

# Research Supporting the Identification of Gifted Learners

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## Introduction

Throughout history, the discussion of those who are considered 'gifted' has at times, been heated and divisive. Since the time of Plato and the early Chinese and Japanese dynasties, the education and training of those who might bring improvements and advantages to a culture was considered of utmost importance and an acceptable need to be addressed. In the Renaissance period, the apprenticeship and mentoring of youth who demonstrated 'promise' in intellectual and creative pursuits was often sponsored by the crown or noblemen as an appropriate way of developing their promise to talent. However since the early 1900s, what is meant by the terms 'gifted and talented', and the subsequent identification of students who are described by these terms has been the subject of ongoing discussion and debate, with researchers often divided by the political and social arguments related to issues of equity and difference. In the new Australian Curriculum (ACARA, 2014), the discussion about gifted and talented students includes a focus on current definitions and the research recognised cognitive and affective characteristics, which identify these students.

## The Need for a Defining Model of Giftedness and Talent

Numerous definitions of giftedness have been proposed in the gifted education literature since the early 1900s, each often building on the previous; however, in recent years some definitions have been cited more often than others. In particular, Renzulli's Three Ring Model (1979), Tannenbaum's Five Factor Model (1983) and Gagné's Differentiated Model of Giftedness and Talent (1985, 1993, 2003, 2008) are among the most regularly cited in research pertaining to the field of gifted education (MacLeod, 2014).

Renzulli (1979) synthesised a definition of giftedness from a review of literature on adult eminence. This definition proposed that giftedness is an interaction among three traits: above average general abilities, high levels of task commitment, and high levels of creativity (p. 23), however it has been subjected to criticism (Borland, 1989; Gagné, 1985; Gross, 1993), mainly due to the requirement of the presence of all three traits, particularly that of task commitment, before giftedness is acknowledged. Following this definition by Renzulli, Tannenbaum proposed a definition that delineated giftedness and talent as a response to a developmental process. In this model, talent is displayed only in adulthood (Tannenbaum, 1983). By Tannenbaum's definition, children who are gifted are those who display the potential to become 'critically acclaimed performers or exemplary producers of ideas in spheres of activity that enhance the moral, physical, emotional, social, intellectual, or esthetic life of humanity' in adulthood (p.86). Talent or critically acclaimed performance, according to Tannenbaum generally only occurs in adults, and this tenet has also been subject to criticism (Borland, 1989) by those researchers who view talent as a systematically developed skill rather than an age-related construct.

In 1985, Gagné published the first of several different versions of a model, which attempts to differentiate between the two concepts of giftedness and talent. Giftedness, as defined by Gagné, "designates the possession and use of untrained and spontaneously expressed natural abilities (called aptitudes or gifts), in at least one ability domain, to a degree that places a child at least among the top 15% of his or her age peers" (Gagné, 1997. p.15). In this model, talent is described as performance that is above average in one or more fields of human endeavour (Gagné, 1985).

Each of these models have had promoters and detractors, however it is the Gagné Model (2008) which has the strongest acceptance in the field of education as it clearly defines the differentiation between giftedness and talent; the longitudinal process of talent development; the personal and environmental catalysts which impact on this process; and the possibility that a breakdown in one or more parts of the process will result in underachievement (Borland, 1989; Gagné, 2013). Despite the differences between all of these models, the one unifying feature recognised by each of the authors, is that of the need for a facilitative learning environment as essential to the translation of high potential into high performance. In the K – 12 classroom learning environment, the complexity of the content and process of the curriculum offered, along with the pace of the presentation, need to be markedly different for all gifted students, but particularly for those who are highly gifted (Gross, 1993a; Maker, 1982; VanTassel-Baska 1998, 2003).

## Quantitative and Qualitative Views of Giftedness

Along with the ongoing discussion of definitions of giftedness, is the debate around the quantitative presence of these students in classrooms and the qualitative differences, which render the group heterogeneous rather than homogeneous. Figures ranging from as little as 1 – 2 % and up to 10 – 15% of the same age population often have strong impacts on the inclination of educational authorities to identify these students and cater for their learning needs. Gagné (2008) proposed that the figure of 10 - 15% would include a group of students whose differences from their same age peers may range from mildly to profoundly in each domain of giftedness and that in fact, "because giftedness domains are not closely correlated, individuals gifted in one domain are not necessarily the same as those gifted in another. Consequently, the total number of gifted and talented individuals largely exceeds the 10 - 15% value. Some studies indicate that it might well be two or three times larger" (pg. 5).

It is important to note that there are a number cognitive and affective characteristics demonstrated by gifted learners that make them unique as learners in educational environments. Not all characteristics may be visible or present in every gifted student, and there may be a range to which they are present within each level of giftedness (VanTassel-Baska, 1998). The research literature suggests the following characteristics may be observed of gifted students when in a supportive educational environment:

<b>Cognitive and Affective Characteristics: Gifted Learners often -</b>	<b>Research Support</b>
• learn quickly and easily, retaining what is comprehended readily	Gottfried, Gottfried, Bathurst & Guerin, 1994
• set realistically high standards for themselves; • are self-critical in evaluating and correcting their own efforts	Neihart, Reis, Robinson & Moon, 2002; Silverman, 1993; Silverman, 1998
• show initiative and originality in intellectual work	Shore & Kanevsky, 1993
• show poise and an ability to communicate with adults in a mature way	Hollingworth, 1926; O'Shea, 1960; Shunk, 1991
• get excitement and pleasure from intellectual challenge	Csikszentmihalyi, 1990; Hoekman, McCormick & Gross, 1999
• have a mature sense of humour	Gross, 2000; VanTassel-Baska, 1996
• are perceptive at an early age, so that they develop the ability to 'read between the lines' of other people's words or actions	Katz, 1999; Lovecky, 1992; Neihart, Reis, Robinson & Moon, 2002
• demonstrate an unusual capacity to understand how other people feel	Lovecky, 1992; Roeper, 1995

(MacLeod, 2014)

Just as these personal characteristics and environmental factors may provide a positive influence on the success a gifted student may experience in their learning, these same characteristics and factors may also prove to be inhibitors of success, particularly when the learning environment does not accept or foster individual differences. Gifted students may feel isolated in educational settings where difference is discouraged, particularly those whose individual differences set them significantly apart from their peers. The greater the difference between the child's abilities and the abilities of others in his or her social group, the greater the potential for loneliness, and problems in social adjustment (Silverman, 1998. p. 154).

### **Identification of Gifted Students**

The identification of gifted students, particularly in terms of their level of giftedness, can assist educators in the decision-making needed to guide a student through their learning journey. However, as with the varying definitions of giftedness, the process through which gifted students should be identified is often open to argument (Davis & Rimm, 2004). Debate continues as to the appropriate assessment tools to use for identification (Davis & Rimm, 2004, Silverman, 2007), particularly in reference to intelligence or IQ (intelligence quotient) tests. Much of this debate centres on the issue of inadequate ceiling levels present in the tests, which may hamper the identification of students in the highly to profoundly gifted ranges (Silverman, 2007). The term "ceiling effect" refers to a test's lack of range or appropriate difficulty within the test items (Feldhusen & Jarwan, 1993). However, there is general agreement among researchers that a professional evaluation by a trained psychologist can validate cognitive strengths, assess academic achievement, and recommend general strategies to meet a gifted student's needs at school (Silverman, 2007).

In a school-based setting, the student identification procedures may involve drawing information from multiple data sets, which may include objective data (quantitative instruments such as individual and group ability tests), and subjective information (qualitative instruments such as teacher, parent and student nomination) (Davis & Rimm, 2004; Feldhusen, 1998; Frasier, 1997; Rogers, 2012). The use of such multiple criteria allows educators to identify multiple types of giftedness and talent from a larger pool of students, including those who are from minority and low socio-economic groups, as well as those who are twice-exceptional or underachieving (Davis & Rimm, 2004, Feldhusen, 1998). The following are a selection of some readily available tools in Australia, which may assist in this process:

#### **Subjective Tools**

Teacher and Parent Identification Checklists – Deewr Gifted and Talented Education Professional Development Package for Teachers Module Two found at <https://education.arts.unsw.edu.au/about-us/gerric/resources/pd-package/>

#### **Objective Tools**

*Individual Ability Assessment by Psychologist/School Counsellor*

Wechsler Intelligence Scales for Children Version Five (Wechsler, 2014)

Stanford-Binet Intelligence Scale Version Five (Roid, 2003)

*Group Aptitude Assessment by School Counsellor or Qualified Teacher*

- Cognitive Abilities Test™ (CogAT®) (Houghton Mifflin Harcourt 2012)

- Otis-Lennon School Ability Tests (Otis & Lennon, 1936, 2004)

- Kaufman Assessment Battery for Children (Kaufman & Kaufman, 2003)

- Slosson Intelligence Test Revised (SIT-R3) (Slosson, 2002)

*Group Achievement Assessment by School Counsellor or Qualified Teacher*

- Progressive Achievement Tests in Reading and Mathematics (ACER Press, 2013)

- Tests of Reading Comprehension – TORCH 3<sup>rd</sup> Edition (ACER Press, 2013)

*Standardised Achievement Tests designed by educational authorities or schools*

- University Competitions e.g. ICAS

- NAPLAN

- Grade based tests

- Off-level tests

#### **Other tools**

- Peer and self nomination forms

- Student portfolios and student interest surveys

It is important to note that the results from individual assessment tools such as the Wechsler Intelligence Scales for Children Version Five (Wechsler, 2013) or the Stanford-Binet Intelligence Scale Version Five (Roid, 2003) may allow educators to determine the subgroups of gifted students by level of giftedness, as well as the different domains of giftedness, at least to the level of ceiling of the test (Silverman, 2007). These instruments are administered by school or private psychologists to individual students and may provide a guide to a student's potential in school-based learning. These instruments may provide a guide to a student's potential in school-based learning and are the most useful for locating intellectually gifted students as they were all founded on the conception of intelligence as abstract reasoning. It is this concept that is used by the majority of researchers to define giftedness (Silverman, 2007).

Additional objective data may be obtained from group aptitude and achievement tests, and from standardised achievement tests. Most standardised tests produce scores based on national or large group norms and are reported as percentile or stanine scores (Davis & Rimm, 2004) however, as with the psychologist administered individual assessment tools, the group ability and achievement tests are subject to issues of low ceilings, and thus students who score in the top stanines of these tests may need to be retested using a higher level version of the test. A ceiling effect is said to be operating when the average score for the group is above 75% of the maximum score or when the distribution of the scores is negatively skewed (Feldhusen & Jarwan, 1993). Group tests may also discriminate against students who are nonverbally gifted, who do not manage well in timed tests, or who are not native language speakers (Davis & Rimm, 2004) and possibly will not identify all gifted students who undertake the tests. Despite these drawbacks, high scores on individual and group tests do indicate academic potential and may also identify students who are underachieving in the regular classroom environment (Lupkowski-Shoplik & Swiatek, 1999).

Additional subjective data may be drawn from rating scales or checklists completed by teachers, parents and/or students themselves, which address cognitive and affective characteristics and resultant behaviours. These instruments are often used to quantify qualitative observations and provide additional information during the identification process.

### Conclusion

The Australian Curriculum documents (ACARA, 2014) clearly outline that gifted learners 'come from diverse backgrounds and are found in all cultures, socio-economic levels and geographic locations' and that 'they are not always visible and easy to identify, and their visibility can be impacted by cultural and linguistic background, gender, language and learning difficulties, socio-economic circumstance, location, and lack of engagement in curriculum that is not matched to their abilities'. A greater level of awareness and understanding of the definitions of giftedness and talent and of the strategies available to identify this group of students will help towards ensuring that their learning needs will be equitably and appropriately addressed within the diverse learning environments of all levels of schooling.

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