017, *Teacher wellbeing: a review of the literature*, Association of Independent Schools NSW, Sydney, viewed 20 January 2020, <https://apo.org.au/sites/default/files/resource-files/2017/10/apo-nid201816-1133141.pdf>.

McLean, L & Connor, CM 2015, 'Depressive symptoms in third-grade teachers: relations to classroom quality and student achievement', *Child Development*, vol. 86, pp. 945-954, viewed 20 January 2020, <https://doi.org/10.1111/cdev.12344>.

Mogato, A 2020, 'Teachers 'overworked and underappreciated' - report', *The Educator K/12*, 6 February, viewed 9 February 2020, <https://www.theeducatoronline.com/k12/news/teachers-overworked-and-underappreciated--report/269859>.

NESLI 2019, *Evaluating the impact of the NESLI Staff Wellbeing Toolkit*, NESLI, Melbourne, viewed 20 January 2020, <https://www.nesli.org/toolkit-impact-report.html>.

O'Connor, Cloney, D, Kvalsvig, A, Goldfeld, S, 2019, 'Positive mental health and academic achievement in elementary school: new evidence from a matching analysis', *Educational Researcher*, vol. 48, no. 4, pp. 205–216, viewed 22 December 2019, <https://doi.org/10.3102/0013189X19848724>.

OECD 2019b, 'PISA 2018 well-being framework 2018', in *PISA 2018 assessment and analytical framework*, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/38a34353-en>.

OECD 2019c, *TALIS 2018 results (volume I): teachers and school leaders as lifelong learners*, TALIS, OECD Publishing, Paris, viewed 20 January 2020, <https://doi.org/10.1787/1d0bc92a-en>.

Owen, S 2016, 'Professional learning communities: building skills, reinvigorating the passion, and nurturing teacher wellbeing and "flourishing" within significantly innovative schooling contexts', *Educational Review*, vol. 68, no. 4, pp. 403–419, viewed 20 January 2020, <https://doi.org/10.1080/00131911.2015.1119101>.

Parliament of the Commonwealth of Australia, House of Representatives Standing Committee on Employment, Education and Training 2019, *Status of the Teaching Profession*, Canberra, viewed 20 January 2020, <https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/TeachingProfession>.

Richardson, PW, Watt, HMG, & Devos, C 2013,'Types of Professional and Emotional Coping Among Beginning Teachers', in M Newberry, A Gallant, & P Riley (eds.), *Emotion and school: understanding how the hidden curriculum influences relationships, leadership, teaching, and learning*, Advances in Research on Teaching, vol. 18, Emerald, Bingley, pp.229–253, viewed 10 February 2020, <https://doi.org/10.1108/S1479-3687(2013)0000018016>.

Riley, P 2016, *Principal health and wellbeing*, viewed 20 January 2020, <https://www.principalhealth.org/au/reports.php>.

Roffey, S 2012, 'Pupil wellbeing – teacher wellbeing: two sides of the same coin', *Educational & Child Psychology*, vol. 29, no. 4, pp. 8-17.

Schleicher, A 2018, *Valuing our teachers and raising their status: how communities can help*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 18 September 2019, <https://doi.org/10.1787/9789264292697-en>.

Schleicher, A 2019, *Helping our youngest to learn and grow: policies for early learning*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/9789264313873-en>.

Spilt, JL, Koomen, HMY, & Thijs, JT 2011, 'Teacher wellbeing: the importance of teacher–student relationships', *Educational Psychology Review*, vol. 23, no. 4, pp. 457–477, viewed 20 January 2020, <https://doi.org/10.1007/s10648-011-9170-y>.

Wang, O & Zuccollo, J 2020, *The wellbeing of the school workforce in England*, 6 January, Education Policy Institute, London, viewed 20 January 2020, <https://epi.org.uk/publications-and-research/wellbeing-school-workforce>.

World Health Organization (WHO) 2004, *Promoting mental health: concepts, emerging evidence, practice: summary report*, World Health Organization, Geneva, viewed 22 December 2019, <https://www.who.int/mental_health/evidence/en/promoting_mhh.pdf>.

World Health Organization (WHO) 2014, Mental health: a state of well-being (WHO fact file, August, p. 1), WHO, Geneva.

World Health Organization (WHO) 2019, *Burn-out an "occupational phenomenon": International Classification of Diseases*, WHO, Geneva, viewed 20 January 2020, <https://www.who.int/mental_health/evidence/burn-out/en>.

Standards

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Recommendation II: Graduand Teacher Competencies n.d., National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.

4. References

Allen, J, Rowan, L, & Singh, P 2019, 'Status of the teaching profession – attracting and retaining teachers', *Asia-Pacific Journal of Teacher Education*, vol. 47, no. 2, pp. 99–102, viewed 20 January 2020, <https://doi.org/10.1080/1359866X.2019.1581422>.

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for Educational Assessment*, viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Ananiadou, K & Claro, M 2009, *21st century skills and competences for new millennium learners in OECD countries*, OECD education working papers, no. 41, viewed 12 December 2019, <https://doi.org/10.1787/218525261154>.

Ansari, D, Konig, J, Leask, M & Tokuhama-Espinosa, T, (2017), 'Developmental cognitive neuroscience: implications for teachers' pedagogical knowledge', in S Guerriero (ed.), *Pedagogical knowledge and the changing nature of the teaching profession*, OECD Publishing, Paris, pp. 195-222, <https://doi.org/10.1787/9789264270695-en>.

Armstrong, F & Barton, L 2008, 'Policy, experience and change and the challenge of inclusive education: the case of England', in L Barton and F Armstrong (eds), *Policy, experience and change: cross-cultural reflections on inclusive education*, Springer, London, pp.5–18.

Australian Alliance for Inclusive Education (2019), *All means all*, viewed 18 December 2019, <http://allmeansall.org.au>.

Australian Chamber of Commerce and Industry & Business Council of Australia 2002, *Employability skills for the future*. Department of Education, Science and Training, Canberra, viewed 20 December 2019, <https://www.voced.edu.au/content/ngv%3A12484>.

Australian Children's Education and Care Quality Authority (ACECQA) 2018, *Guide to the National Quality Framework*, ACECQA, Sydney, viewed 20 November 2019, <https://www.acecqa.gov.au/nqf/about/guide>.

Australian Council for Educational Research 2019a, PAT Reading: strands and achievement band descriptions, Author.

Australian Council for Educational Research 2019b, 'Preparing for a digital future', *Research Developments*, 29 July, viewed 17 September 2019, <https://rd.acer.org/article/preparing-for-a-digital-future>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2011, *General capabilities: consultation report*, viewed 12 December 2019, <https://docs.acara.edu.au/resources/General_Capabilities_-_Consultation_Report_-_December__2011.pdf>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2012, *Cross-curriculum priorities*, ACARA, Sydney viewed 12 December 2019, https://docs.acara.edu.au/resources/Cross_Curriculum.pdf

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2014, *Intercultural understanding*, ACARA, Sydney, viewed 21 November 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities/intercultural-understanding>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2015, *Australian Curriculum: Languages - Framework for Aboriginal Languages and Torres Strait Islander Languages*, ACARA, Sydney,

viewed 18 December 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/languages/framework-for-aboriginal-languages-and-torres-strait-islander-languages/pdf-documents>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2016, *The Australian Curriculum* v8.2, ACARA, Sydney, viewed 18 December 2019, <http://www.australiancurriculum.edu.au>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2017, *General capabilities: introduction,* ACARA, Sydney, viewed 12 December 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/general-capabilities>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2018a, *Aboriginal and Torres Strait Islander Histories and Cultures*, ACARA, Sydney, viewed 12 December 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/cross-curriculum-priorities/aboriginal-and-torres-strait-islander-histories-and-cultures>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2018b, *About the Australian Curriculum,* ACARA, Sydney, viewed 12 December 2019, <https://australiancurriculum.edu.au/about-the-australian-curriculum>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2019, *NAP National Assessment Program: student reports*, ACARA, Sydney, viewed 20 February 2020, viewed 20 February 2020, <https://www.nap.edu.au/results-and-reports/student-reports>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-a, *Australian Curriculum: national literacy and numeracy learning progressions,* ACARA, Sydney, viewed 20 February <https://www.australiancurriculum.edu.au/resources/national-literacy-and-numeracy-learning-progressions>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-b, *Australian Curriculum: technologies: glossary*, ACARA, Sydney, viewed 18 September 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/glossary>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-c, *Australian Curriculum: technologies, digital technologies: aims*, ACARA, Sydney, viewed 18 September 2019, <https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/digital-technologies/aims>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-d, *Australian Curriculum: student diversity,* ACARA, Sydney, viewed 18 December 2019, <https://www.australiancurriculum.edu.au/resources/student-diversity>.

Australian Curriculum, Assessment and Reporting Authority (ACARA) n.d.-e, *Australian Curriculum: students with disability,* ACARA, Sydney, viewed 18 December 2019, <https://www.australiancurriculum.edu.au/resources/student-diversity/students-with-disability>.

Australian Institute for Teaching and School Leadership (AITSL) 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Australian Institute for Teaching and School Leadership (AITSL) 2012a, *Australian charter for the professional learning of teachers and school leaders*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/tools-resources/resource/australian-charter-for-the-professional-learning-of-teachers-and-school-leaders>

Australian Institute for Teaching and School Leadership (AITSL) 2012b, *Australian teacher performance and development framework*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/docs/default-source/national-policy-framework/australian-teacher-performance-and-development-framework.pdf>.

Australian Institute for Teaching and School Leadership (AITSL) 2016, *What do we know about early career teacher attrition rates in Australia?*, Spotlight, AITSL, viewed 20 January 2020, <https://www.aitsl.edu.au/docs/default-source/research-evidence/spotlight/spotlights-attrition.pdf>.

Australian Institute for Teaching and School Leadership (AITSL) 2017a, *New role, new partnerships: a school leader's guide*, AITSL, Melbourne, viewed 22 November 2019, <https://www.aitsl.edu.au/docs/default-source/lead-develop/scenarios/leadership-scenarios-all-practical-guides.pdf>.

Australian Institute for Teaching and School Leadership (AITSL) 2017b, *Uncovering the current state of professional learning for teachers: summary findings report*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/docs/default-source/hqpl/aitsl-hqpl-summary-findings-report-final.pdf>.

Australian Institute for Teaching and School Leadership (AITSL) 2018a, *One teaching profession: teacher registration in Australia*, Education Services Australia, Melbourne, viewed 20 November 2019, <https://www.aitsl.edu.au/docs/default-source/national-review-of-teacher-registration/report/one-teaching-profession---teacher-registration-in-australia.pdf>.

Australian Institute for Teaching and School Leadership (AITSL) 2018b, *The essential guide to professional learning: collaboration*, AITSL, viewed 20 December 2019, <https://www.aitsl.edu.au/docs/default-source/default-document-library/the-essential-guide-to-professional-learning---collaboration2dc5ac91b1e86477b58fff00006709da.pdf>.

Australian Institute for Teaching and School Leadership (AITSL) 2019, *A submission to the Review of the Melbourne Declaration*, June 14, Education Council, viewed 21 November 2019, <https://www.reviewmelbournedeclaration.edu.au/have-your-say/view/sbm09ea2b421d1262792c048>.

Australian Institute for Teaching and School Leadership (AITSL) n.d., *Curriculum and pedagogy in the early years*, Illustrations of practice, AITSL, Melbourne, viewed 21 November 2019, <https://www.aitsl.edu.au/tools-resources/resource/curriculum-and-pedagogy-in-the-early-years-illustration-of-practice>.

Australian Primary Principals Association (APPA) 2014, *The overcrowded primary curriculum : a way forward*, Australian Primary Principals Association, Canberra, viewed 20 December 2019, <https://www.appa.asn.au/wp-content/uploads/2015/08/Overcrowded-primary-curriculum.pdf>.

Australian Student Wellbeing Framework 2018, Education Services Australia, viewed 22 November 2019, <https://studentwellbeinghub.edu.au/educators/framework>.

Awartani, M, Whitman, C V & Gordon, J 2008, 'Developing instruments to capture young people's perceptions of how school as a learning environment affects their wellbeing', *European Journal of Education*, vol. 43, no. 1, pp. 51-70, viewed 22 December 2019, <https://doi.org/10.1111/j.1465-3435.2007.00337.x>.

Bahr, N & Mellor, S 2016, *Building quality in teaching and teacher education*, Australian education review No. 61, Australian Council for Educational Research, Melbourne, viewed 18 December 2019, <https://research.acer.edu.au/aer/15>

Belonging, being & becoming - the early years learning framework for Australia 2009, Australian Government, Canberra, viewed 20 November 2019, <https://docs.education.gov.au/documents/belonging-being-becoming-early-years-learning-framework-australia>.

Berman, J & Graham, L 2018, *Learning intervention: educational casework and responsive teaching for sustainable learning*, Routledge, London.

Berry Street 2018, 'Why language matters: wellbeing is everyone's business', interview with L Oades, *The good childhood blog*, web log post, 23 July, viewed 22 December 2019, <https://blog.goodchildhood.org.au/2018/07/23/why-language-matters-wellbeing-is-everyones-business-2>.

Berryhill, J, Linney, JA, & Fromewick, J 2009, 'The effects of educational accountability on teachers: are policies too stress provoking for their own good?', *International Journal of Education Policy and Leadership*, vol. 4, no. 5, pp. 1-14, viewed 19 February 2020, <https://files.eric.ed.gov/fulltext/EJ898886.pdf>.

Bjorklund-Young, A 2016, *What do we know about developing students' non-cognitive skills?* Institute for Policy Johns Hopkins School of Education, Baltimore, viewed 12 December 2019, <https://edpolicy.education.jhu.edu/wp-content/uploads/2016/06/NoncognitiveskillsmastheadFINAL.pdf>.

Black, P, Wilson, M, & Yao, S-Y, 2011, Road maps for learning: a guide to the navigation of learning progressions, *Measurement: Interdisciplinary Research & Perspective*, vol. 9, no. 2–3, pp. 71–123. <https://doi.org/10.1080/15366367.2011.591654>.

Borgonovi, F & Pál, J 2016, *A framework for the analysis of student well-being in the PISA 2015 study: being 15 in 2015*, OECD education working papers, no. 140, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/5jlpszwghvvb-en>.

Boss, S 2019, It's 2019. So why do 21st-Century skills still matter? *EdSurge*, viewed 12 December 2019, <https://www.edsurge.com/news/2019-01-22-its-2019-so-why-do-21st-century-skills-still-matter>.

Bruniges, M 2019, 'The science behind the art of teaching: evaluation as inspiration', paper presented at the *Research Conference 2019*, pp. 6-11, Australian Council for Educational Research, viewed 18 December 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1363&context=research_conference>

Bulman, G & Fairlie, R 2015, *Technology and education: computers, software, and the internet*, National Bureau of Economic Research, Cambridge, MA, viewed 17 September 2019, <http://www.nber.org/papers/w22237.pdf>.

Cahill, H, Beadle, S, Farrelly, A, Forster, R & Smith, K 2014, *Building resilience in children and young people: a literature review for the Department of Education and Early Childhood Development (DEECD)*, Melbourne Graduate School of Education, viewed 22 December 2019, <https://www.education.vic.gov.au/Documents/about/department/resiliencelitreview.pdf>.

Calkins, L, Hohne, KB, Robb, AK, & Teachers College Reading and Writing Project, 2015*, Writing pathways: performance assessments and learning progressions*, grades K-8, Heinemann, Portsmouth, US.

Calkins, L., & Teachers College Reading and Writing Project, 2015, *Units of study for teaching reading*, Heinemann, Portsmouth, US.

Cantor, P, Osher, D, Berg J, Steyer, L & Rose, T 2019, 'Malleability, plasticity, and individuality: how children learn and develop in context', *Applied Developmental Science*, vol. 23, no. 4, pp. 307–337, <https://doi.org/10.1080/10888691.2017.1398649>.

Care, E & Kim, H 2018,'The Explicit nature of educational goals for the twenty-first century', in C Wyatt-Smith & L Adie (eds.), *Innovation and accountability in teacher education: setting directions for new cultures in teacher education*, Springer Singapore, pp.65–79, viewed 12 December 2019, <http://link.springer.com/10.1007/978-981-13-2026-2>.

Care, E, Kim, H, Anderson, K, & Gustafsson-Wright, E 2017, *Skills for a changing world: national perspectives and the global movement*, Center for Universal Education at Brookings, viewed 20 December 2019, <https://www.brookings.edu/wp-content/uploads/2017/03/global-20170324-skills-for-a-changing-world.pdf>.

Carraher, DW, Smith, CL, Wiser, M, Schliemann, AD, & Clayton-Hodges, G, 2009, 'Assessing students' evolving understandings about matter', paper presented at the *Learning progressions in science (LeaPS) Conference*, June 24-26, Iowa City, IA, viewed 20 February 2020, <https://inquiryproject.terc.edu/about/presentations-reports/Carraher-2009-LeaPS.pdf>.

Cawsey, C, Hattie, J, & Masters, G, 2019, *Growth to achievement: on-demand resources for teachers*, Australian Government DET, viewed 20 February 2020, <https://docs.education.gov.au/system/files/doc/other/growth_to_achievement_on-demand_resources_for_teachers_.pdf>.

Centre for Education Statistics and Evaluation 2018, *Every student is known, valued and cared for in our schools – an environmental scan*, NSW Department of Education, viewed 22 November 2019, <https://www.cese.nsw.gov.au/images/stories/PDF/Wellbeing-environmental-scan.pdf>.

Centre for Education Statistics and Evaluation 2020, *Trauma-informed practice in schools: an explainer*, NSW Department of Education, viewed 27 February 2020, <https://www.cese.nsw.gov.au//images/stories/PDF/trauma-informed-practice.pdf>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Chartered College of Teaching 2019, *Chartered Teacher Programme: 2020-2021 cohort*, Chartered College of Teaching, viewed 18 December 2019, < https://chartered.college/wp-content/uploads/2019/10/Chartered-Teacher-booklet-2020-cohort.pdf>.

Children and Young People with Disability Australia (CYDA) *2019, Time for change: the state of play for inclusion of students with disability : results from the 2019 CYDA National Education Survey* 2019, CYDA, viewed 18 December 2019, <https://www.cyda.org.au/LiteratureRetrieve.aspx?ID=217221>.

Clarke, D & Hollingsworth, H 2002, 'Elaborating a model of teacher professional growth', *Teaching and Teacher Education*, vol. 18, no. 8, pp. 947–967, <https://doi.org/10.1016/S0742-051X(02)00053-7>.

Clarke, L & Hughes, M 2019, 'Teaching and assessing the general capabilities in a secondary school context', paper presented at the *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, 4-5 August, Australian Council for Educational Research, Melbourne, viewed 20 December 2019, <https://research.acer.edu.au/research_conference/RC2019/5august/1>.

Clements, DH, & Sarama, J, 2014, 'Learning trajectories: foundations for effective, research-based education', in AP Maloney, J Confrey & KH Nguyen (eds.), *Learning over time: learning trajectories in mathematics education*, Information Age Publishing, Charlotte, NC.

Clinton, J, Hattie, J, & Dixon, R 2007, *Evaluation of the Flaxmere Project: when families learn the language of school: final report*, Ministry of Education, Wellington.

Cloney, D, Cleveland, G, Hattie, J & Tayler, C 2016, 'Variations in the availability and quality of early childhood education and care by socioeconomic status of neighborhoods', *Early Education and Development*, vol. 27, no. 3, pp. 384–401, <https://doi.org/10.1080/10409289.2015.1076674>.

Cloney, D, Jackson, J & Mitchell, P 2019, *Assessment of children as confident and involved learners in early childhood education and care: literature review*, Victorian Curriculum and Assessment Authority, Melbourne, viewed 20 November 2019, <https://research.acer.edu.au/early_childhood_misc/11>.

Cloney, D, Tayler, C, Hattie, J, Cleveland, G & Adams, R 2016, 'The selection of ECEC programs by Australian families: quality, availability, usage and family demographics', *Australasian Journal of Early Childhood*, vol. 41, no. 4, pp. 16–27, <https://doi.org/10.1177/183693911604100403>.

CoLab 2019, *Parental engagement: Australasian research summary,* Early Childhood Education Toolkit, Evidence for Learning, viewed 1 October, 2019 <https://evidenceforlearning.org.au/the-toolkits/early-childhood-education-toolkit/australasian-research-summaries/parental-engagement>.

Cole, P 2012, *Linking effective professional learning with effective teaching practice*, PTR Consulting & AITSL, Melbourne, <https://ptrconsulting.com.au/wp-content/uploads/2018/03/linking_effective_professional_learning_with_effective_teaching_practice_-_cole.pdf>.

Cologon, K (ed) 2014, *Inclusive education in the early years: right from the start*, October, Oxford University Press, Australia.

Cologon, K 2019, *Towards inclusive education : a necessary process of transformation*, October, Children and Young People with Disability Australia, Collingwood, viewed 18 December 2019, <https://www.cyda.org.au/LiteratureRetrieve.aspx?ID=217220>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Confrey, J, 2019, *A synthesis of research on learning trajectories/progressions in mathematics*, Future of education and skills 2030: curriculum analysis, 31 May, EDU/EDPC(2018)44/ANN3, OECD, p.58, viewed 20 February, <https://www.oecd.org/education/2030-project/about/documents/A_Synthesis_of_Research_on_Learning_Trajectories_Progressions_in_Mathematics.pdf>.

Constitution of the World Health Organisation 1946, *American Journal of Public Health*, vol. 36, no. 11: pp. 1315-1323, viewed 22 December 2019, <https://doi.org/10.2105/AJPH.36.11.1315>.

Corcoran, TB, Mosher, FA & Rogat, A 2009, *Learning progressions in science: an evidence-based approach to reform*, RR-63; CPRE Research Reports, Consortium for Policy Research in Education, viewed 20 February 2020 <http://www.cpre.org/images/stories/cpre_pdfs/lp_science_rr63.pdf>.

CORE Education 2019, *Ten Trends – 2019*, viewed 18 December 2019, <https://core-ed.org/research-and-innovation/ten-trends/2019>.

Coulby, D 2011, 'Intercultural education and the crisis of globalisation: some reflections', *Intercultural Education*, vol. 22, no. 4, pp. 253–261, viewed 9 February 2020, <http://www.tandfonline.com/doi/abs/10.1080/14675986.2011.617418>.

Council of Australian Governments 2013, *National School Reform Agreement*, Australian Government DET, Canberra, viewed 20 February 2020 <https://docs.education.gov.au/system/files/doc/other/national_school_reform_agreement_8.pdf>.

Council of Europe, Modern Languages Division 2001, *Common European Framework of Reference for Languages: learning, teaching, assessment*, Cambridge University Press, viewed 20 February 2020, <https://rm.coe.int/1680459f97>.

Council of Europe, Modern Languages Division 2017, *Common European Framework of Reference for Languages: learning, teaching, assessment—companion volume with new descriptors*, provisional edition,

Council of Europe, Strasbourg, viewed 20 February 2020, <https://rm.coe.int/cefr-companion-volume-with-new-descriptors-2018/1680787989>.

Darling-Hammond, L et al. 2019, 'Implications for educational practice of the science of learning and development', *Applied Developmental Science*, pp.1–44, <https://doi.org/10.1080/10888691.2018.1537791>.

Darling-Hammond, L, Hyler, ME & Gardner, M 2017, *Effective teacher professional development*, 5 June, Learning Policy Institute, Palo Alto, CA, viewed 20 December 2020, <https://learningpolicyinstitute.org/product/teacher-prof-dev>.

Daro, P, Mosher, FA & Corcoran, T 2011, *Learning trajectories in mathematics: a foundation for standards, curriculum, assessment, and instruction*, RR-68, CPRE research reports, Consortium for Policy Research in Education, viewed 20 February 2020, <https://repository.upenn.edu/cgi/viewcontent.cgi?article=1019&context=cpre_researchreports>.

Davie, L 2019, personal communication.

Deans for Impact 2015, *The science of learning*, Deans for Impact, Austin TX, viewed 18 December 2019, <https://deansforimpact.org/wp-content/uploads/2016/12/The_Science_of_Learning.pdf>.

Department of Education 2014, *Review of the Australian Curriculum: final report*, Australian Government, Canberra, viewed 17 September 2019, <https://docs.education.gov.au/documents/review-australian-curriculum-final-report>.

Department of Education and Training (DET) 2017, *Parent engagement in learning*, Australian Government, Canberra, viewed 22 November 2019, <https://www.education.gov.au/parent-engagement-learning-1>.

Department of Education and Training (DET) 2018, *Through growth to achievement: report of the review to achieve educational excellence in Australian schools*, Australian Government, Canberra, viewed 17 September 2019, <https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf>.

Department of Education and Training (DET) Victoria 2018, *ICT Planning Matrix*, FUSE, Victoria State Government, viewed 19 February 2020, <https://fuse.education.vic.gov.au/Resource/LandingPage?ObjectId=c16a4cc3-0711-47a3-a916-52624b8aefe6>.

Department of Education and Training (DET) Victoria 2019, *High impact teaching strategies: excellence in teaching and learning*, Victoria State Government, viewed 13 January 2020, <https://www.education.vic.gov.au/Documents/school/teachers/support/high-impact-teaching-strategies.pdf>.

Department of Education, Employment and Workplace Relations (DEEWR) 2008, *Family-school partnerships framework: a guide for schools and families*, Australian Government, Canberra, viewed 22 November 2019, <http://www.familyschool.org.au/files/3013/8451/8364/Family-school_partnerships_framework.pdf>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

Department of the Prime Minister and Cabinet 2018, *National Aboriginal and Torres Strait Islander Curricula Project*, viewed 18 December 2019, <https://www.indigenous.gov.au/teaching-guides/curricula-project/how-guide>.

Department of the Prime Minister and Cabinet 2019, *Closing the gap Prime Minister's report 2019*, Australian Government, Canberra, viewed 16 December 2019, <https://ctgreport.niaa.gov.au/sites/default/files/ctg-report-20193872.pdf>.

Diaz-Diaz, C, Semenec, P & Moss, P 2019, 'Editorial: opening for debate and contestation: OECD's International Early Learning and Child Well-being Study and the testing of children's learning outcomes:', *Policy Futures in Education*, vol. 17, no. 1, pp. 1–10, <https://doi.org/10.1177/1478210318823464>.

Digital Education Advisory Group c.2012, *Beyond the classroom: a new digital education for young Australians in the 21st century*, Australian Government, Canberra, viewed 17 September 2019, <https://docs.education.gov.au/system/files/doc/other/deag_final_report.pdf>.

Disability standards for education 2005: plus guidance notes 2006, Attorney-General's Department, Barton, ACT, viewed 18 December 2019, <https://docs.education.gov.au/system/files/doc/other/disability_standards_for_education_2005_plus_guidanc e_notes.pdf>.

Dodge, R et al. 2012, 'The challenge of defining wellbeing', *International Journal of Wellbeing*, vol. 2, no. 3, pp. 222–235, viewed 22 December 2019, <https://doi.org/10.5502/ijw.v2i3.4>

Doecke, B, Parr, G, North, S, Gale, T, Long, M, Mitchell, J, Rennie, J & Williams, J 2008, *National mapping of teacher professional learning project: final report*, DEEWR, Canberra, viewed 22 November 2019, <http://dro.deakin.edu.au/eserv/DU:30035340/doecke-nationalmapping-2008.pdf>.

Donaldson, W 2018, *Trauma-informed care: literature scan*, Te Pou o te Whakaaro Nui, Auckland, New Zealand, https://www.tepou.co.nz/uploads/files/resource-assets/Trauma-informed%20Care%20Literature%20Scan%20Final.pdf

Donohoo, J 2017, 'Collective teacher efficacy research: implications for professional learning', *Journal of Professional Capital and Community*, vol. 2, no. 2, pp. 101–116.

Draft declaration on education goals 2019, Review of the Melbourne Declaration, Education Council, viewed 22 November 2019, <https://uploadstorage.blob.core.windows.net/public-assets/education-au/melbdec/Exposure%20Draft%20for%20Declaration%20on%20Education%20Goals.pdf>.

Duschl, R, Maeng, S & Sezen, A 2011, *Learning progressions and teaching sequences: a review and analysis*, Studies in Science Education, vol. 47, no. 2, pp. 123–182, viewed 20 February 2020, <https://doi.org/10.1080/03057267.2011.604476>.

Education Council 2015, *National STEM school education strategy 2016-2026*, Education Council, viewed 20 February 2020, <http://www.educationcouncil.edu.au/site/DefaultSite/filesystem/documents/National%20STEM%20School%2 0Education%20Strategy.pdf>.

Education Council 2019a, *Alice Springs (Mparntwe) Education Declaration*, Carlton South, Australia, viewed 22 December 2019, <https://docs.education.gov.au/system/files/doc/other/final_-_alice_springs_declaration_-_17_february_2020_security_removed.pdf>.

Education Council 2019b, *Communique for the release of the Alice Springs (Mparntwe) Education Declaration*, Education Council of Australia, 12 December, viewed 20 February 2020, <http://www.educationcouncil.edu.au/site/DefaultSite/filesystem/documents/EC%20Communiques%20and%2 0media%20releases/Education%20Council%20media%20release%20-%20Alice%20Springs%20(Mpartnwe)%20education%20declaration.pdf>.

Education Northern Territory 2019, *Teacher Wellbeing Strategy 2019-22*, Northern Territory Government, viewed 20 January 2020, <https://www.teachintheterritory.nt.gov.au/sites/default/files/uploads/files/eduaction-nt_teacher-wellbeing-strategy.pdf>.

Education Services Australia n.d., *Digital Technologies Hub*, Education Services Australia developed for Australian Government Department of Education, viewed 18 September 2019, <https://www.digitaltechnologieshub.edu.au>.

EducationMelbourne 2018, *How do we learn to thrive? The emergence of wellbeing science*, online video, presented by L Oades, 21 November, viewed 6 January 2020, <https://www.youtube.com/watch?v=ocqFzGjMDa4>.

Emerson, L, Fear, J, Fox, S, & Sanders, E 2012, *Parental engagement in learning and schooling: lessons from research*, A report by the Australian Research Alliance for Children and Youth (ARACY) for the Family–School and Community Partnerships Bureau, Canberra, viewed 22 November 2019, <https://www.aracy.org.au/publications-resources/command/download_file/id/7/filename/Parental_engagement_in_learning_and_schooling_Lessons_from_research_BUREAU_ARACY_August_2012.pdf>.

Emery, H & Saunders, N 2018, 'Developing research capacity in teachers', *Teacher*, 9 May, viewed 18 December 2019, <https://www.teachermagazine.com.au/articles/developing-research-capacity-in-teachers>.

Eppley, K & Dudley-Marling, C 2019, 'Does direct instruction work?: A critical assessment of direct instruction research and its theoretical perspective', *Journal of Curriculum and Pedagogy*, vol. 16, no. 1, pp. 35–54, viewed 18 November 2019, <https://www.tandfonline.com/doi/full/10.1080/15505170.2018.1438321>.

Epstein, JL 2018, 'School, family, and community partnerships in teachers' professional Work', *Journal of Education for Teaching: International Research and Pedagogy*, vol. 44, no. 3, pp. 397–406, viewed 22 November 2019, <https://eric.ed.gov/?id=EJ1179376>.

Evidence for Learning c.2017, *Digital technology*, Teaching and Learning Toolkit, Evidence for Learning, viewed 18 September 2019, <https://evidenceforlearning.org.au/teaching-and-learning-toolkit/digital-technology>.

Evidence for Learning 2019a, *Australasian research summaries: a summary of the Australasian research and evidence on each of the 12 approaches in the Early Childhood Education Toolkit*, Evidence for Learning, viewed 20 November 2019, < https://evidenceforlearning.org.au/the-toolkits/early-childhood-education-toolkit/australasian-research-summaries>.

Evidence for Learning 2019b, *Parental Engagement,* Teaching & Learning Toolkit, Evidence for Learning, viewed 1 October 2019, <https://evidenceforlearning.org.au/teaching-and-learning-toolkit/parental-engagement>.

Evidence for Learning n.d., *Teaching and learning toolkit*, Evidence for Learning, viewed 13 January 2020, <https://evidenceforlearning.org.au/the-toolkits/the-teaching-and-learning-toolkit>

Fitzgerald, J 2014, *A response from Scope: to the Inquiry into Social Inclusion and Victorians with a Disability*, Scope, Victoria, Australia, <https://www.scopeaust.org.au/wp-content/uploads/2015/01/Scope-response-inquiry-into-social-inclusion-FINAL.pdf>.

Foundation for Young Australians 2018, *The new work reality*, viewed 12 December 2019, <https://www.fya.org.au/wpcontent/uploads/2018/06/FYA_TheNewWorkReality_sml.pdf>.

Fox, S & Olsen, A 2014, *Education capital: our evidence base defining parental engagement*, November, prepared by the Australian Research Alliance for Children and Youth for the ACT Government, ACT Government, Canberra, viewed 22 November 2019, <https://www.education.act.gov.au/__data/assets/pdf_file/0011/687476/52828-DET-Defining-Parental-Engagement-A4-Report_AccPDF_01.pdf>.

Fortus, D & Krajcik, J 2012, 'Curriculum coherence and learning progressions', in BJ Fraser, K Tobin, & CJ McRobbie (eds.), *Second international handbook of science education*, Springer, Netherlands, pp. 783–798, viewed 20 February 2020, <https://doi.org/10.1007/978-1-4020-9041-7_52>.

Furtak, EM, Thompson, J, Braaten, M, & Windschitl, M 2012, 'Learning progressions to support ambitious teaching practices', in AC Alonzo, AW Gotwals (eds.), *Learning progressions in science*, Sense Publishers, Rotterdam, pp. 405–433.

Fraillon, J 2019, 'Digital literacy: myths and realities', paper present at the *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, 4-5 August, Australian Council for Educational Research, Melbourne, viewed 17 September 2019, <https://research.acer.edu.au/research_conference/RC2019/5august/7>.

Freeman, C, O'Malley, K, & Eveleigh, F 2014, *Australian teachers and the learning environment: an analysis of teacher response to TALIS 2013: final report*, Australian Council for Educational Research, viewed 20 December 2020, <https://research.acer.edu.au/talis/2/>.

Fullan, M & Hargreaves, A 2016, *Bringing the profession back in: call to action*, Learning Forward, Oxford, OH, viewed 20 February 2020, <https://learningforward.org/wp-content/uploads/2017/08/bringing-the-profession-back-in.pdf>.

Fullan, M 2007, 'Change the terms for teacher learning', *JSD*, vol. 28, no. 3, pp. 35–36, viewed 20 February, <http://michaelfullan.ca/wp-content/uploads/2016/06/13396074650.pdf>.

Gagné, F 2009,'Differentiated model of giftedness and talent', in B. Kerr (ed), *Encyclopedia of giftedness, creativity, and talent*, SAGE Publications, Thousand Oaks, California, viewed 14 January 2020, <https://doi.org/10.4135/9781412971959.n111>.

Garcia-Moya, I et al. 2019, 'The conceptualisation of school and teacher connectedness in adolescent research: a scoping review of literature', *Educational Review*, vol. 71, no. 4, pp. 423–444, viewed 20 January 2020, <https://doi.org/10.1080/00131911.2018.1424117>.

Gilbert, R 2011, *Professional Learning Flagship Program: leading curriculum change: literature review*, AITSL, Melbourne, viewed 20 December 2020, <https://www.yumpu.com/en/document/read/52160627/professional-learning-flagship-program-leading-curriculum-change>.

Gilbert, R 2019, 'General capabilities in the Australian curriculum: promise, problems and prospects', *Curriculum Perspectives,* Vol. 39, no. 2, pp. 169–177, viewed 20 December 2019, <https://doi.org/10.1007/s41297-019-00079-z>.

Gillan, K, Mellor, S & Krakouer, J 2017, *The case for urgency: advocating for indigenous voice in education*, Australian education review no. 62, ACER Press, Melbourne Australia, viewed 20 November 2019.

Gillard, J 2019, 'Building a mentally healthy generation', *Teacher*, 18 February, viewed 22 December 2019, <https://www.teachermagazine.com.au/columnists/julia-gillard/building-a-mentally-healthy-generation>.

Gillard, J 2019, 'The mental health of teachers', *Teacher*, 29 April, viewed 20 January 2020, <https://www.teachermagazine.com.au/columnists/julia-gillard/the-mental-health-of-teachers>.

Gillett-Swan, J & Grant-Smith, D 2018, 'A framework for managing the impacts of work-integrated learning on student quality of life', *International Journal of Work-Integrated Learning (IJWIL)*, vol. 19, no. 2, pp. 129-140, viewed 20 January 2020, <https://www.ijwil.org/files/IJWIL_19_2_129_140.pdf>.

Global Education Monitoring Report Team 2015, *Education for all 2000 - 2015: achievements and challenges*, EFA Global Monitoring Report, 2nd ed, UNESCO Publications, Paris, viewed 20 November 2019, <https://unesdoc.unesco.org/ark:/48223/pf0000232205>.

Gomendio M 2017, *Empowering and enabling teachers to improve equity and outcomes for all*, International Summit on the Teaching Profession, OECD Publishing, Paris, <https://doi.org/10.1787/9789264273238-en>.

Good to great schools Australia n.d., viewed 18 December 2019, <https://goodtogreatschools.org.au/our-results/evidence-base>.

Goss, P 2019, 'Mental health and wellbeing matters', *Education Matters Magazine*, viewed 22 December 2019, <https://www.educationmattersmag.com.au/mental-health-and-wellbeing-matters>.

Goss, P & Hunter, J 2015, *Targeted teaching: how better use of data can improve student learning*, Grattan Institute, Melbourne, <https://grattan.edu.au/wp-content/uploads/2015/07/827-Targeted-Teaching.pdf>.

Graham, L, Berman, J, & Bellert, A 2015, *Sustainable learning: inclusive practices for 21st century classrooms*, Cambridge University Press, Cambridge, UK, <https://www.bookdepository.com/Sustainable-Learning-Lorraine-Graham/9781107695955>.

Grand-Clement, S, Devaux, A, Belanger, J & Manville, C 2017, *Digital learning: education and skills in the digital age*, RAND Corporation, Santa Monica, viewed 17 September 2019, <https://www.rand.org/pubs/conf_proceedings/CF369.html>.

Griffin, P, McGaw, B, & Care, E (Eds.) 2012, *Assessment and teaching of 21st century skills*. Dordrecht: Springer.

Guenther, J & Osborne, S 2020, 'Did DI do it? The impact of a programme designed to improve literacy for Aboriginal and Torres Strait Islander students in remote schools', *The Australian Journal of Indigenous Education*, pp. 1–8, viewed 19 January 2020, <https://www.cambridge.org/core/product/identifier/S1326011119000280/type/journal_article>.

Guerriero (ed.) 2017, *Pedagogical knowledge and the changing nature of the teaching profession*, Centre for Educational Research and Innovation, OECD Publishing, Paris, viewed 15 January 2020, <https://doi.org/10.1787/9789264270695-en>.

Guskey, TR 1997, 'Research Needs To Link Professional Development and Student Learning', *Journal of Staff Development*, vol. 18, no. 2, pp. 36–40.

Guskey, TR 2014, 'Planning Professional Learning', *Educational Leadership*, vol. 71, no. 8, pp. 10-16, viewed 20 December 2019, <https://uknowledge.uky.edu/edp_facpub/15>.

Harris, A & Jones, M 2019, 'Leading professional learning with impact', *School Leadership & Management*, vol. 39, no. 1, pp. 1–4, <https://doi.org/10.1080/13632434.2018.1530892>.

Hattie, J 2009, *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*, Routledge, London.

Hattie, J 2015, *What works best in education: the politics of collaborative expertise*, Pearson, London, viewed 20 December 2019, <https://www.pearson.com/content/dam/corporate/global/pearson-dot-com/files/hattie/150526_ExpertiseWEB_V1.pdf>.

Heffernan, A, Longmuir, F, Bright, D & Kim, M 2019, *Perceptions of teachers and teaching in Australia*, Monash University Faculty of Education, Melbourne, viewed 20 January 2020, <https://www.monash.edu/thank-your-teacher/docs/Perceptions-of-Teachers-and-Teaching-in-Australia-report-Nov-2019.pdf>.

Henderson, L & Jarvis, J 2016, 'The gifted dimension of the Australian Professional Standards for Teachers: implications for professional learning', *Australian Journal of Teacher Education*, vol. 41, no. 8, pp. 60–83, viewed 14 January 2020, <http://ro.ecu.edu.au/ajte/vol41/iss8/4/>.

Heritage, M 2013, Gathering evidence of student understanding, in JH McMillan, *SAGE handbook of research on classroom assessment*, SAGE Publications, pp. 179–195, <http://dx.doi.org/10.4135/9781452218649>.

Hilton, G, Flores, M, & Niklasson, L 2013, 'Teacher quality, professionalism and professional development: findings from a European project', *Teacher Development*, vol. 17, no. 4, pp. 431–447.

Hipkins, R, MacDonald, J, & Whatman, J 2018,'Challenges for Initial Teacher Education in the Context of "Twenty-first Century" Learning Imperatives', in C Wyatt-Smith & L Adie (eds.), *Innovation and accountability in teacher education*, Springer Singapore, Singapore, pp.81–96, viewed 20 December 2019, <http://link.springer.com/10.1007/978-981-13-2026-2_6>.

Hollingsworth, H, Heard, J, & Weldon, P 2019, *Communicating student learning progress: a review of student reporting in Australia*, Australian Council for Educational Research, Camberwell, Australia, viewed 20 February 2020, <https://research.acer.edu.au/ar_misc/34>.

Horn, I & Little, J 2010, 'Attending to problems of practice: routines and resources for professional learning in teachers' workplace interactions', *American Educational Research Journal*, vol. 47, no. 1, pp. 181–217.

House of Representatives Standing Committee on Indigenous Affairs 2017, *The power of education: from surviving to thriving: educational opportunities for Aboriginal and Torres Strait Islander students*, Parliament of Australia, Canberra, viewed 18 November 2019, <https://www.aph.gov.au/-/media/02_Parliamentary_Business/24_Committees/243_Reps_Committees/Indigenous/EducationalOpportunities/Committee_Report_-_Final.pdf>.

Howard-Jones, P 2014, *Neuroscience and education: a review of educational interventions and approaches informed by neuroscience*, Education Endowment Foundation, London, viewed 18 December 2019, <https://educationendowmentfoundation.org.uk/public/files/Presentations/Publications/EEF_Lit_Review_NeuroscienceAndEducation.pdf>.

Ingvarson, L, Meiers, M, & Beavis, A 2005, *Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes & efficacy*, Australian Council for Educational Research, viewed 20 December 2020, <https://research.acer.edu.au/professional_dev/1/>.

Institute of Education Sciences n.d., *What works clearinghouse*, viewed 13 January 2020, <https://ies.ed.gov/ncee/wwc>.

Introduction to Brightpath n.d., <https://www.brightpath.com.au/about-brightpath>.

Jackson, J, Ahmed, SK, Carslake, T & Lietz, P 2019, *Improving young children's learning in economically developing countries: what works, why, and where? Scoping review*, viewed 22 November 2019, <https://research.acer.edu.au/monitoring_learning/38>.

Jacob, A & McGovern, K 2015, *The mirage: confronting the hard truth about our quest for teacher development*, TNTP, New York, viewed 20 December 2019, <https://tntp.org/assets/documents/TNTP-Mirage_2015.pdf>.

Jarvis, JM & Henderson, L 2015, 'Current practices in the education of gifted and advanced learners in South Australian schools', *Australasian Journal of Gifted Education*, vol. 24, no. 2, pp. 70–86.

Jenkins, S 2019, December 3, 'Federal government announces new plans to support teachers', *The Mandarin*, viewed 27 February 2020, <https://www.themandarin.com.au/121935-federal-government-announces-new-plans-to-support-teachers>.

Jennings, K & Bosch, C 2011, *Parent engagement in children's education*, Family-School & Community Partnerships Bureau, viewed 22 November 2019, <http://www.sacppa.com.au/documents/conf_2013_parent-engagement-in-childrens-education.pdf>.

Jensen, B 2014, *Making time for great teaching*, Grattan Institute, Melbourne, viewed 20 December 2020, <https://grattan.edu.au/wp-content/uploads/2014/03/808-making-time-for-great-teaching.pdf>.

Jensen, B, Sonnemann, S, Roberts-Hull, K & Hunter, A 2016, *Beyond PD: teacher professional learning in high-performing systems*, National Center on Education and the Economy, Washington, DC, viewed 20 December 2020, <http://ncee.org/wp-content/uploads/2015/08/BeyondPDDec2016.pdf>.

Johnson, P, Cherednichenko, B, & Rose, M 2016, *Evaluation of the More Aboriginal and Torres Strait Islander Teachers Initiative Project*, MATSITI, Adelaide, viewed 9 February 2020, <http://matsiti.edu.au/wp-content/uploads/2016/05/MATSITI-2016-Project-Evaluation-Final-Report.pdf>.

Kagan, SL (ed.) 2018, *The early advantage 1—early childhood systems that lead by example: a comparative focus on international early childhood education*, Teachers College Press, New York NY & National Center on Education and the Economy, Washington DC.

Kagan, SL (ed.) 2019, *The early advantage 2—building systems that work for young children: international insights from innovative early childhood systems*, Teachers College Press, New York NY, & National Center on Education and the Economy, Washington DC.

Kobrin, JL, Larson, S, Cromwell, A, & Garza, P 2015, 'A framework for evaluating learning progressions on features related to their intended uses', *Journal of Educational Research and Practice,* vo. 5, no. 1, pp. 58-73, DOI: 10.5590/JERAP.2015.05.1.04

Krakouer, J, Mitchell, P, Trevitt, J & Kochanoff, A 2017, *Early years transitions: supporting children and families at risk of experiencing vulnerability: rapid literature review*, Victoria State Government Department of Education, East Melbourne, viewed 20 November 2019, <https://research.acer.edu.au/early_childhood_misc/9>.

Lamb, S, Maire, Q & Doecke, E 2017, *Key Skills for the 21st Century: an evidence-based review*, NSW Department of Education, Sydney, viewed 20 December 2019, <https://education.nsw.gov.au/our-priorities/innovate-for-the-future/education-for-a-changing-world/resource-library/research-report/future-frontiers-analytical-report-key-skills-for-the-21st-century/Key-Skills-for-the-21st-Century-Analytical-Report.pdf>.

Lassig, C 2009, 'Teachers' attitudes towards the gifted: the importance of professional development and school culture', *Australasian Journal of Gifted Education*, vol. 18, no. 2, p. 32.

Lawrence, D, Dawson, V, Houghton, S, Goodsell, B, Sawyer, MG 2019, 'Impact of mental disorders on attendance at school', *Australian Journal of Education*, vol. 63, no. 1, pp. 5–21, viewed 22 December 2019, <https://doi.org/10.1177/0004944118823576>.

Learning Ground Indigenous Education Database 2020, viewed 19 January 2020, <http://acer.org/learningground>.

Leithwood, K & Beatty, B 2008, *Leading with teacher emotions in mind*, Corwin Press, Thousand Oaks, CA.

Lowe, K et al. 2019, 'Factors affecting the development of school and Indigenous community engagement: A systematic review', *The Australian Educational Researcher*, vol. 46, no. 2, pp. 253–271.

Lehrer, R, Kim, M.-J, Ayers, E & Wilson, M 2014, 'Toward establishing a learning progression to support the development of statistical reasoning', in A Maloney, J Confrey & KH Nguyen (eds.), *Learning over time: learning trajectories in mathematics education*, Information Age Publishing, Charlotte, NC, p. 49.

Lobato, J & Walters, CD 2017, 'A taxonomy of approaches to learning trajectories and progressions', in J. Cai (ed.), *The compendium for research in mathematics education*, National Council of Teachers of Mathematics, Reston, VA, pp. 74–101.

Lucas, B & Smith, C 2018, *The capable country: cultivating capabilities in Australian education*, Mitchell Institute, Melbourne, viewed 12 December 2019, <https://cica.org.au/wp-content/uploads/The-capable-country.pdf>.

Lucas, B 2019, *Why we need to stop talking about twenty-first century skills*, Centre for Strategic Education, East Melbourne.

Male, C & Wodon, Q 2017, *Disability gaps in educational attainment and literacy, The price of exclusion: disability and education*, The World Bank & Global Partnership for Education, Washington, DC, viewed 20 December 2019, <https://www.globalpartnership.org/sites/default/files/2017-11-wb-gpe-gap-disability-education_0.pdf>.

Masters, GN 2015, 'Challenging our most able students', *Teacher*, 20 April, viewed 15 January 2020, <https://www.teachermagazine.com.au/columnists/geoff-masters/challenging-our-most-able-students>.

Masters, GN 2016, 'Mapping progress – using data for teaching and learning', *Teacher*, 22 August, viewed 20 February, <https://www.teachermagazine.com.au/columnists/geoff-masters/mapping-progress-using-data-for-teaching-and-learning>.

Masters, GN 2017a, 'Monitoring learning', in T Bentley & GC Savage (eds.), *Educating Australia: challenges for the decade ahead*, Melbourne University Publishing, Carlton, Australia.

Masters, GN 2017b, 'Promoting long-term learning progress', *Teacher*, 3 April, viewed 20 February 2020, <https://www.teachermagazine.com.au/columnists/geoff-masters/promoting-long-term-learning-progress>.

Masters, GN 2017c, 'The school curriculum: about time', *Teacher*, 26 June, viewed 20 February 2020, <https://www.teachermagazine.com.au/columnists/geoff-masters/the-school-curriculum-about-time>.

Masters, GN, Rowley, G, Ainley, J & Khoo, ST 2008, *Reporting and comparing school performances*, paper prepared for the MCEETYA Expert Working Group, commissioned by Department of Education, Employment and Workplace Relations, viewed 20 February 2020, <https://research.acer.edu.au/ar_misc/8>.

Mayer Committee 1992, *Key competencies: report of the Committee to advise the Australian Education Council and Ministers of Vocational Education, Employment and Training on employment-related key competencies for post compulsory education and training* [Mayer report], Australian Education Council and Ministers of Vocational Education, Employment and Training, Canberra, viewed 20 December 2019, <https://www.voced.edu.au/content/ngv%3A28045>.

Mayer, D & Lloyd, M 2011, *Professional learning: an introduction to the research literature*, AITSL, Melbourne, viewed 20 December 2020,

<http://doereforms.weebly.com/uploads/5/3/5/2/53522887/professional_learning_an_introduction_to_the_research_literature_mayer_-amp-_lloyd_oct_2011.pdf>.

McCallum, F & Price, D 2016, *Nurturing wellbeing development in education: from little things, big things grow*, Routledge, London.

McCallum, F, Price, D, Graham, A & Morrison, A 2017, *Teacher wellbeing: a review of the literature*, Association of Independent Schools NSW, Sydney, viewed 20 January 2020, <https://apo.org.au/sites/default/files/resource-files/2017/10/apo-nid201816-1133141.pdf>.

McFarland, L & Fenton, A 2017, 'Why it matters to transform parent involvement from early childhood to primary school', *The Conversation*, July 13, viewed 22 November 2019, <http://theconversation.com/why-it-matters-to-transform-parent-involvement-from-early-childhood-to-primary-school-80144>.

Mclean, P, Perkins, K, Tout, D, Brewer, K & Wyse, L 2012, *Australian Core Skills Framework* (ACSF), Department of Industry, Innovation, Science, Research and Tertiary Education, viewed 20 February 2020, <https://www.education.gov.au/download-acsf>.

McLean Davies, L, Anderson, M, Deans, J, Dinham, S, Griffin, P & Kameniar, B, 2013, 'Masterly preparation: embedding clinical practice in a graduate pre-service teacher education programme', *Journal of Education for Teaching*, vol. 39, no. 1, pp. 93–106, <https://doi.org/10.1080/02607476.2012.733193>.

McLean, L & Connor, CM 2015, 'Depressive symptoms in third-grade teachers: relations to classroom quality and student achievement', *Child Development*, vol. 86, pp. 945-954, viewed 20 January 2020, <https://doi.org/10.1111/cdev.12344>.

McLeod, S & Graber, J 2018, *Harnessing technology for deeper learning*, Solution Tree Press, Bloomington, IN.

Medina, J 2014, *Brain rules: 12 principles for surviving and thriving at work, home, and school*, 2nd ed, Pear Press, Seattle, WA.

Melbourne Declaration on Educational Goals for Young Australians 2008, Ministerial Council on Education, Employment, Training and Youth Affairs, Melbourne, Australia, viewed 20 December 2019, <http://www.curriculum.edu.au/verve/_resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf>.

Melbourne Graduate School of Education 2016, *Social and emotional learning: Australasian research summary*, Evidence for Learning, viewed 22 December 2019, <https://evidenceforlearning.org.au/the-toolkits/the-teaching-and-learning-toolkit/australasian-research-summaries/social-and-emotional-learning>.

Melbourne Graduate School of Education 2019, *A submission to the Review of the Melbourne Declaration*, June 18, Education Council, viewed 21 November 2019, <https://www.reviewmelbournedeclaration.edu.au/have-your-say/view/sbm09ff65431b1661689210f>.

Mellor, S & Corrigan, M 2004, *The case for change: a review of contemporary research on Indigenous education outcomes*, Australian Education Review No. 47, ACER Press, Melbourne Australia, viewed 20 November 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1006&context=aer>.

Milligan, SK, Kennedy, GE, & Israel, D 2018, *Assessment, credentialling and recognition in the digital era: recent developments in a fertile field,* Centre for Strategic Education (Vic.), East Melbourne, Australia.

Ministry of Education 2020, *BES (iterative best evidence synthesis) programme – what works evidence – Hei Kete Raukura*, New Zealand Government, viewed 13 January 2020, <https://www.educationcounts.govt.nz/topics/BES>.

Mogato, A 2019a, 'The connection between student wellbeing and outcomes', *The Educator K/12*, 28 October, viewed 22 December 2019, <https://www.theeducatoronline.com/k12/news/the-connection-between-student-wellbeing-and-outcomes/267628>.

Mogato, A 2019b, Australian schools 'far from inclusive', *The Educator Online*, 11 November, viewed 15 January 2020, <https://www.theeducatoronline.com/k12/news/australian-schools-far-from-inclusive/268031>.

Mogato, A 2020, 'Teachers 'overworked and underappreciated' - report', *The Educator K/12*, 6 February, viewed 9 February 2020, <https://www.theeducatoronline.com/k12/news/teachers-overworked-and-underappreciated--report/269859>.

Mohan, L, Chen, J, & Anderson, CW 2009, Developing a multi-year learning progression for carbon cycling in socio-ecological systems, *Journal of Research in Science Teaching*, vol. 46, no. 6, pp. 675–698, viewed 20 February 2020, <https://doi.org/10.1002/tea.20314>.

Morrison, A et al. 2019, *Toward an Australian culturally responsive pedagogy: a narrative review of the literature*, University of South Australia, viewed 19 December 2019, <https://apo.org.au/sites/default/files/resource-files/2019/08/apo-nid262951-1392016.pdf>.

Moyle, K 2010, *Building innovation: learning with technologies*, Australian education review, no. 56, ACER Press, Melbourne, viewed 29 November 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1009&context=aer>

Mullis, IVS, Martin, MO, Foy, P & Hooper, M 2016a, *TIMSS 2015 international results in mathematics*, IEA International Study Center, Boston College, viewed 20 February 2020, <http://timssandpirls.bc.edu/timss2015/international-results/timss-2015/mathematics/performance-at-international-benchmarks/item-map-and-summary-of-international-benchmarks>.

Mullis, IV. S., Martin, MO, Foy, P & Hooper, M 2016b, *TIMSS 2015 international results in science*, IEA International Study Center, Boston College, viewed 20 February 2020, <http://timssandpirls.bc.edu/timss2015/international-results/timss-2015/science/performance-at-international-benchmarks/item-map-and-summary-of-international-benchmarks>.

Munro, J 2002, 'Gifted learning disabled students', *Australian Journal of Learning Disabilities*, vol. 7, no. 2, pp. 20–30, viewed 14 January 2020, <http://www.tandfonline.com/doi/abs/10.1080/19404150209546698>.

Nationally Consistent Collection of Data on School Students with Disability: 2020 guidelines 2019, version 4.0, Education Council of Australia, Melbourne, viewed 14 January 2020, <https://www.nccd.edu.au/sites/default/files/2020_nccd_guidelines.pdf>.

NESLI 2019, *Evaluating the impact of the NESLI Staff Wellbeing Toolkit*, NESLI, Melbourne, viewed 20 January 2020, <https://www.nesli.org/toolkit-impact-report.html>.

New Zealand Ministry of Education 2019, *Curriculum progress tools: the Learning Progression Frameworks*, New Zealand Ministry of Education, viewed 20 February 2020, <https://curriculumprogresstools.education.govt.nz/lpf-tool>.

NSW Education Standards Authority 2019, *Nurturing wonder and igniting passion, designs for a future school curriculum: NSW curriculum review interim report*, Independent Review Lead Professor Geoff Masters, NSW Education Standards Authority, Sydney, viewed 18 December 2019,

<https://nswcurriculumreview.nesa.nsw.edu.au/pdfs/interimreport/chapters/NSW-Curriculum-Review-Interim-Report.pdf>.

NSW Teachers' Federation 2010, Aboriginal education: 25 years approach: the way forward. *Education*; vol. 91, no.3, pp. 31-32, viewed 28 February 2020, <https://search.informit.com.au/fullText;dn=194699;res=AEIPT>

O'Connor, Cloney, D, Kvalsvig, A & Goldfeld, S 2019, 'Positive mental health and academic achievement in elementary school: new evidence from a matching analysis', *Educational Researcher*, vol. 48, no. 4, pp. 205–216, viewed 22 December 2019, <https://doi.org/10.3102/0013189X19848724>.

O'Connor, Cloney, D, Kvalsvig, A, Goldfeld, S 2019, 'Positive mental health and academic achievement in elementary school: new evidence from a matching analysis', *Educational Researcher*, vol. 48, no. 4, pp. 205–216, viewed 22 December 2019, <https://doi.org/10.3102/0013189X19848724>.

OECD 2009, *Creating effective teaching and learning environments: first results from TALIS*, TALIS, OECD Publishing, Paris, viewed 20 December 2020, <https://doi.org/10.1787/9789264068780-en>.

OECD 2017a, 'Overview: students' well-being', in *PISA 2015 results (volume III): students' well-being*, OECD Publishing, Paris, pp. 37-57, viewed 22 December 2019, <https://doi.org/10.1787/9789264273856-5-en>.

OECD 2017b, *PISA 2015 technical report*, OECD Publishing, Paris, viewed 20 February 2020, <http://www.oecd.org/pisa/sitedocument/PISA-2015-technical-report-final.pdf>.

OECD 2017c, *Promising practices in supporting success for Indigenous students*, OECD Publishing, Paris, viewed 28 November 2019, <https://doi.org/10.1787/9789264279421-en>.

OECD 2017d, *Starting strong 2017: key OECD indicators on early childhood education and care, Starting strong*, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/9789264276116-en>.

OECD 2017e, 'Students' well-being: what it is and how it can be measured', in *PISA 2015 results (volume III): students' well-being*, OECD Publishing, Paris, pp. 59-66, viewed 22 December 2019, <https://doi.org/10.1787/9789264273856-6-en>.

OECD 2018, *Trends shaping education spotlight 14: good vibrations: students' well-being*, viewed 22 December 2019, <http://www.oecd.org/education/ceri/Spotlight-14-Good-Vibrations-Students'-Well-being.pdf>.

OECD 2019a *Education policy outlook 2019: working together to help students achieve their potential*, OECD Publishing, Paris, viewed 14 January 2020, <https://doi.org/10.1787/2b8ad56e-en>.

OECD 2019b, 'PISA 2018 well-being framework 2018', in *PISA 2018 assessment and analytical framework*, OECD Publishing, Paris, viewed 22 December 2019, <https://doi.org/10.1787/38a34353-en>.

OECD 2019c, *TALIS 2018 results (volume I): teachers and school leaders as lifelong learners*, TALIS, OECD Publishing, Paris, viewed 14 January 2020, <https://doi.org/10.1787/1d0bc92a-en>.

OECD 2019d, *Trends shaping education 2019*, Centre for Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/trends_edu-2019-en>.

OECD n.d.-a, *International Early Learning and Child Well-being Study*, OECD, France, viewed 21 November 2019, <http://www.oecd.org/education/school/international-early-learning-and-child-well-being-study.htm>.

OECD n.d.-b, *OECD Starting Strong Teaching and Learning International Survey*, OECD, viewed 21 November 2019, <http://www.oecd.org/education/school/oecd-starting-strong-teaching-and-learning-international-survey.htm>.

Ohi, S et al. 2019, 'Interrogating the promise of a whole-school approach to intercultural education: An Australian investigation', *European Educational Research Journal*, vol. 18, no. 2, pp. 234–247, viewed 8 February 2020, <http://journals.sagepub.com/doi/10.1177/1474904118796908>.

Owen, S 2016, 'Professional learning communities: building skills, reinvigorating the passion, and nurturing teacher wellbeing and "flourishing" within significantly innovative schooling contexts', *Educational Review*, vol. 68, no. 4, pp. 403–419, viewed 20 January 2020, <https://doi.org/10.1080/00131911.2015.1119101>.

Parliament of the Commonwealth of Australia, House of Representatives Standing Committee on Employment, Education and Training 2019, *Status of the Teaching Profession*, Canberra, viewed 20 January 2020, <https://www.aph.gov.au/Parliamentary_Business/Committees/House/Employment_Education_and_Training/ TeachingProfession>.

Pascoe, S & Brennan, D 2017, *Lifting our game: report of the review to achieve educational excellence in Australian schools through early childhood interventions*, December, viewed 21 November 2019, < https://education.nsw.gov.au/early-childhood-education/whats-happening-in-the-early-childhood-education-sector/lifting-our-game-report/Lifting-Our-Game-Final-Report.pdf>

Perkins, K & Knight, P 2014, *Parents and teachers: working together to foster children's learning*, The Research Digest, no.10, Queensland College of Teachers, viewed 22 November 2019, <https://www.qct.edu.au/Publications/Periodical/QCTResearchDigest2014-10.pdf>.

Perry, E, Boylan, M & Booth, J 2019, *Quality assurance of teachers' continuing professional development: rapid evidence review*, Welcome Trust, London, viewed 20 December 2019, <https://educationendowmentfoundation.org.uk/public/files/Quality_Assurance_of_Teachers_Continuing_Prof essional_Development_2019.pdf>.

Perso, T 2012, *Cultural responsiveness and school education with particular focus on Australia's first peoples: a review & synthesis of the literature*, Menzies School of Health Research, Darwin, viewed 28 November 2019, <http://ccde.menzies.edu.au/sites/default/files/Literature%20review%20Cultural%20Responsiveness%20and %20School%20Education%20March%202012%20FINAL.pdf>.

Plummer, JD & Krajcik, J 2010 Building a learning progression for celestial motion: elementary levels from an earth-based perspective, *Journal of Research in Science Teaching*, vol. 47, no. 7, pp. 768–787, viewed 20 February 2020, <https://doi.org/10.1002/tea.20355>.

Randall R 2019, '21st-century skills: realising the potential of the Australian Curriculum', *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, Australian Council for Educational Research, Melbourne, viewed 20 December 2019, <https://research.acer.edu.au/cgi/viewcontent.cgi?article=1349&context=research_conference>

Recommendation II: Graduand Teacher Competencies n.d. National Institute of Education, Singapore, viewed 22 November 2019, <https://www.nie.edu.sg/docs/default-source/td_practicum/te21---gtc.pdf>.

Reid, K 2016, *Counting on it: early numeracy development and the preschool child*, Australian Council for Educational Research, Camberwell, viewed 21 November 2019, <https://research.acer.edu.au/learning_processes/19>.

Review of the Australian Curriculum. Initial Australian Government Response 2014, Department of Education, Canberra, viewed 20 December 2019, <https://docs.education.gov.au/system/files/doc/other/initial_australian_government_response_final_0.pdf>.

Review of the Melbourne Declaration 2019, Education Council, viewed 17 February 2020, <https://www.reviewmelbournedeclaration.edu.au>.

Review of the Melbourne Declaration: submissions 2019, Education Council, viewed 20 November 2019, <https://www.reviewmelbournedeclaration.edu.au/submissions>.

Richardson, PW, Watt, HMG & Devos, C 2013,'Types of Professional and Emotional Coping Among Beginning Teachers', in M Newberry, A Gallant, & P Riley (eds.), *Emotion and school: understanding how the hidden curriculum influences relationships, leadership, teaching, and learning*, Advances in Research on Teaching, vol. 18, Emerald, Bingley, pp.229–253, viewed 10 February 2020, <https://doi.org/10.1108/S1479-3687(2013)0000018016>.

Riley, P 2016, *Principal health and wellbeing*, viewed 20 January 2020, <https://www.principalhealth.org/au/reports.php>.

Roffey, S 2012, 'Pupil wellbeing – teacher wellbeing: two sides of the same coin', *Educational & Child Psychology*, vol. 29, no. 4, pp. 8-17.

Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability 2020, *The criminal justice system: issues paper*, 14 January, Government of Australia, Brisbane, Queensland, viewed 17 February 2020, <https://disability.royalcommission.gov.au/system/files/2020-02/Issues-paper-Criminal-justice-system.pdf>.

SAHMRI 2016, *PERMA+*, South Australian Health & Medical Research Institute, Adelaide, viewed 22 December 2019, <https://www.wellbeingandresilience.com/sites/swrc5/media/pdf/permaandcentreoverview.pdf>.

Salinas, I 2009, 'Learning progressions in science education: two approaches for development', paper presented at the *Learning Progressions in Science (LeaPS) Conference*, June 24-26, Iowa City, IA.

Scarcella, J & Burgess, C 2019, 'Aboriginal perspectives in English classroom texts', *English in Australia*, vol. 54, no. 1, pp. 20-29.

Scarino, A 2018, 'The Australian Curriculum and its conceptual bases: a critical analysis', in A Reid & D Price (eds.), *The Australian Curriculum: promises, problems and possibilities*, Australian Curriculum Studies Association, Deakin West, ACT, pp. 19–29.

Schleicher, A 2016, *Teaching excellence through professional learning and policy reform: lessons from around the world*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 20 December 2019, <https://doi.org/10.1787/9789264252059-en>.

Schleicher, A 2018, *Valuing our teachers and raising their status: how communities can help*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 18 September 2019, <https://doi.org/10.1787/9789264292697-en>.

Schleicher, A 2019, *Helping our youngest to learn and grow: policies for early learning*, International Summit on the Teaching Profession, OECD Publishing, Paris, viewed 21 November 2019, <https://doi.org/10.1787/9789264313873-en>.

Scoular, C 2018, 'Equipping teachers with tools to assess and teach general capabilities', *Research Conference 2018: Teaching Practices that Make a Difference: Insights from Research*, Australian Council for Educational Research, Sydney, pp.76–82, viewed 20 December 2019, <https://research.acer.edu.au/research_conference/RC2018/13august/10>.

Seligman, MEP 2011, *Flourish: a visionary new understanding of happiness and well-being*, Free Press, New York.

Shepard, LA, 2018, 'Learning progressions as tools for assessment and learning', *Applied Measurement in Education*, vol. 31, no.2, pp. 165–174, viewed 20 February 2020, <https://doi.org/10.1080/08957347.2017.1408628>.

Siemon, D, Horne, M, Clements, D, Confrey, J, Maloney, ., Sarama, J, Tzur, R, & Watson, A 2017, 'Researching and using learning progressions (trajectories) in mathematics education', *Proceedings of the 41st Conference of the International Group for the Psychology of Mathematics Education,* pp. 109–136.

Simons, R 2013, 'Parental engagement in learning', *[rd] ACER*, November 11, viewed 22 November 2019, <https://rd.acer.org//article/parental-engagement-in-learning>.

Sims, M & Waniganayake, M 2015, 'The performance of compliance in early childhood: neoliberalism and nice ladies', *Global Studies of Childhood*, vol. 5, no. 3, pp. 333–345, viewed 24 February 2020, <http://journals.sagepub.com/doi/10.1177/2043610615597154>.

Sims, M, Waniganayake, M & Hadley, DF 2018, 'Educational leadership: An evolving role in Australian early childhood settings', *Educational Management Administration & Leadership*, vol. 46, no. 6, pp. 960–979, viewed 2 February 2020, <http://journals.sagepub.com/doi/10.1177/1741143217714254>.

Smith, TE, Myers, ZR, Moen, AL, Kim, EM & Sheridan, SM 2013, *A quantitative synthesis of family engagement interventions: a preliminary examination in rural context*, National Center for Research on Rural Education Working Paper 2013-7, viewed 22 November 2019, <https://r2ed.unl.edu/resources/downloads/2013-wp/2013_7_Smith_Myers_Moen_MoormanKim_Sheridan.pdf>.

Spilt, JL, Koomen, HMY, & Thijs, JT 2011, 'Teacher wellbeing: the importance of teacher–student relationships', *Educational Psychology Review*, vol. 23, no. 4, pp. 457–477, viewed 20 January 2020, <https://doi.org/10.1007/s10648-011-9170-y>.

Stewart, V 2019, *The future of teaching and learning: International Summit on the Teaching Profession 2019,* Helsinki, Finland, March 14-15, Asian Society, viewed 21 November 2019, <https://asiasociety.org/sites/default/files/inline-files/FINAL%20REPORT%20FINLAND%202019%5B2%5D_0.pdf>.

Tayler, C 2019, 'Australia: maintaining the reform momentum: a case study of the Australian early childhood education and care system', in, *The early advantage: international case studies of early childhood education and care systems*, viewed 21 November 2019, <http://ncee.org/wp-content/uploads/2019/05/Australia-Case-Study-for-NCEE-052019.pdf>.

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards

Tehan, D 2018, 'Towards better student outcomes', in, *Beyond Year 12 Conference*, 10 December 2018, viewed 20 December 2019, <https://ministers.education.gov.au/tehan/beyond-year-12-conference-towards-better-student-outcomes>.

The Shape of the Australian Curriculum. Version 4.0 2013, Australian Curriculum, Assessment and Reporting Authority (ACARA), Sydney, Australia, viewed 12 December 2019, <https://docs.acara.edu.au/resources/The_Shape_of_the_Australian_Curriculum_v4.pdf>.

Thomson, S 2015, 'Australian Students in a Digital World', *Policy Insights*, no. 3, viewed 17 September 2019, <https://research.acer.edu.au/homepage_mix/59>.

Thomson, S 2019,'Assessing and understanding social and emotional skills: the OECD study on social and emotional skills', paper presented at *Research Conference 2019: Preparing Students for Life in the 21st Century: Identifying, Developing and Assessing What Matters*, 4-5 August, Melbourne, Australian Council for Educational Research, viewed 22 December 2019, <https://research.acer.edu.au/research_conference/RC2019/5august/4>.

Thomson, S, De Bortoli, L & Underwood, C 2016, *PISA 2015: a first look at Australia's results*, Australian Council Educational Research, Melbourne, viewed 21 November 2019, <https://research.acer.edu.au/ozpisa/21>.

Thomson, S, De Bortoli, L & Underwood, C 2017, *PISA 2015: reporting Australia's results,* Australian Council for Educational Research, Melbourne, viewed 20 December 2020, <https://research.acer.edu.au/ozpisa/22/>.

Thomson, S, De Bortoli, L Underwood, C & Schmid, M 2019, *PISA 2018: reporting Australia's results: volume I student performance*, Australian Council for Educational Research under contract with the Australian Government Department of Education, viewed 18 December 2019, <https://research.acer.edu.au/ozpisa/35>.

Timperley, H, 2008, *Teacher professional learning and development*, International Bureau of Education (IBE), & International Academy of Education, Belgium, viewed 20 December 2019, <http://edu.aru.ac.th/childedu/images/PDF/benjamaporn/EdPractices_18.pdf>.

Timperley, H, Ell, F, Le Fevre, D & Twyford, K 2020, *Leading professional learning: practical strategies for impact in schools*, ACER Press, Camberwell.

Tobin, M 2016, *Childhood trauma: Developmental pathways and implications for the classroom.* Australian Council for Educational Research, viewed 25 February 2020, <https://research.acer.edu.au/learning_processes/20>.

Tomlinson, CA & Imbeau, MB 2010, *Leading and managing a differentiated classroom*, ASCD, Alexandria, VA, viewed 18 December 2019, <http://www.ascd.org/Publications/Books/Overview/Leading-and-Managing-a-Differentiated-Classroom.aspx>.

Topsfield, J 2013, 'Results flatline for top students', *The Age*, January 10, viewed 15 January 2020, <https://www.theage.com.au/education/results-flatline-for-top-students-20130109-2cgud.html>.

Trust, T 2018a, '2017 ISTE Standards for Educators: from teaching with technology to using technology to empower learners', *Journal of Digital Learning in Teacher Education*, vol. 34, no. 1, pp. 1–3, <https://doi.org/10.1080/21532974.2017.1398980>.

Trust, T 2018b, 'Why do we need technology in education?', *Journal of Digital Learning in Teacher Education*, vol. 34, no. 2, pp. 54–55, <https://doi.org/10.1080/21532974.2018.1442073>.

Uluru Statement from the Heart 2017, viewed 18 November 2019, <https://ulurustatement.org>.

United Nations 2016, *Convention on the Rights of Persons with Disabilities*, advance unedited version, 2 September, CRPD/C/GC/4, viewed 18 December 2019, <https://www.ohchr.org/Documents/HRBodies/CRPD/GC/RighttoEducation/CRPD-C-GC-4.doc>.

United Nations Children's Fund (UNICEF) 2013, *Children with disabilities*, The state of the world's children 2013, UNICEF, New York, viewed 18 December 2019, <https://www.unicef.org/sowc2013/files/SWCR2013_ENG_Lo_res_24_Apr_2013.pdf>.

van der Veen, K & Sleegers, PJC 2009,'Teachers' emotions in a context of reforms: to a deeper understanding of teachers and reforms', in PA Schutz & M Zembylas (eds.), *Advances in teacher emotion research: the impact on teachers' lives*, Springer, Dordrecht, pp.233–252, viewed 20 December 2019, <https://research.utwente.nl/en/publications/teachers-emotions-in-a-context-of-reforms-to-a-deeper-understandi>.

Van Poortvliet, M, Axford, N & Lloyd, JJ 2018, *Working with parents to support children's learning: guidance report*, Education Endowment Foundation, London, viewed 22 November 2019, <https://educationendowmentfoundation.org.uk/tools/guidance-reports/working-with-parents-to-support-childrens-learning>.

Vaughan, T & Schoeffel, S 2019, 'Evidence-informed parental engagement', *Teacher*, 14 October, viewed 22 November 2019, <https://www.teachermagazine.com.au/articles/evidence-informed-parental-engagement>.

Victorian Curriculum and Assessment Authority (VCAA) 2015a, 'Cross-curriculum priorities', *Victorian Curriculum F-10*, viewed 20 December 2019, <https://victoriancurriculum.vcaa.vic.edu.au/overview/cross-curriculum-priorities>.

Victorian Curriculum and Assessment Authority (VCAA) 2015b, *Victorian Curriculum F-10*, viewed 20 December 2019, <https://victoriancurriculum.vcaa.vic.edu.au>.

Victorian Institute of Teaching c.2019, *Special Needs Plan*, Victorian Government, viewed 18 December 2019, <https://www.vit.vic.edu.au/registered-teacher/special-needs-plan>.

Wang, O & Zuccollo, J 2020, *The wellbeing of the school workforce in England*, 6 January, Education Policy Institute, London, viewed 20 January 2020, <https://epi.org.uk/publications-and-research/wellbeing-school-workforce>.

Weiss, HB, Lopez, ME & Caspe, M 2018*, Joining together to create a bold vision for next generation family engagement: engaging families to transform education*, October, prepared by Global Family Research Project for Carnegie Corporation of New York, viewed 22 November 2019, <https://globalfrp.org/Articles/Joining-Together-to-Create-a-Bold-Vision-for-Next-Generation-Family-Engagement-Engaging-Families-to-Transform-Education>.

Weldon, P 2019, *Changing priorities? The role of general capabilities in the curriculum*, viewed 6 January 2020, <https://www.nswcurriculumreview.nesa.nsw.edu.au/assets/docs/pdf/General-Capabilities-ACER.pdf>.

Wilson, M, 2018, 'Making measurement important for education: the crucial role of classroom assessment', *Educational measurement: issues and practice*, vol. 37, no. 1, pp. 5–20, viewed 20 February 2020, <https://doi.org/10.1111/emip.12188>.

World Economic Forum 2016, *The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*, viewed 12 December 2019, <http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf>.

World Health Organization (WHO) 2004, *Promoting mental health: concepts, emerging evidence, practice: summary report*, World Health Organization, Geneva, viewed 22 December 2019, <https://www.who.int/mental_health/evidence/en/promoting_mhh.pdf>.

World Health Organization (WHO) 2011, *World report on disability*, World Health Organization, Geneva, <https://www.who.int/disabilities/world_report/2011/report.pdf>.

World Health Organization (WHO) 2014, *Mental health: a state of well-being* (WHO fact file, August, p. 1), WHO, Geneva.

World Health Organization (WHO) 2019, *Burn-out an "occupational phenomenon": International Classification of Diseases*, WHO, Geneva, viewed 20 January 2020, <https://www.who.int/mental_health/evidence/burn-out/en>.

Wylie, C, McDowall, S, & Ferral, H 2019, *Teaching, School, and Principal Leadership Practices Survey 2018*, New Zealand Council for Educational Research, Wellington, New Zealand, viewed 20 December 2019, <https://www.nzcer.org.nz/system/files/TSP%202018%20report%20FINAL.pdf>.

Wylie, C, McDowall, S, Ferral, H, Felgate, R & Visser, H 2018, *Teaching practices, school practices, and principal leadership: the first national picture 2017: report summary,* NZCER, Wellington, viewed 22 November 2019, <https://www.nzcer.org.nz/system/files/TSP_Summary_2017.pdf>.

Young, M & Muller, J 2010, 'Three educational scenarios for the future: lessons from the sociology of knowledge: European Journal of Education, Part I', *European Journal of Education*, vol. 45, no. 1, pp. 11–27.

Yunkaporta, T 2016, *8 ways Aboriginal pedagogy*, viewed 18 September 2019, <https://www.8ways.online>.

Zhao, Y 2012, *World Class Learners: Educating Creative and Entrepreneurial Students*. Corwin Press, Thousand Oaks, CA.

Standards

Al-Saud, FAA-M & Alsadaawi, AS 2018, 'Raising the quality of education: developing professional standards for Saudi teachers', paper presented at *40th Annual Conference (2014), International Association for Educational Assessment,* viewed 22 November 2019, <https://iaea.info/documents/raising-the-quality-of-education-developing-professional-standards-for-saudi-teachers>.

Australian Institute for Teaching and School Leadership (AITSL) 2011, *Australian Professional Standards for Teachers*, AITSL, viewed 21 November 2019, <https://www.aitsl.edu.au/teach/standards>.

Chartered College of Teaching 2017, *Chartered Teacher Programme: 2018-2019 pilot cohort*, Chartered College of Teaching, viewed 18 September 2019, <https://chartered.college/wp-content/uploads/2017/07/Chartered-Teacher-Pilot-18-19-web.pdf>.

Competency standards frameworks for Tuvalu teachers competency standards implementation 2014, for national use in Fiji and Tuvalu, Educational Quality & Assessment Programme, SUVA, viewed 22 November 2019, <https://www.eqap.org.fj/News-And-Gallery/Publications/Teacher-Competency-Standards.aspx>.

Department of Education, Republic of the Philippines 2017, *Philippine Professional Standards for Teachers*, developed through the Research Center for Teacher Quality (RCTQ) with support from the Australian Government, viewed 18 September 2019, <https://www.deped.gov.ph/wp-content/uploads/2017/08/DO_s2017_042-1.pdf>.

International Society for Technology in Education (ISTE) 2017, *ISTE Releases New Standards for Educators to Maximize Learning for All Students Using Technology*, June 25, ISTE, viewed 18 September 2019,

<https://www.iste.org/explore/Press-Releases/ISTE-Releases-New-Standards-for-Educators-to-Maximize-Learning-for-All-Students-Using-Technology>.

International Society for Technology in Education (ISTE) n.d., *ISTE Standards for Educators*, ISTE, viewed 27 November 2019, <https://www.iste.org/standards/for-educators>

Teacher Competency Standards Framework (TCSF): b*eginning teachers: Myanmar 2017,* draft version 2, 2 May, viewed 21 November 2019, <https://www.lextutor.ca/myanmar/TCSF_v2.pdf>.

Teachers' Council of Thailand 2018, *Southeast Asia Teachers Competency Framework (SEA-TCF),* Teachers' Council of Thailand, Bangkok, viewed 18 September 2019, <http://www.criced.tsukuba.ac.jp/math/seameo/2019/pdf/SEA-TCF%20BOOK.pdf>.

Teaching Council New Zealand 2017, *Our code, our standards*, Teaching Council of Aotearoa New Zealand, viewed 18 September 2019, <https://teachingcouncil.nz/content/our-code-our-standards>.