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The Gifted Dimension of the Australian Professional Standards for Teachers: Implications for Professional Learning.

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Abstract: The Australian Curriculum (ACARA, 2016, v.8.2) acknowledges that gifted and talented students are diverse and require educational provisions that meet their special needs. However, without professional learning in gifted education, teachers are ill-equipped to understand, identify and provide for gifted students. This paper reviews the literature in the field to argue for consideration of a 'gifted dimension' as an elaboration of the Australian Professional Standards for Teachers (AITSL, 2011). As all teachers will teach gifted and talented children, it is important to define the elements of quality teaching that are inclusive of high ability students in the Australian context and contribute to a professional learning agenda for all teachers.

Introduction

Teacher quality has been found to be a key factor influencing student academic achievement and well-being in schools (Jensen, Sonnemann, Roberts-Hull & Hunter, 2016; Hattie, 2009; Masters, 2015; Slee, Lawson, Russell, Askell-Williams, Dix, Owens, Skrzpiec, & Spears, 2009; Timperley, 2013). The importance of teacher quality is supported by research and evident in successful educational programs. Determining what knowledge, skills and understandings contribute to quality in teaching is essential in order to ensure that teacher education courses and professional learning programs focus on developing quality educators capable of engendering positive outcomes for all students. This paper considers elements of quality teaching in relation to gifted students, exploring the 'gifted dimension' of the Australian Professional Standards for Teachers (APST) (AITSL, 2011). Suggested elaborations are presented in line with each professional standard. These are intended as a guide for teacher educators at all levels in supporting and evaluating teachers' capacity to effectively teach diverse gifted and talented students.

What Defines Quality Teaching?

Defining exactly what constitutes quality teaching is not straightforward. Berliner (2001) distinguished between the good teacher, as measured by a set of professional standards, and the successful teacher, as measured by student achievement, and described the development of teacher expertise as a confluence of talent and deliberate practice in an enabling context. An additional element of quality was suggested by Porath (2009), who emphasised the importance of teachers developing their intrapersonal and interpersonal intelligences as described by Gardner (1983), similar to Mayer, Salovey and Caruso's (2000) concept of emotional intelligence and Goleman's (1995) ideas about emotional and social

intelligences. From this perspective, quality teaching requires that the teacher is able to manage his or her own affective state and develop understanding of and relationships with students in order to evaluate students' needs, interests and motivations and determine how to teach them effectively. Porath (2009, p. 830) outlined a model of teaching as a framework for understanding and developing the quality teacher which goes beyond the teacher simply *knowing* things and described how "gifted educators orchestrate meaningful, dynamic student-environment transactions that take place in rich contexts and encourage participation in valued social practices". Importance is placed in this model on the teacher's personal intelligences and wisdom because in this view the 'gifted educator' has, in addition to all the qualities of the expert teacher, insightful inner knowledge and understanding of students' affective states and the capacity to meaningfully connect with students and adapt her or his teaching accordingly.

Quality teaching can be seen to incorporate both the science of the discipline as well as the art of applying those skills in the most effective and eloquent fashion to bring about optimal outcomes for the students in a particular context. It develops over time but only with deliberate intent because "the acquisition of experience does not automatically denote expertise" (Berliner, 2001, p.466).

In this paper, 'quality teaching' is defined as practice that applies the prescribed knowledge, skills and understandings learnt in considered and purposeful ways that take into account the students and the context of teaching in order to optimise the teaching and learning experience. It incorporates Berliner's (2001) notion of "adaptive expertise" because it implies that, having developed the knowledge and skills of a good teacher, the quality teacher is then able to continue to learn and adapt their practice to suit any teaching and learning situation, evaluating that context, reflecting on what is required, and applying what they know in ways that will best match the learners in that context to bring about a specific set of desired outcomes. Importantly, the basis of quality teaching is a foundation of sound professional knowledge and skills pertaining to learning and teaching in a relational context.

Professional Standards for Teachers as Guidelines for Developing Expertise

Any definition of quality teaching needs to be considered within a specific context, since educational settings, populations, personnel, purposes and values are diverse. Teachers need to be adaptable and responsive to the nature and needs of their school or centre and the students within that community in order to be effective. It follows that any national professional standards that are set as markers of teacher quality must be sufficiently broad to allow flexibility of application across a range of contexts and sectors whilst retaining the essential elements that are agreed-upon markers of teacher quality.

The *Australian Professional Standards for Teachers* (APST) (AITSL, 2011) are intended to guide professional learning and practice, and require that teachers at a range of levels of expertise show evidence to demonstrate that they:

1. Know students and how they learn
2. Know the content and how to teach it
3. Plan for and implement effective teaching and learning
4. Create and maintain supportive and safe learning environments
5. Assess, provide feedback and report on student learning
6. Engage in professional learning
7. Engage professionally with colleagues, parents/carers and the community

There are several implied factors in each of the standards that need to be elaborated to ensure that educators fully understand the complexity of each aspect of teaching. For example,

engaging professionally with parents implies that teachers value and respect parents as partners in their children's education, just as engaging in professional learning implies that teachers not only take part in this activity, but wholeheartedly and with open minds set about learning, reflecting on and adapting their practice in response to new learning.

The APST in combination with the development and implementation of the Australian Curriculum (ACARA, 2016) present an opportunity to review teacher education courses and professional learning opportunities for teachers in terms of how well they contribute to the development of quality teachers and educators who are effective for all students across the full range of ability and diversity. The Australian Curriculum indicates what content teachers need to know – the disciplinary knowledge, skills and understandings that they need to master – in order to design and implement rich learning opportunities for their students. The Australian Curriculum documentation also explicitly addresses the topic of student diversity: in particular, students with disabilities, gifted and talented students and students for whom English is an additional or other language. In describing students as diverse, the clear and stated intention is that teachers have an “obligation” (ACARA, 2016, Introduction, para.1) to personalise learning to meet the needs of “every student across all educational settings and contexts, without exception” (ACARA, 2016, Personalised learning, para.2).

It is apparent from research evidence pertaining to each of these student groups that they are likely to require educational services and learning experiences that are qualitatively different from those of other students, but which still clearly articulate with learning opportunities provided to all. The extent to which an individual student requires different learning opportunities, and the type and intensity of any modifications, adaptations, or special provisions, depend very much on individual need. For diverse learners, high quality, flexible, differentiated pedagogy in the general classroom is the essential foundation for any special provisions that refine or build upon this approach to address individual needs. In schools and settings that do not tailor provisions for diverse students, including those considered gifted or academically advanced, students' learning can be impaired and as a group they can be considered to be disadvantaged (Collins, 2001; Griffin, 2015; Masters, 2015; Ofsted, 2013; Winebrenner & Brulles, 2012).

Educating Gifted Students

The Australian Curriculum documents (ACARA, 2016 v.8.2) acknowledge that gifted and talented students are students of diversity, stating that they “are entitled to rigorous, relevant and engaging learning opportunities drawn from the Australian Curriculum and aligned with their individual learning needs, strengths, interests and goals.” In order to achieve appropriate rigour, relevance and engagement, version 8.2 of the Australian Curriculum (ACARA, 2016) includes general advice for teachers about how to use learning area content at different levels, cross curriculum priorities, and general capabilities to personalise learning experiences for gifted and talented students. The inclusion of this advice is consistent with all teachers' obligation, embodied in the APST, to “differentiate teaching to meet the specific learning needs of students across the full range of abilities” (AITSL, 2011, standard 1.5). It is also consistent with a large body of Australian and international research indicating that, in most educational settings, gifted and talented students benefit from learning experiences that enable them to access more advanced content, work through material at a faster pace, and systematically develop their academic interests through individually-tailored experiences (Gross, Urquhart, Doyle, Juratowitch & Matheson, 2011; Ministry of Education, 2012; Rogers, 2007; Tomlinson, 1997, Wallace, 2007).

Just as definitions are continuously examined in other fields of educational research, there has been ongoing debate among researchers and commentators in gifted education about the definition of terms such as “giftedness” and “talent” (e.g., see Subotnik, Olszewski-Kubilius & Worrell, 2011, for a comprehensive discussion). In its inception, giftedness was defined in education from a psychometric perspective as markedly above-average performance on tests of general intellectual ability (Terman, 1925), but conceptions have since expanded to acknowledge broader views of what it means to be intelligent (and therefore, gifted), to account for more domain-specific expressions of high ability, to encompass diverse cultural understandings (Plucker & Callahan, 2014), and to reflect talent development perspectives that incorporate a focus on nurturing latent potential (Subotnik, Olszewski-Kubilius & Worrell, 2011). Research has also defined commonly occurring social and emotional characteristics of individuals with significantly above-average measured intelligence (IQ) and highlighted the difficulties that typically result from a mismatch between gifted individuals’ characteristics and needs and the school environment, in cases where no adjustments or provisions are made (e.g. Blass, 2014; Coleman, Micko & Cross, 2015; Neihart, 1999).

In Australia, there is not a consistent definition of giftedness that guides policy and practice between or within states and territories and no specific legislation that ensures that gifted students’ special educational needs are addressed. A number of states and schooling sectors incorporate Gagné’s (2009) Differentiated Model of Giftedness and Talent (DMGT) into gifted education policies. The DMGT refers to gifted individuals as those whose natural abilities (i.e. “potential”) in social, intellectual, physical and/or creative domains are distinctly above average in comparison to their age peers, while talented individuals are those whose performance (i.e. developed abilities) in a specific domain of endeavour is distinctly above average (Gagné, 2009). The DMGT provides a descriptive model of various internal and external factors that can foster or impede the development of an individual’s natural abilities into developed attainment in a field. As a definition to guide policy, program development or teachers’ work, however, this model is somewhat problematic. For example, while the DMGT encompasses multiple domains of human endeavour, most teachers and schools are primarily concerned with developing students’ capacities in the intellectual domain. Moreover, it is unclear how the DMGT’s representation of myriad factors influencing talent development should (or could) be translated into specific educational practices in school settings. In practice, despite the reference to Gagné’s definition and descriptive model in policy statements, educators are likely to be guided only partially or selectively by the DMGT at best, and research has suggested that practices in gifted education vary greatly at a school level even in the context of this shared definition (Jarvis & Henderson, 2012).

For classroom teachers and school leaders, the lack of theoretical consensus about how to define giftedness and talent should not be a practical barrier to identifying and addressing individual students’ educational needs. Whichever terms are applied, all mainstream schools are likely to include students with advanced content knowledge or skills, who are capable of working with more complex content, in more advanced ways, or at a faster pace than their age peers, and who may require a range of supports at different times in order to thrive academically and socially. This includes students from every cultural and socioeconomic background, students with learning and other disabilities in addition to their giftedness, students who may require support to learn English at the same time as they develop their significant strengths, and students manifesting behavioural difficulties. Because they are diverse their educational needs will vary, ranging from differentiation in the regular classroom to more intensive small-group opportunities, to more individualised plans and supports for students with more significant needs (Jarvis, 2013). However, despite the

documented obligation to differentiate their teaching for the full range of learners, and specifically to personalise learning experiences for the diversity of gifted students, there remain barriers to achieving high quality teaching for gifted students in Australian schools. These barriers include a belief that gifted students will succeed without any special provisions (Cooper, 2009; Moon, 2009; Porter, 2008), the 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 (Fraser-Seeto, 2013; Munro, 2012; Taylor & Milton, 2006; Watters, Hudson & Hudson, 2013) which 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 (e.g., Carrington & Bailey, 2000; Griffin, 2015; Lässig, 2009).

Equity and Excellence as Goals of Education in Australia

Underpinning educational policy, the Australian Curriculum and the APST, is the national agenda set out in the *Melbourne Declaration of Educational Goals for Young Australians* (MCEETYA, 2008) of equity and excellence for all students, where 'all students' implies and is inclusive of students of diversity. Equity is not about giving all students the same education, but giving all students equality of opportunity to access and engage with learning experiences that are appropriate to their individual needs.

It is no coincidence that the word 'quality' is an essential part of how we achieve equality. Quality teachers need to know what quality educational experiences will look like for a range of different learners, and in the context of this paper, for a range of learners who are intellectually gifted. Without specific professional learning in gifted education, teachers are not equipped to understand, identify or provide for gifted learners, and as a result, many gifted students do not receive appropriate educational opportunities and are at risk of disengagement, underachievement and poor psychological outcomes (Kronborg & Plunkett, 2013; Munro, 2012; Reis, 2009). With appropriate professional learning, when teachers understand and respond in effective ways to the needs of gifted learners, then education can indeed work towards excellence for all learners and achieve equality of access to appropriate education for all (including those who are gifted and talented). Teacher quality is a key factor – a 'non-negotiable' – in quality provisions for gifted students (VanTassel-Baska, 2005).

To claim that all teachers in all schools in Australia are achieving equality and excellence for all learners, including the gifted, is unrealistic (Southwick, 2012). There are pockets of excellence and effective teachers making positive differences for student achievement and well-being, but there is no articulated, consistent and comprehensive approach to gifted education in Australian schools (Jarvis & Henderson, 2012). This is not surprising, when most teachers graduate with no or very little background in gifted education (Collins, 2001; Fraser-Seeto, 2013; Watters et al., 2013). We still have a long way to go before we can confidently claim to have achieved our stated goals of excellence and equity in Australian education.

Gifted education can be seen to be an enhancement of general education, and a contribution to whole school improvement, as it is integral in meeting the needs of gifted students and aligned to general education's goals to achieve excellence and equity for all learners (Jarvis & Henderson, 2014).

The Gifted Dimension of Australian Professional Standards for Teachers

Examining the literature that discusses essential qualities of the effective teacher of the gifted (e.g. Croft, 2003; Stronge, Little & Grant, 2009; Vialle & Rogers, 2012; Vialle & Tischler, 2009) helps to identify professional learning needs, and guide the content of professional development programs and tertiary courses in gifted education. Effective teachers of gifted students require all the attributes of quality teachers, with additional knowledge, skills and dispositions that can only be developed through extensive and high quality professional learning opportunities in gifted education linked to whole school policies and vision for school improvement (Tomlinson, Brimijoin & Narvaez, 2008).

In the United States, where professional standards for teachers grew out of the standards-oriented school reform movement during the 1980s (Carnegie Forum, 1986), the National Association for Gifted Children (NAGC) in association with the Council for Exceptional Children and the National Council for the Accreditation of Teacher Education (TAG, 2006) developed gifted teacher standards which “define the essential knowledge and skills that teachers need to acquire to be effective in teaching gifted and talented students” (Johnsen, VanTassel-Baska & Robinson, 2008, p. xiv). Following their lead, it would be a positive step forward for the ‘gifted dimension’ to be considered in relation to the *Australian Professional Standards for Teachers* (APST) in order to define the elements of quality teaching for gifted students in the Australian context.

Augmenting the APST descriptors to reflect quality teaching for gifted and talented learners is an initial attempt at mapping the essential knowledge and skills for teachers, showing how these articulate with and enhance the existing standards. It is hoped that this may be used to guide professional learning and closely link the development of effective teachers of gifted and talented students with teachers’ professional responsibilities.

APST 1: Know (Gifted and Talented) Students and How they Learn

As most gifted and talented students are taught in mainstream classes, in effect all teachers are teachers of gifted students. These students can be found in all schools, and all cultural, linguistic, socioeconomic and geographical populations (Collins, 2001; Southwick, 2012), but the reality is that many gifted students remain unidentified and under-served (Reis, 2009). It is essential that teachers know *gifted and talented* students and how they learn (Table 1). Gifted and talented students have the capability to learn more rapidly and at a level of complexity in advance of their age peers, in a learning environment that provides appropriate challenge and support (Peters, Matthews, McBee & McCoach, 2014). Their ability is no guarantee of success, as gifted students may become bored, underachieve and drop out of school if the learning environment fails to meet their needs (Rimm, 2003).

Knowing gifted and talented students and how they learn is essential for teachers to effectively plan curriculum, assessment, programs and provisions that are appropriate to these students’ learning needs (NAGC, 2010). The learner is at the centre of curriculum design and pedagogy, as Landrum (2006) stated so eloquently:

All aspects of gifted education programming and services...must emanate from highly able students’ recognizable educational needs that manifest themselves in their cognitive, psychosocial and physiological development. (p.1)

Professional learning about giftedness helps teachers to understand how diverse these students are, in both degree and type of giftedness. Professional learning has also been shown to dispel teachers’ misconceptions and negative attitudes towards gifted students, which may

present obstacles to their learning, achievement and well-being (Croft, 2003; Davies, 2014; Kronborg & Plunkett, 2013).

APST descriptor	The ‘gifted dimension’ which elaborates on each APST descriptor
1.1 Physical, social and intellectual development and characteristics of students	1.1 Understanding giftedness and the characteristics and developmental catalysts of gifted and talented students, will ensure that teachers know who these students are and what they need as learners (Landrum, 2006). Checklists of gifted student characteristics (e.g. Frasier, Garcia & Passow, 1995) can help teachers identify gifted behaviours, but it is important to remember that gifted characteristics will only be evident in a learning environment that fosters giftedness. Identifying giftedness relies on multiple measures of ability and performance, and the purpose of identification is always to determine learning needs in order to provide for gifted learners (Peters et al., 2014).
1.2 Understand how students learn	1.2 Understanding that gifted and talented students are generally able to learn at a faster pace and more easily than their age peers will help teachers to plan appropriate learning opportunities. Gifted learners often require fewer repetitions to master new learning, the ability to move at a faster pace and engage with the curriculum at a deeper level of complexity (Clark, 2008; Rogers, 2007).
1.3 Students with diverse linguistic, cultural, religious and socioeconomic backgrounds	1.3 It is important for teachers to understand that gifted and talented students are diverse – they are not a homogeneous group (Neihart & Betts, 2010). High natural ability occurs in all human populations, so gifted learners can be found in all cultural, religious, linguistic, socioeconomic and geographical populations. The concept of giftedness may vary between cultures, as giftedness reflects cultural values and beliefs (Warwick & Matthews, 2009), so sensitivity is required in the identification of giftedness and provision for gifted learners from a diverse range of backgrounds.
1.4 Strategies for teaching Aboriginal and Torres Strait Islander students	1.4 Checklists are available to help teachers understand the Aboriginal and Torres Strait Islander concept and characteristics of giftedness, and the cultural pressures that can mitigate individuals’ high achievement (Vialle, 2011). Teachers need to work with the Aboriginal community in order to sensitively foster their gifted students in ways that align with community values and practices (Vialle, 2011).
1.5 Differentiate teaching to meet the specific learning needs of students across the full range of abilities	1.5 Differentiating curriculum and instruction for diverse learners must include consistent appropriately challenging opportunities for advanced learners. Teachers need to understand the philosophy, principles and practices of differentiation in order to effectively implement this approach (Tomlinson & Jarvis, 2009). A key factor in differentiation is the use of diagnostic and pre-assessment to determine students’ learning needs, interests, readiness and learning profiles.
1.6 Strategies to support full participation of students with disability	1.6 Gifted students may also have a disability. Their disability may mask their giftedness, or their giftedness may mask their disability. Teachers need to understand both exceptionalities in order to appropriately challenge and support these students, who are often referred to as twice exceptional (2E) or gifted learning disabled (GLD) students (Munro, 2002; Wormald & Vialle, 2011).

Table 1: APST Standard 1 descriptors elaborated with the ‘gifted dimension’ indicators

APST 2: Know the Content and How to teach it (with passion and rigour)

Expertise in a domain includes knowledge of specific vocabulary and facts, deep understanding of concepts and principles, and mastery of the skills and processes that are used by practitioners within the domain. Eminent individuals achieve at the highest levels

within a domain, not only because they have technical mastery of the knowledge and skills, but often because their love of the subject drives them to learn (Piiro, 2002; Renzulli, Koehler & Fogarty, 2006). Winner (1996, p.3) refers to this characteristic as a “rage to master”. Teachers are expected to develop expertise in the knowledge, skills and understandings of the subjects they teach in addition to the pedagogy appropriate to the discipline and the context. But it is to be hoped that they are also passionate about the content, in order for them to inspire students and engage them in learning the content.

Gifted and talented students, in their area or areas of strength, may have advanced knowledge and will require extension, complexity and possibly acceleration through the curriculum (ACARA, 2016; Rogers, 2007). Hence teachers must have depth of knowledge to be able to design authentic, inspirational learning experiences, with a range of entry levels for students, depending on the students’ existing levels of knowledge and skills. Teachers need to draw on a variety of resources that are appropriate for a range of students, from novice to developing expert, in order to help students acquire increasingly sophisticated content knowledge (Tomlinson, Kaplan, Renzulli, Purcell, Leppien, Burns, Strickland & Imbeau, 2009). Students cannot think at high levels or make reasoned decisions or solve complex problems without a strong background in content knowledge (Renzulli, 2009). Table 2 elaborates on the ‘gifted dimension’ of the APST standard 2.

APST descriptor	The ‘gifted dimension’ which elaborates on each APST descriptor
2.1 Content and teaching strategies of the teaching area	2.1 Because gifted and talented students need complexity and challenge in the curriculum (Rogers, 2007), teachers need to have depth of knowledge and expertise in the disciplines they teach. There is ample scope within the national curriculum (ACARA, 2016) to provide rigour and extension for gifted students, but only if teachers have the subject expertise to engage students at deep levels of learning in their discipline(s). And importantly, teachers who are passionate about the content they teach are far more likely to inspire and enthuse students’ love of learning and engagement with the content (Croft, 2003; Vialle & Tischler, 2009).
2.2 Content selection and organisation	2.2 With expertise, teachers have the knowledge, skills and understandings pertaining to the specific content and are better able to plan and organise sequences of learning opportunities that constructively build students’ knowledge and skills within the discipline. For some gifted students who have already mastered year level content, advanced content may be appropriate which may be drawn from the content and skills from further along the Australian Curriculum learning progression, or may be extended through using the General Capabilities.
2.3 Curriculum, assessment and reporting	2.3 Curriculum for gifted and talented students builds on quality curriculum for all students (Tomlinson & Jarvis, 2006). Designing quality curriculum starts with clear objectives that describe what students should know, understand and be able to do, so pre-assessing what students have already mastered will inform teachers’ lesson and unit planning. Assessment and reporting are elaborated in APST 5.
2.5 Literacy and numeracy strategies	2.5 Gifted and talented students may have advanced levels of literacy and/or numeracy, and should be encouraged to continue to develop their vocabularies and skills in these areas by being exposed to advanced materials and given opportunities to practice and progress these capabilities. Teachers can differentiate content for gifted learners by using advanced-level texts which incorporate the language and skills of the discipline, building their literacy and numeracy in subject-specific contexts.
2.6 Information and Communication Technology - ICT	2.6 ICT provides opportunities for advanced and extended learning for gifted students. Teachers should be familiar with the range of learning opportunities available on-line (e.g., MOOCs such as those offered by Kahn Academy). In using ICT, gifted and talented students may need guidance to ensure that their use of ICT follows ethical and disciplinary principles.

Table 2: APST Standard 2 descriptors elaborated with the ‘gifted dimension’ indicators

APST Standard 3: Plan for and Implement Effective Teaching and Learning (that matches the learning needs of gifted learners)

Teachers require expertise in both content and pedagogy in order to provide flexible and challenging opportunities for gifted and talented learners. How APST Standard 3 may be elaborated to include the ‘gifted dimension’ is outlined in Table 3. Differentiating high quality curriculum and pedagogy is key to effective teaching for diverse learners (Tomlinson & Jarvis, 2006). Teachers who model and incorporate higher order thinking into their curriculum, who apply a range of strategies and approaches matched to students’ interests, learning profiles and readiness, and who regularly monitor students’ progress against high quality learning objectives in order to make ongoing adjustments, are more likely to be effective for all learners, including the gifted. Treffinger, Nassab and Selby (2009) discussed a Levels of Service (LoS) approach for gifted students in mainstream settings, where increasingly intensive provisions are offered as appropriate to individual student needs, informed by ongoing formal and informal assessment, similar to a Response to Intervention (RtI) (Hale, 2006) approach. In this view, there are significant benefits for all students in the teacher’s provision of a rich, high quality differentiated curriculum. However, some gifted and talented students may need more advanced options and a few may require even more advanced, individually tailored provisions matched to their identified needs.

Rogers’ (2007) five key elements of provision (daily challenge, acceleration, independent projects, socialisation with peers and differentiated curriculum) have implications for teacher professional learning; teachers need to be confident that they can plan and implement learning opportunities for gifted students that consistently match their learning needs.

APST descriptor	The ‘gifted dimension’ which elaborates on each APST descriptor
3.1 Establish challenging learning goals	3.1 Appropriate challenge is essential for all learners (Winstanley, 2010) and this includes advanced learners who may have already mastered year-level content and skills and require opportunities for advanced levels of challenge in learning goals.
3.2 Plan, structure and sequence learning programs	3.2 Planning, structuring and sequencing learning for gifted and talented students requires that teachers know their students and the content in order to effectively match students to appropriate and developmental learning activities. Understanding the “ascending intellectual demand” and the flexible design of the Australian Curriculum in the subject area being taught enables teachers to find appropriate entry points and developmental pathways for all learners (Hedrick & Flannagan, 2009).
3.3 Use teaching strategies	3.3 Instructional strategies that gifted students require include advanced higher order thinking and problem-solving, qualitatively more complex learning tasks and flexible learning opportunities. Some highly gifted students, or gifted students who have additional learning needs, will require individual learning plans. Acceleration may also be required for gifted and talented students. Teaching should be informed by a variety of models of best practice which teachers implement as appropriate in order to tailor instruction to student need (Maker & Schiever, 2005).
3.4 Select and use resources	3.4 Teachers can differentiate the curriculum for gifted and talented students by using a range of resources that are authentic to the discipline and advanced in complexity to engage gifted learners in their learning at meaningful and appropriately challenging levels (Maker & Schiever, 2005). This may include access to expert mentors or university-level resources.
3.5 Use	3.5 Teachers can differentiate the processes of learning for gifted and talented students by implementing a variety of communication strategies. Mastering the use of open-ended, higher-level questioning that stimulates gifted students’ thinking

effective classroom communication	should be an essential skill for teachers of the gifted.
3.6 Evaluate and improve teaching programs	3.6 Teachers who reflect, evaluate and use their ideas to improve their practice model higher-order thinking and metacognitive practices for their students. Gifted and talented students can learn from them the importance of metacognition in the development of expertise. Teachers can also formalise their evaluations in terms of action research on their practice to further develop research-informed practice. Documenting what works for gifted learners in their context and what gifted provisions value-add to student outcomes will also help to inform the field.
3.7 Engage parents/ carers in the educative process	3.7 Parents of gifted and talented students can be frustrated when schools fail to provide appropriately challenging and supportive provisions for their children. Teachers need to honour the knowledge that parents have of their children and communicate openly with parents about children’s learning (Porter, 2005). Some opportunities for extension for gifted children (e.g., competitions and clubs) may only be possible with parents’ support.

Table 3: APST Standard 3 descriptors elaborated with the ‘gifted dimension’ indicators

APST 4: Create and Maintain Supportive and Safe Learning Environments (that are inclusive of and optimal for gifted and talented students’ development, learning and well-being)

Porath (2009, p. 830) noted the importance of the environmental context for the development of giftedness, stating that “excellence results from both individual competence and ‘smart contexts’”. Giftedness is dynamic and context specific. For example, a child who is gifted in maths may not demonstrate advanced abilities in history. But further to this, a child who is gifted will not necessary demonstrate any evidence of advanced ability in a learning environment that does not challenge or interest them. Giftedness provides the *potential* for high ability while the learning environment promotes its *development* (Diezmann & Watters, 1997; Gagné, 2009).

Students’ development should be viewed holistically, and intellectual growth will be enhanced when affective development is nurtured and supported. In South Australia, the *Learner Wellbeing Framework* (DECS, 2007) incorporates the social, emotional, spiritual, intellectual and physical dimensions of development, with the belief that learning and wellbeing are interdependent and that educators can positively contribute to learner well-being. The evaluation of the *KidsMatter* program in South Australian schools (Slee et al., 2009) determined that when teachers consciously and proactively incorporate social and emotional learning (SEL) programs in their teaching, students’ mental health and well-being is enhanced. In addition, students’ academic achievement is significantly enhanced after engaging with SEL programs (Slee et al., 2009).

There is ongoing debate within the field of gifted education as to whether gifted students are socially and emotionally more robust than their age peers, or whether giftedness bestows an underlying vulnerability that places gifted students at risk of emotional disturbance and social trauma (Neihart, 1999; Neville, Piechowski & Tolan, 2013; Peterson, 2009; Porter, 2005). According to Dabrowski (1938, cited by Silverman, 1993 & Daniels & Piechowski, 2009) some gifted and talented students experience their world through increased sensitivities and intensities that may put their social and emotional adjustment at risk, and which may impact negatively on their academic achievement. When they are viewed as different from their age peers, it is not so much the difference as the *reaction* to

that difference from peers, teachers and society in general (in a society that generally favours conformity to the norm) and a lack of appropriate supports that may cause gifted students problems in adjustment and coping (Daniels & Piechowski, 2009). One could hypothesise that school environments that foster affective development and SEL will be more nurturing of gifted students with social and emotional vulnerabilities, and provide a more sensitive ‘fit’ so that their affective and intellectual development can proceed apace. Clark’s (2008, p. 232) views about the “responsive learning environment” defined both the physical and affective aspects of the learning environment that provide optimal conditions for student learning and wellbeing.

Rather than identifying the students who do not fit into the school environment, teachers should look at how the school environment can be adapted to better fit the students. Maker and Neilson (1996) suggested that modifying the learning environment for gifted students should:

1. be learner-centred rather than teacher or content-centred
2. focus on independence rather than emphasising dependence
3. be open rather than closed to new ideas, innovations and exploration
4. promote acceptance rather than judgement
5. focus on complexity rather than simplicity
6. provide for a variety of group options, rather than one grouping as a general organisation
7. be flexible rather than having a rigid structure or chaotic lack of structure and
8. provide for high mobility rather than low ability (p. 31).

An additional aspect to consider when addressing teachers’ understanding of the learning environment is to view the learning environment as critical in establishing social justice within the classroom. A learning environment that is not sensitive to, inclusive of and responsive to all students’ needs may perpetuate inequity and disadvantage (Dai, 2013; Warwick and Matthews, 2009). Table 4 describes the ‘gifted dimension’ of APST Standard 4, explaining what teachers need to consider when designing and managing the learning environment to be inclusive of gifted and talented students’ needs.

APST descriptor	The ‘gifted dimension’ which elaborates on each APST descriptor
4.1 Support student participation	4.1 Gifted and talented students think and feel differently from their age peers (Silverman, 1993). They may find themselves isolated within the classroom environment. It is important that teachers, once they understand and can recognise giftedness, provide a supportive and inclusive learning environment that enables the gifted students to feel valued, engage with their learning and build positive relationships (Hunt & Seney, 2005).
4.2 Manage classroom activities	4.2 Teachers need to use flexible grouping strategies in order to implement differentiated curriculum and instruction. Managing the differentiated classroom requires purposeful grouping and the establishment of routines which facilitate orderly and efficient movement between whole group, small group and individual learning activities (Tomlinson, 2005).
4.3 Manage challenging behaviour	4.3 Giftedness may manifest in positive or negative behaviours, depending on how well the learning environment ‘fits’ the needs of the child (Gross, Macleod, Drummond & Merrick, 2001). Gifted or talented children who are bored or feel isolated may engage in challenging behaviours. When teachers understand giftedness, build respectful relationships with gifted students and provide appropriately challenging learning opportunities that honour what the child already knows, there is every chance that gifted and talented students will demonstrate positive behaviours. Teachers should not expect these students to ‘fit in’ to an environment that is not conducive to their learning.
4.4 Maintain student safety	4.4 Student wellbeing is positively aligned with student achievement (Slee et al., 2009). Safe environments cater for students’ affective needs as well as their physical and intellectual needs (Hunt & Seney, 2005). It is important that the classroom environment offers a physically, affectively and intellectually safe place for gifted students to learn and grow.
4.5 Use ICT safely, responsibly and ethically	4.5 Gifted and talented students may need flexibility within the learning environment to enable them to pursue their area(s) of strength in greater depth. Using ICT may enable extended learning (Eriksson, 2012), but also requires teachers to monitor its use to ensure ethical practice is observed. Teachers can engage gifted students with ethical issues using ICT as a means of adding depth to their learning and further developing their capability for ethical understanding (Hook, 2004).

Table 4: APST Standard 4 descriptors elaborated with the ‘gifted dimension’ indicators

APST 5: Assess, Provide Feedback and Report on Student Learning

Teachers as experts in their discipline(s) are well-placed to assess students’ knowledge, skills and understandings relating to planned objectives in order to establish what they need to make progress in their learning. Assessment is a powerful tool for shaping student learning (Masters, 2013), and “good assessment advances learning, not just documents it” (Wormeli, 2006, p. 39). Multiple forms of assessment used throughout the teaching and learning process inform both teachers and students about progress in relation to specific objectives. Assessment can be used as a diagnostic tool to identify any learning difficulties as well as advanced capabilities, in order to then plan appropriate learning supports and challenges when designing curriculum and instruction to match specific students’ needs. It can be used to determine students’ current readiness to learn specific content, and to monitor and provide feedback to students as they engage with new learning. Assessment can evaluate how well the learning objectives were met in a unit of work, and assessment combined with feedback can encourage students to think about their learning – to be metacognitive (Hattie, 2014).

APST 1.5 requires that teachers differentiate instruction to meet the needs of diverse learners. Differentiation is only possible through the teacher's purposeful use of assessment, both formal and informal, *for*, *of* and *as* learning (Masters, 2013; WNCP, 2006; Wormeli, 2006). Gifted and talented students may have already mastered proposed unit content, so a well-designed pre-assessment will discover that and enable the teacher to differentiate the content to ensure that the students continue to learn and engage with appropriately challenging new material.

Assessment also links to APST 2 as it will inform teachers regarding selection of appropriate content and resources, as well as APST 3 where teachers need to plan appropriate learning experiences for diverse students; assessment can assist teachers to match instruction to need. Assessment is a critical factor in the development of quality curriculum (Masters, 2013; Tomlinson et al., 2009) and integral to quality teaching and learning for diverse students.

While Hattie's (2009) research highlighted the importance of feedback to learning, Dweck's (2007) research on mindset informed teachers about the appropriate use of feedback to ensure that students focus on the effort expended and the growth achieved rather than the grades received. Teachers' and students' beliefs about how intelligent they are and what that means for their learning underpin teaching and learning. "Fixed" or "trait" mindsets generate expectations of high-ability students that may be counter-productive to learning, as they may be more concerned with appearing to be clever and not making mistakes, than expending the effort required to expand their current competence when faced with a learning challenge. Teachers who teach about and promote "growth" or "incremental" mindsets to their students can foster students' investment in and enjoyment of school as well as helping to raise students' levels of achievement (Dweck, 2010). Elaborating on the professional standard that relates to assessment and reporting by considering the 'gifted dimension' is described in Table 5.

APST descriptor	The ‘gifted dimension’ which elaborates on each APST descriptor
5.1 Assess student learning	5.1 Assessing gifted and talented students’ learning incorporates diagnostic assessment, pre-assessment, formative and summative assessment – all with the purpose of determining learning needs to plan appropriately challenging units of work and determine how well students meet the planned learning objectives. Diagnostic assessment may be used to identify the degree of a student’s advanced capability in a specific area, and establish their need for an individualised learning plan is appropriate. Identification procedures should only ever be used for diagnostic purposes to inform teaching and learning. Pre-assessment is essential in order for teachers to ascertain which students would benefit from advanced options, regardless of whether they have a formal label of “gifted”, and ongoing formative assessment should be used to make adjustments to student learning (Wormeli, 2006).
5.2 Provide feedback to students on their learning	5.2 Feedback is a powerful influence on student learning, motivation and achievement and can be given about all forms of assessment in order to help make learning visible (Hattie, 2009). Feedback for gifted learners should always focus on effort and give constructive advice regarding opportunities for further growth (assuming the assessment task provides appropriate challenge for the student). Teachers should model and develop growth mindsets. Teachers should avoid praising gifted students for being “clever” as this may foster a fixed mindset which discourages a focus on learning, effort and intellectual risk-taking (Dweck, 2007).
5.3 Make consistent and comparable judgements	5.3 Evaluating assessment data is made more complex by the provision of differentiated curriculum and instruction. When teachers provide students with challenging learning tasks that are more complex than the work their peers are completing, there needs to be a fair moderation of grades awarded (Wormeli, 2006).
5.4 Interpret student data	5.4 Gifted and talented students may have a psychological assessment or standardised test scores. All assessment of this nature is diagnostic and may require teachers to understand what this data reveals in order to accurately interpret the information and translate this into appropriate provisions for gifted students. At a classroom level, it is critical that teachers use ongoing data to inform their planning and teaching to ensure appropriate learning opportunities for gifted or advanced learners. Interpretation of data should focus on student growth from a personal starting point, rather than only attainment of year-level standards (Masters, 2013).
5.5 Report on student achievement	5.5 It is possible for gifted and talented students to achieve grade-level standards and yet be underachieving because they are working below their capacity. Before teachers report to parents, they need to examine the nature of the work being assessed and its ‘match’ to the student’s interests, needs and goals. If the child has been given work that is more challenging, at an advanced level to the rest of the class, teachers need to make that clear to parents in their reporting in order to help them see their child’s grades in context (Wormeli, 2006). In order to foster a growth mindset, reporting on gifted students’ achievements should always evaluate the student’s measurable progress in knowledge and skills from a personal starting point, and also effort expended in response to the challenge of the work being assessed, rather than focusing solely on the grade achieved (Dweck, 2007).

Table 5: APST Standard 5 descriptors elaborated with the ‘gifted dimension’ indicators

APST 6: Engage in Professional Learning (in Gifted Education)

Gifted education must form part of the professional learning program for teachers if they are to be effective teachers for gifted students (Geake & Gross, 2008; Lassig, 2009; Plunkett, 2002). In the view of the Senate Committee (Collins, 2001):

Teachers need appropriate training to handle gifted children. They need training to identify giftedness, and to differentiate the curriculum suitably, especially in

comprehensive classes. Exposure to gifted education issues is important to dispel misconceptions and negative attitudes that arise from lack of training and lack of confidence. (p. 79)

While the use of the word ‘training’ rather than education may no longer be considered appropriate in contemporary educational discourse, the sentiment being expressed in this quote remains relevant.

Research presented to the Senate Committee (Collins, 2001, p.3) moved them to conclude that when teachers are *not* educated about giftedness, they “are more likely to identify as gifted the well-behaved children of the dominant culture, and less likely to notice giftedness among underachievers or minority groups”. This reason in itself highlights the necessity for teacher professional learning about gifted education in order to ensure that teachers in schools acknowledge the diversity of gifted students who can be found in all cultures, socio-economic and geographical locations. Unidentified and underachieving gifted students are at a considerable educational disadvantage unless teachers are educated in the needs of gifted children and appropriate curricular and pedagogical responses (Griffin, 2015; Gross et al., 2005).

However, “where there are three or more teachers trained, provision for gifted students increases significantly. Where five or more teachers are trained the commitment is even higher” (DEET, 2001, p.10). Thus, there is a positive correlation between teacher education in gifted education and appropriate services and provisions for gifted students in schools, with the accompanying positive attitudes and acceptance of these students as deserving of special educational provisions.

Professional learning about gifted education can take a variety of forms, such as university postgraduate courses, in-service seminars, personal reading and conference attendance. Effective professional learning should be ongoing, embedded in daily teaching practice, purposefully guided by the needs of the teacher, present evidence-based high-quality knowledge and be driven by the teacher’s mindful and reflective approach to learning (AITSL, 2014; Porath, 2009). Table 6 outlines how teachers’ professional learning described in APST 6 might incorporate gifted education.

APST descriptor	The 'gifted dimension' which elaborates on each APST descriptor
6.1 Identify and plan professional learning needs	6.1 Gifted education should inform teachers' professional learning goals. Teachers may need guidance to identify their areas of strength and need in relation to their knowledge, skills and understanding relating to gifted education.
6.2 Engage in professional learning and improve practice	6.2 There are postgraduate courses in gifted education available in both internal and distance study mode at a number of Australian universities. Teachers can advocate for their professional learning needs in this area to school leaders such that in-service gifted education opportunities can be provided to all staff in a school or centre. There are also a wide range of online resources, readings and conferences that provide opportunities for independent professional learning.
6.3 Engage with colleagues and improve practice	6.3 Teachers' skills in differentiation are best developed with guidance from mentor teachers and in collaboration with like-minded colleagues. Whole school priority placed on gifted education can generate collegiality around discussing, developing, implementing and evaluating gifted education practices.
6.4 Apply professional learning and improve student learning	6.4 Teachers need specific professional development in gifted education in order to be effective teachers of gifted and talented students (Collins, 2001; Lassig, 2009). Teachers also need to develop expertise in their area(s) of learning in order to keep their teaching current and research-informed. Applying their developing expertise to enhance their provisions and programs for gifted and talented students has the aim of improving students' achievement and wellbeing, but research has found that effective teachers for gifted and talented students are also more effective teachers for all students (McCann, 2001).

Table 6: APST Standard 6 descriptors elaborated with the 'gifted dimension' indicators

APST 7: Engage Professionally with Colleagues, Parents/Carers and the Community

The 'gifted dimension' of this standard is described in Table 7. While there are many provisions that teachers can implement in their own classrooms for gifted students, there is also a range of provisions that require a school-wide approach, such as acceleration, cluster-grouping and policy development. Proactively planning and providing for gifted students within and beyond the school community requires teachers to collaboratively determine how the school's mission statement, policies and provisions are inclusive of gifted students' needs. All members of the school community share stakeholder responsibility for the education of their students, and should discuss and determine their views on how best to use and develop their resources such that high-ability students who are performing, in addition to those who are under-achieving, have the best possible educational outcomes. A shared vision, mission statement, policy and coordinated approach to the education of gifted students that align with the school's purpose and context, will provide solid reference points for all concerned (Jarvis & Henderson, 2014; Purcell & Eckert, 2006).

Despite common misconceptions among teachers, parents of gifted and talented children are generally accurate in identifying their children's gifts (Hodge & Kemp, 2006) and are supportive of the teacher's efforts to make provision for their special needs. Porter (2005) advocated for a collaborative approach between teachers and parents who can work together to better understand and cater for these students:

A collaborative relationship with parents respects their intimate knowledge about their own child, listens to their aspirations for their child's education, and enables the teacher to learn from parents about their child and his or her needs. (p.108)

Where giftedness is concerned, there is a wealth of information and expertise within the wider community that teachers can explore in order to develop their own knowledge,

skills and expertise in educating gifted students. Most states and territories have a volunteer Gifted Association, which provides a network of supports for teachers, including conferences, resources and professional advice. Teachers can access their local association via the Australian Association (AAEGT) website. The AAEGT also presents bi-annual conferences and publishes the *Australasian Journal of Gifted Education*. Following the Senate inquiry (Collins, 2001) the Federal government funded the development of online professional learning modules (GERRIC) which are also freely available.

APST descriptor	The 'gifted dimension' which elaborates on each APST descriptor
7.1 Meet professional ethics and responsibilities	7.1 Teachers need to understand that it is their professional and ethical responsibility to cater for the needs of all learners, and 'all learners' includes those who are gifted and talented (ACARA, 2016). Gifted and talented children have an equal right to learn and develop their abilities through the provision of high-quality curriculum, appropriate programs and services.
7.2 Comply with legislative, administrative and organisational requirements	7.2 Teachers should be familiar with and mindful of gifted education policies at the state and local levels and review their practice to ensure that it complies with policy (refer to local state, sector and school policies for the education of gifted students and related policies).
7.3 Engage with parents/carers	7.3 Parents of gifted and talented students can be powerful allies in helping teachers to understand their children and teachers can also help parents to understand their children's giftedness and the school's approach to provision.
7.4 Engage with professional teaching networks and broader communities	7.4 Gifted and talented students benefit from a whole-school approach to gifted education, which requires teachers to collaboratively develop and evaluate their services and provisions for gifted students. Teachers can also benefit from networking with other teachers of gifted and talented students, both within their school and within the wider professional community, to share ideas and collaboratively develop resources. Professional associations in gifted education, both in Australia and overseas provide a community of learning and practice in gifted education.

Table 7: APST Standard 7 descriptors elaborated with the 'gifted dimension' indicators

Gifted Education Contributing to Whole School Improvement

There is ample research evidence to indicate that in schools where teachers have undertaken professional learning about gifted education and appropriate provisions are made, the "rising tide lifts all ships" (Renzulli, 1998, p. 105). General education can benefit from gifted education pedagogy, and gifted education can build on and extend quality curriculum and teaching in general education (Jarvis & Henderson, 2014; Reis, 2015; Renzulli, 2009; Tomlinson, Doughty & Capper, 2006). McCann (2001, p.11) stated that "once a teacher is able to meet the needs of the most intellectually advanced students, he or she is a better teacher for all students". In a similar view, VanTassel-Baska (2007, in Brown, 2009) affirmed that:

Leadership in gifted education rests on simultaneously recognising the twin realities of improving educational opportunities for our best learners even as we work side by side with general and special educators to improve the education of all learners.
(p.537)

Providing teachers with professional learning opportunities in gifted education can help to improve the quality of teaching for all students, not just for the gifted. There is a strong suggestion that improving the quality of outcomes for all students in a school can be achieved

by giving all teachers on-going and supported professional learning about gifted education. Australian research is needed to further establish the validity of this proposition.

Conclusion

Giftedness is best viewed as being developmental and the educational environment and provisions act as important catalysts to development (Dai & Chen, 2013; Gagné, 2009; Horowitz, 2009). Accordingly, without teachers who understand giftedness and provide appropriate learning environments and special educational provisions and services, the potential capabilities of gifted and talented students may never be realised. For gifted potential to translate into talented achievement, we must provide the programs and supports that will be the catalysts for gifted development, and we must develop quality teachers who will be effective in implementing these provisions. It is essential that we invest in the professional learning of teachers in gifted education. High quality, effective teachers with knowledge and skills in gifted education are the life-blood of successful programs and provisions for gifted students (VanTassel-Baska, 2005), and indeed make the difference for all students' outcomes (Renzulli, 1998).

If we want students to develop expertise in areas of interest and strength, we need teachers who can offer them high quality curriculum that is complex, challenging, connects to the real-world and examines the key issues and skills of the discipline. If we want students to develop higher order, critical, analytical and creative thinking and problem-solving, we need teachers who can model, teach and inspire intellectual rigour. If we want students to engage with their learning, we need teachers who can differentiate curriculum and pedagogy to provide appropriate challenge and supports for all learners. If we want students to be socially well adjusted and emotionally healthy, we need teachers who can understand and be responsive to their needs, and model and incorporate affective and relational skills in their teaching. If we want teachers who can effectively meet the needs of highly able students, we need to ensure they receive professional development in gifted education. Croft (2003, p.566) asserted that "continuing professional development in gifted education is the key to the transformation of good teachers into gifted teachers". Investment in the professional development of teachers in gifted education is an investment in future educational leaders and an assurance that equitable outcomes are possible for diverse gifted and talented students, as for all students.

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