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## **Abstract**

Our gifted and talented students come with a diverse and unique range of characteristics and abilities across a wide range of domains. Research supports the need for appropriate educational opportunities that matches their capabilities, and allows them to reach their full potential. However, a teacher's capacity to adequately identify and program to meet the specific learning and developmental needs of gifted and talented students is not always addressed as part of pre-service teacher training. This is particularly striking given that research repeatedly supports challenging teacher attitudes toward, and beliefs about, gifted education in order to challenge misconceptions. Providing preservice teachers with opportunities to gain knowledge and skills, and have access to resources in gifted education, can significantly impact on their ability to maximise gifted student outcomes through effective learning experiences. Despite a long history of educational provisions for gifted and talented education in Australia, there remains a lack of response to research and government inquiries that maintain the need for increased teacher training, especially at pre-service level.

## **Keywords**

gifted and talented; pre-service; Senate inquiry, gifted education, attitudes and beliefs, Australia



## **Pre-service teacher training in gifted and talented education: An Australian perspective**

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Our gifted and talented students come with a diverse and unique range of characteristics and abilities across a wide range of domains. Research supports the need for appropriate educational opportunities that matches their capabilities, and allows them to reach their full potential. However, a teacher's capacity to adequately identify and program to meet the specific learning and developmental needs of gifted and talented students is not always addressed as part of pre-service teacher training. This is particularly striking given that research repeatedly supports challenging teacher attitudes toward, and beliefs about, gifted education in order to challenge misconceptions. Providing pre-service teachers with opportunities to gain knowledge and skills, and have access to resources in gifted education, can significantly impact on their ability to maximise gifted student outcomes through effective learning experiences. Despite a long history of educational provisions for gifted and talented education in Australia, there remains a lack of response to research and government inquiries that maintain the need for increased teacher training, especially at pre-service level.

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### **Introduction**

A country's continued prosperity and growth relies on the creative potential of its people. To remain a competitive force and contributor in the innovations and discoveries of the future, the educational and developmental needs of all students must remain a priority for educators, educational systems, government and society collectively. In order to meet the needs and maximise the potential of all students, it is imperative that teacher training in gifted education begin at pre-service level and that practicing teachers are given the opportunity to engage in current, research-supported professional development. This is an important consideration in the field of gifted and talented education, as teachers play a significant role in hindering or maximising the outcomes of gifted and talented learners. This diverse group of students are characterised and defined by their unique abilities and achievements across a range of domains, and are known to be present in most mainstream classrooms. Teachers need to be aware of, and informed about, the broad range of presentations of gifted and talented students, as well as the most appropriate ways to meet the educational needs of these students. Early teacher training can assist in giving educators the required



knowledge, skills and confidence to identify, assess and implement quality provisions for gifted and talented students within their classrooms and school communities.

### **Definitions and characteristics of the gifted and talented student**

Whilst various definitions and explanations of gifted and talented students have been developed over time (CCEA, 2006), the wide range of definitions appear to be attributable to the differing beliefs and experiences of researchers and political moods (Harris & Hemmings, 2008). Currently, the NSW Department of Education and Communities (NSW DEC) uses definitions derived from Gagné's (2003) Differentiated Model of Giftedness and Talent that differentiates between giftedness as an undeveloped, natural ability, and talent as a developed ability.

In considering the characteristics of gifted and talented learners it is important to remember that they are not a homogeneous group and that they have a diverse range of cognitive, affective and social needs (Shaywitz, Holahan & Freudenheim, 2001; Tomlinson, 2005). Research into gifted and talented students continues to show that, generally, they are cognitively and affectively more advanced than their same-age peers (Maker & Schiever, 2010; NSW DET, 2004). For instance, they may show an ability to process information quicker, be persistent in areas of interest, have an ability to generate unique ideas and have exceptional memory skills (Plunkett & Kronborg, 2011). In addition, from an early age they may display a proficiency in early language development, heightened curiosity and a preference for independence.

In addition to the favourable characteristics that may be inherently possessed by gifted and talented students, it is equally important for teachers to be mindful of both the negative characteristics that may be displayed and the diverse backgrounds and abilities of these students (Harris & Hemmings, 2008). These include stubbornness, non-participation, unco-operativeness, cynicism, sloppiness and disorganisation, a tendency to question authority, emotional frustration, absent-mindedness and low interest to detail (Davis & Rimm, 2004). Underachievers are also recognised within the gifted and talented student population, and often display a lack of motivation, achievement and participation, resulting in a student who does not achieve at levels consistent with their capabilities (Seeley, 2004). In order to be able to recognise, and make appropriate adjustments for, gifted and talented students that display these characteristics, teachers must be trained to recognise the various presentations of gifted and talented students in their classrooms.

Misconceptions and misjudgements about the characteristics and presentations of gifted and talented students, along with the attitudes and beliefs held by society, have direct impact upon identification processes and acceptance by school communities and teachers (Harris & Hemmings, 2008), as well as impacting on the educational opportunities provided for these students. Educators need to be knowledgeable, familiar and confident in identifying gifted and talented students, so that appropriate educational provisions can be designed and implemented to meet the particular, and diverse, needs of each individual child. In order for this to occur, research has repeatedly shown that it is vital for teachers to be aware of the broad spectrum of learning and developmental needs displayed by gifted and talented students (Vialle & Quigley, 2002).



### **History of gifted and talented education in Australia**

Australian provisions for gifted and talented education date from the 1800s with policies and inquiries across the nation being heavily influenced by the political climate of the time. A national gifted and talented policy has never been developed, with each state remaining responsible for its own policy and specifications. In looking at policy and practice in gifted and talented education, Forster (2005) discusses the evidence that supports effective implementation of gifted and talented policy and provisions coming from both administrative and practitioner levels, where training and support for teachers is a vital aspect for effectively meeting the needs of gifted and talented students. Whilst having a history that sought to support an environment that acknowledges and values the achievement of excellence, a continued concern has been the lack of trained staff educating our gifted and talented students, both in the mainstream and selective educational settings (Plunkett & Kronborg, 2007).

The current direction of addressing gifted and talented educational needs originated in the 1970s with the establishment of the Schools Commission by the federal government in 1973, which provided official recognition and support for gifted children but had no influence over policy design and implementation. This official recognition and support for gifted students highlighted the scarce formal provisions for gifted education and, over the next decade, saw the establishment of the Australian Association for the Education of the Gifted and Talented (AAEGT) (Kronborg, 2002), which provided a stimulus for a more-focused view on gifted and talented education in Australia. In 1995, all Australian states and territories became associated with the AAEGT and have since provided researched-based information that recognised the need for policy development in gifted and talented education. However, to date, each state remains responsible for its own policy development and provisions, and each school is encouraged to form their own gifted and talented policy to meet the specific needs of their student population.

Gifted and talented education has traditionally been catered for at a specialised level, with selective classes and schools being formed to meet the needs of these students at a formal level. However, these classes and schools cater for a limited number of gifted and talented students, with many more going unrecognised or being accommodated within the mainstream classroom. In both instances, of specialised and mainstream classrooms, there remains a concern regarding the qualifications and quality of teachers meeting the needs of these students. According to the NSW Department of Education and Communities (NSW DEC, 2011), NSW initiated ‘opportunity classes’ in 1932 with the purpose of providing challenging opportunities and guidance that may not have been possible within the regular primary classroom. These still exist today, with students sitting an exam for selective entry into an opportunity class in Year 5, and remaining through to the completion of Year 6. In 2008, a total of seventeen schools offered places (NSW DEC, 2011), however, the continued lack of qualified staff educating gifted and talented students in both mainstream and selective educational settings remains a concern (Plunkett & Kronborg, 2007).

The first Australian Senate Select Committee inquiry into the Education of Gifted and Talented Children (Commonwealth of Australia, 1988a) made nine recommendations that focused on teacher education issues and special education provisions. However, due to a lack of government backing, none of these



recommendations were ever formally implemented (Kronborg, 2002). A second Senate inquiry into The Education of Gifted Children (Commonwealth of Australia, 2001a) realised a total of twenty recommendations that emphasised gifted education within undergraduate teacher education courses. With no formal requirements for teachers to engage in gifted education subjects or programs, meaning a continued lack of gifted and talented education training for teachers sees educators often educating gifted and talented students without any exposure to the diverse needs in the areas of identification, programming and implementation, thus doing a disservice to these students. As a national response to the professional development needs of teachers, in 2005 all government schools across Australia were issued with the *Gifted and Talented Education: Professional Development Package for Teachers* (DEST/GERRIC, 2005). This package offers interactive modules that cover gifted and talented education from early childhood through to secondary level of schooling, and is now publicly available from the Department of Education, Employment and Workplace Relations, Freedom of information website (DEEWR, 2012). However, the level of awareness and the use of this package currently remains an unknown quantity. The lack of response to research and both Senate inquiry reports appears to indicate a continued lack of awareness and understanding of the nature of giftedness and talent, as well as the needs of these learners amongst the teaching community at large (Taylor & Milton, 2006). It may also be an inherent reaction from educators who have long wrestled with the equity versus excellence conflict, which implies that those students already considered academically successful do not need or deserve any further opportunities to maximise their potential (Gallagher, 2003; VanTassel-Baska, 1997).

### **Teaching the gifted and talented student**

Educators play an important role in the lives of all of their students and act as a variable in the learning environment and the social and emotional development of each student within their classroom. Research has shown the significant and influential role educators play in the education of gifted and talented students (Lassig, 2003; McCoach, 2007; Plunkett, 2002) and the impact they can have on the learning, achievement and development of these students (Lassig, 2003). Research suggests gifted and talented students are unlikely to reach their potential on their own and teachers can have either a positive or negative impact on their achievements (Plunkett, 2002).

With gifted and talented learners having additional needs beyond the curriculum, teachers' commitment to programs that differentiate learning environments to meet these needs is essential. Programs that consider the characteristics and learning traits of gifted and talented students, provide appropriate depth and breadth of content, and provide opportunities for collaboration with like-minded peers all contribute to students' being engaged and challenged, contributing to maximised outcomes (Adams & Pierce, 2004; Maker & Schiever, 2010; VanTassel-Baska, 1994; Vialle & Rogers, 2009). Failure to recognise and implement appropriate programs, or learning experiences, that aim to effectively meet the needs of gifted and talented students can result in underachievement, boredom, frustration and psychological stress, causing students to 'switch off' and disengage from learning



altogether (Commonwealth of Australia, 2001b). It becomes clear that teachers need to have a range of knowledge and skills as well as a positive outlook on gifted and talented education in order for them to recognise, formally identify and implement quality programs to suit these diverse learners, allowing them to reach their full potential (Bangel, Moon & Capobianco, 2010; Plunkett & Kronborg, 2011).

Research across the past two decades has supported educator awareness of the learning needs of gifted and talented students as a crucial element in significantly influencing these students to reach their potential (Feldenhusen, 1997; Mills, 2003; Plunkett, 2000; Vialle & Quigley, 2002). The most instrumental forces in quality education of the gifted and talented are teacher perceptions, beliefs and attitudes toward these students. Davis and Rimm (2004) argue that the examination of teacher attitudes is of such significance that they should be examined as a first step before educators engage in gifted and talented program development for their schools. By being aware of teachers' beliefs and attitudes, schools may be alerted to the possible constraints and behaviour influences that could affect successful program implementation (Lassig, 2003). Misconceptions and negative attitudes held by educators often come from a lack of training, knowledge and skills within the gifted and talented educational area, which has the potential to significantly impact on classroom practices and provisions of educators (Lewis & Milton, 2005). Research suggests this lack of knowledge and understanding about gifted and talented students is largely responsible for the inaccurate beliefs that influence the attitudes held by educators (Gallagher, 2007; Geake & Gross, 2008; Gross, 1994).

Teacher attitudes, perceptions and beliefs inform their individual philosophy of education, which impacts the way in which they develop their curriculum and instruction (Adams & Pierce, 2004; Hativa, Barack & Simhi, 2001; Plunkett & Kronborg, 2011). Educators who have participated in gifted education professional development programs increasingly have positive attitudes, perceptions and improved confidence in their ability to meet the needs of gifted and talented students, in contrast to those who have not engaged in any training in this area (Bangel, Moon & Capobianco, 2010; Lassig, 2009; Plunkett, 2000). An examination of research by Hudson *et al.* (2010), supported by Senate inquiries (Commonwealth of Australia, 1988a, 2001a) suggests that teacher training, especially when addressed at pre-service level, can have a positive impact on an educator's ability and confidence to provide quality learning experiences for gifted and talented students. It is also suggested that teacher training reinforces positive beliefs, attitudes toward and perceptions of gifted and talented education, while ensuring the ability to identify these students and differentiate their learning appropriately across a diverse range of domains (Taylor & Milton, 2006; Tomlinson, 2005).

### **Australian pre-service provision of gifted and talented education**

A comprehensive inquiry into gifted and talented education in Australia was reported on in 1988 (Commonwealth of Australia, 1988a) and found that, at the time, pre-service teacher education courses offered very little in the area of gifted and talented provisions and recommended pre-service courses at teacher-training institutions include "sufficient information about gifted children to make student teachers aware



of the needs of those children” (Commonwealth of Australia, 1988a, para.7.27). This was inclusive of both identification techniques and teaching strategies.

Just over a decade later, Kronborg and Moltzen (1999) reviewed Australian university provisions for gifted education and reported very few institutions had undergraduate units in gifted education, whilst postgraduate provisions gave a wider selection. It was also noted that specific gifted content as part of Special Education courses were not looked at, as they were harder to identify. Shortly afterward, in 2001, the federal Senate (Commonwealth of Australia, 2001b) followed up on the 1988 inquiry into gifted education (Commonwealth of Australia, 1988b), and sought to examine if the situation had improved in gifted and talented education, and if student needs were being met. It found that provisions for gifted students continued to be inadequate across the board and suggested this stemmed from a lack of teacher understanding of the needs of gifted students, and that they lacked both knowledge and strategies that would adequately cater for them. Following these findings the inquiry then recommended that, as a condition of employment, all state and territory education authorities include at least a one-semester unit of the special needs of gifted students, including training in identification and the pedagogy of teaching them. This was to provide an impetus for tertiary institutions to address their pre-service teacher training in the gifted and talented area.

A further study by Taylor and Milton (2006) investigated the university provisions for teaching gifted students across Australia and compared the results with the earlier Kronborg and Moltzen (1999) study. It was found that in most states of Australia little to no access to pre-service training in gifted education was available, particularly at undergraduate level. This meant that Australian teachers continued to have little to no access to pre-service teacher training in gifted and talented education at university level and, to date, limited research has investigated the current state of university training in gifted and talented education for pre-service teachers.

Teaching gifted and talented students requires alternate competencies and pedagogical skills to regular classroom practices (Rowley, 2008). Whilst pre-service teacher education has contributed to preparing for teaching for diversity within a mainstream classroom, very few provisions have been made to explicitly cater to pre-service training specifically for gifted and talented provisions (Hudson *et al.*, 2010). Through a synthesis of past research, gifted and talented learners require consistent challenges, daily talent development, independent work and fast-paced, deep and complex content to motivate, engage and promote higher-order thinking skills that will allow them to fulfil their potential and maximise outcomes (Rogers, 2007). Hudson *et al.* (2010) suggest, due to insufficient provision, pre-service teachers are accordingly lacking in awareness, knowledge and skills that will challenge their own beliefs and perceptions about gifted and talented education. They also suggest that pre-service teachers lack familiarity with the characteristics of giftedness and talent, methods of identification, the ability to plan and implement quality, and challenging and appropriate curricula. It is due to these deficiencies at pre-service level that teachers leave university without the required knowledge, skills and experience of how to cater for the diverse nature of gifted and talented education.



## **Conclusion**

Despite two Senate inquiries into the state of gifted and talented provisions in Australia recommending an increase in, and compulsory component of, pre-service teacher training in gifted and talented education, research continues to suggest that a lack of response and commitment to this area of training persists at pre-service teacher level. With minimal exposure and training in the specialised area of gifted and talented education, graduating teachers are perpetuating the misconceptions and myths held about gifted and talented students that, in turn, does a grave disservice to both the gifted and talented student and the regular classroom teacher, who is expected to cater for them and maximise their outcomes. This continued lack of response to both research and Senate recommendations, indicates a significant absence of awareness and understanding of the nature of giftedness and talent, the individualistic and diverse range of learning needs and the dire impact a lack of teacher training is having on both students and the teaching community. If we, as a nation, wish to prosper and grow in the future, it is imperative that our innovators, creators and inventors are recognised and nurtured through their educational experiences, so as to maximise their opportunities for reaching their potential. This can only be done with increased knowledge and understanding of their developmental, learning and affective needs across the domains of giftedness in our future teachers.

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