Parliamentary Inquiry into the Education of Gifted and Talented Students

Gifted Education Report - Krongold Centre

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The Victorian Parliament's Education and Training Committee (ETC) has invited Dr. Leonie Kronborg, Krongold Centre, Monash University to express her views on the Inquiry into the Education of Gifted and Talented students, with particular attention to:

1. How the concepts of giftedness and talent should be defined.
2. The key benefits and issues surrounding programs for gifted and talented students including any gaps identified in current programs;
3. Any relevant projects currently underway specific to the education of gifted and talented students;
4. Equity of access to programs for all gifted and talented students;
5. Addressing the issue of under performance among gifted and talented students;
6. Overcoming' negative attitudes and misconceptions surrounding giftedness and talent;
7. Mechanisms to improve the capacity of teachers to identify and adequately respond to gifted and talented students; and
8. Any broader implications for school communities arising from the education of gifted and talented students.

1. How the concepts of giftedness and talent should be defined

There is not one universal definition of 'giftedness' or 'talent', but there are different theoretical frameworks which have been developed. These tend to vary due to different orientations of the researchers and different fields of knowledge which underpin the theories. Currently there tends to be two main paradigms which are impacting the field of 'giftedness' and 'talent development'. One paradigm centres around high intelligence and measurement of intelligence, while the other centres around development of individual talents.

High intelligence is still considered a central concept of giftedness
(Davis, Rimm & Siegle, 2011), but at the same time the use of multiple criteria demonstrates the recognition that giftedness extends beyond an IQ score. Additionally, it is acknowledged by most educators that the language and content of ability and achievement tests are biased against culturally and economically disadvantaged students, so that many Australian teachers prefer to use their own judgment of student giftedness (Gross, 1999). Characteristics such as high motivation (Simonton, 2003; Kronborg, 2010) and innate talents (Winner & Martino, 2000, 2003) which are part of giftedness need to be recognised when identifying and teaching these students.

However, the best instruments for confirming high general-intellectual abilities are individual intelligence tests, particularly the Wechsler Intelligence Scales for Children and the Stanford-Binet Intelligence Scale (Davis, Rimm & Siegle, 2010, p. 60). Group aptitude tests historically measured their validity against these individually administered tests. Every school psychologist is trained to administer and interpret either of these, and they are the individual intelligence tests administered most for identification of giftedness. However, it is advised that educators do not use IQ scores as sole indicators of giftedness, especially when using the Stanford-Binet Fifth Edition. (Davis Rimm & Siegle, 2011)

In regard to identification of gifted and talented students, Davis Rimm & Siegle (2011) recommend the following aspects to be considered by educators:

- Adopt a clearly defined, but broadened conception of giftedness
- Avoid using a single cut-off score whether from intelligence tests or achievement testing
- Recognise that intelligence is multi-faceted
- Accept giftedness can manifest in diverse areas
- Use multiple alternative criteria – rather than multiple required hurdles – from several sources
- Use separate instruments or procedures for identifying different areas of giftedness; be sure that tests (including ratings and nominations) are reliable and valid
- Promote inclusiveness rather than exclusiveness
- Include authentic assessments (eg. portfolios, examples of work) and performance-based procedures
- Be aware that giftedness may appear in different forms in different cultural or socio-economic groups
- Base identification on students’ educational needs
- Repeat assessments over time to identify additional gifted students
- Use identification data to enhance understanding of students
- Assume strong links between identification and instruction
• Encourage collaborative efforts among teachers, administrators and with parents
• To evaluate the identification process, develop early and continuous procedures
• Be prepared to work within the general education community.

A central reason for applying multiple criteria is to identify ethnically diverse or minority students and economically disadvantaged students, when IQ and/or achievement scores are only used. However, when Americans tend to refer to minority populations in their research, they tend to be referring to African American, Hispanic American, Native American, Native Hawaiian, Vietnamese and immigrants (Davis, Rimm & Siegle, 2011). But, there is also an awareness that many minority children will still score extremely high on intelligence tests in verbal and non-verbal measures.

However, in the past twenty years, the definition of giftedness and talent solely in terms of IQ scores has moved beyond what Terman and his colleagues in the USA framed in the 1920s. At that time, Terman's strategy for identifying giftedness for his long-term longitudinal studies was using the Stanford-Binet intelligence scale cut-off criterion of 140 for identifying high-functioning students (Horowitz, 2009). There has also been a paradigm shift in the past twenty years in gifted education, acknowledging a developmental understanding of giftedness. This paradigm takes into account individual differences in developmental trajectories where a child may demonstrate gifted behavior and talent at one point in development, but not at another point in development, or they may demonstrate gifted behavior in a talent domain, but not necessarily in all domains (Borland, 2005; Gottfried, Gottfried & Guerin, 2009; Horowitz, 2000; Keating, 2009; Lohman, 2006; Matthews and Foster, 2006; Subotnik and Jarvan, 2005).

The identification of individuals as having gifts and talents is determined by the presence evident of high end, exceptional behavior in specific domains that have an initial emergence of behaviors possible at different points in development. These may not be a stable characteristic in the individual's behavior. It is complicated as there is no universal consensus on how high to set the bar for defining behavior as a manifestation of talent, giftedness or exceptionally high-end performance, so there are differences depending on whose work you read.

The definition of giftedness acknowledged by most of the Australian territory education departments is based on Gagne's (2003; 2007; 2009) theory of talent development.
According to Gagne (2003), giftedness is an innate quality that develops into talent only when the environment and supporting conditions are such that they meet the needs of the highly able learner. Giftedness, alone, does not ensure the realization of potential; this is achieved through a talent development process that transforms natural abilities. Among the critical catalysts in this process, are teachers, peers and the learning environment.

Additionally, in Gagne’s Model, there is the awareness that the realization of one’s giftedness is developmental (Yun Dai, 2010) and for talent development to occur in individuals to achieve eminence, one requires a range of personal, family and educational factors which need to co-exist in a person’s lifespan (Kronborg, 2010). Gagne has conscientiously investigated the complex concepts of giftedness and talent development over the past two decades, as he has revised and extended his theory of talent development (Gagne, 1991, 2000, 2003, 2004, 2010).
2. Key benefits and issues surrounding programs for gifted and talented students

There is relatively little research in the field of gifted education in Australia compared to international research. Gifted education is a developing field of study in Australia; more research needs to be conducted. Separate studies from the 1990s to 2007 which were reviewed to produce a critical summary, and reported by the legislative chair of the (USA) National Association for Gifted Children (2009) with relevance to gifted and talented education in Australia include the following:

1. In American classrooms, the needs of gifted children are generally not met as the emphasis is on providing for the struggling learners and most teachers have not had the education to meet the needs of gifted students (Archambault, Westberg, Brown, Hallmark and Emmons and Zhang, 1993; Moon, Tomlinson, & Callahan, 1995; Resi, Gubbins, Briggs, Schreiber, Richards, & Jacobs, 2004; Reis & Purcell, 1993).

2. Grouping gifted students for instruction increases their achievement, and in some cases, increases achievement for students who are achieving average and below-average levels (Gentry & Owen, 1999; Kulik, 1992; Rogers, 1991; Tieso, 2002).

3. The use of acceleration results in higher achievement for gifted and talented learners (Colangelo, Assouline, & Gross, 2004; Kulik, 1992; Rogers, 1991).

4. The use of enrichment and curriculum enhancement results in higher achievement for gifted and talented learners, as well as other students (Gavin, Casa, Adelson, Carroll, Sheffield & Spinelli, 2007; Gentry & Owen, 1999; Gubbins, Housand, Oliver, Schader, & De Wet, 2007; Kulik 1992; Reis, McCoach, Coyne, Schreiber, Eckert & Gubbins, 2007; Rogers, 1991; Tieso, 2002).

5. Classroom teachers can learn to differentiate curriculum in mainstream classes and to extend gifted education strategies and pedagogy to all contact areas (Baum, 1998; Colangelo, Assouline & Gross, 2004; Little, Feng, VanTassel-Baska, Rogers & Avery, 2007; Reis et al., 2007; Tieso, 2002).

6. Gifted education programs and strategies are effective for serving gifted and highly able students in various educational settings and from diverse ethnic and socioeconomic backgrounds. Pedagogy for gifted students can reverse underachievement in these students (Baum, 1998; Baum, Hebert and Renzulli, 1999; Colangelo, Assouline & Gross, 2004; Gavin et al., 2007).

7. The curriculum and pedagogy of gifted programs can be extended to various content areas, resulting in higher achievement for both gifted and average students; and some enrichment pedagogy can benefit special needs students when implemented in different settings (Gentry, 1999; Gavin et al., 2007; Kulik, 1992; Little et al., 2007; Reis et al., 2007; Van Tassel-Baska, Zuo, Avery, & Little, 2002).

8. Some gifted students with learning disabilities who are not identified experience emotional difficulties and seek counselling. A high percentage of gifted students do underachieve, but this underachievement can be reversed. Some gifted students drop out of high school. (Baum, 1988; Baum, Hebert & Renzulli, 1999; Hebert & Reis, 1999; Reis, Neu & McGuire, 1997; Renzulli & Park, 2000).

9. Gifted education programs and strategies benefit gifted and talented students
longitudinally as they help students increase aspirations to university and careers, determine post-secondary and career plans. They develop creativity and motivation to later work and achieve more advanced degrees (Colangelo, Assouline & Gross, 2004; Delcourt, 1993; Hebert, 1993; Lubinski, Webb, Morelock & Benbow, 2001).
(Davis, Rimm & Siegle, 2011, p. 55)

3. Relevant projects currently underway specific to the education of gifted and talented students

3.1 Krongold Centre, Faculty of Education, Monash University

The Krongold Centre provides psycho-educational assessments for individual children. Children are referred by parents for diverse reasons and there are various clinics which provide a range of services.

The Krongold Assessment Programming Service has conducted a range of intellectual and educational assessments for individual children who are intellectually able in diverse abilities. These children are referred by parents in order to gain a psychological and educational assessment of their child’s learning abilities. Some of these students are underperforming for various reasons. These children are assessed for a fee.

Total assessments of children/adults since February, 2008 estimated at 300 have been referred for a variety of reasons.

Estimated number of children age < 6.0 years with Verbal IQ Performance IQ or Full Scale IQ (WPPSI) over 120: 80

Estimated number of children age 6.0 - 17.00 years with VCI PRI or Full Scale IQ (Wechsler Intelligence Scales for Children - WISC) over 120: 100,

Estimated number of children age <= 6.0 years with VIQ PIQ or Full Scale IQ (WPPSI) over 130: 20

Estimated number of children age 6.0 - 17.00 years with VCI PRI or Full Scale IQ (WISC) over 130: 20

Estimated number of adults with VCI PRI or FSIQ (WAIS) over 130: 2

Number of Children diagnosed with Asperger’s Syndrome/very high IQ - 10

Number of children with exceptionally high IQ (>= 140) 6-8

- Furthermore another Gifted Education Clinic providing gifted psychological and educational assessments with gifted education reports was conducted for children in a separate project. Approximately 25 students (January 2007 - March 2010) with varying degrees of high intellectual ability and varied educational achievement were identified in these individual assessments.

3.2 Nossal High School Research Project
Another project taking place involves teacher research at Nossal HS, a selective high school for academically able students.

In Australian higher education, there is an increasing recognition of the need to critically investigate and evaluate current programs, pedagogies and assumptions related to educational programs. The development of the new select entry high school at the Berwick campus of Monash University, which is being developed in conjunction with DEECD, has presented a unique research opportunity to investigate and monitor initial and developing teaching and learning approaches used by teachers with the potentially highly academically able students who were selected to enter Year 9 in 2010.

Nossal High School has been conceived as a future centre of excellence for high ability Year 9-12 students within the Victorian public-school system. The school is being designed to support collaborative, enriched and extended learning experiences delivered via innovative teaching and learning methods. The school provides a student-centred environment that creates pathways for life-long learning. It has a variety of spaces (physical and virtual) which can respond to pedagogical practices that create an innovative and adaptable environment to foster a sense of community within the school.

Teachers new to this program have various levels of professional learning and experience in regard to teaching high ability students. It is a unique research situation due to the collaboration between Monash University and DEECD to be able to document the developing teacher education process at this foundational stage over a three to four year period. It is anticipated that teachers will change from novices to experts in teaching highly able students in a select entry high school, which will result in a positive impact for all students who enter the school. This project represents the initial stage of what is intended to be a longitudinal study.

The project is significant as it is examining a unique environment and providing understandings about how teachers learn to teach in new settings that require different educational understandings and responses. The research has implications for teachers of highly able students in selective environments and mainstream schools.

(This research is being conducted by Dr. Leonie Kronborg and Dr. Margaret Plunkett.)

4. Equity of Access to programs for all gifted and talented students

Victoria has 4 Selective High Schools (2 co-educational schools introduced in 2010 and 2011 aiming to provide education for students Years 9-12, but they have developing student cohorts at this stage). Additionally, there are 34 high schools with Select Entry Accelerated Learning (SEAL) programs which provide for the specific needs of academically able students, and five specialized schools. Yet, Victoria was reported to have a population estimated at 5.6 million in 2010 (Australian Demographic Statistics, 2010). Compared to NSW, there are 17 fully selective high schools, 23 high schools with selective classes (partially selective), 4
agricultural high schools (which are selective high schools which emphasise the study of agriculture with the which emphasise the study of agriculture with the residential sections giving some priority to isolated students) and a virtual selective class provision offering selective placement in Year 7 for entry in 2011. Yet NSW has a population of approximately 7.24 million (Australian Demographic Statistics, 2010).

It does appear that when considering the educational provision for gifted students in special settings in government schools in Victoria compared to NSW based on population figures, Victoria could benefit from having more schools designated for academically able students.

Furthermore, there could be an emphasis on all schools providing for highly able students and providing a range of provisions for these students.

5. Addressing the issue of underperformance

If we are going to address the issue of underperformance of highly able students, then we are going to need more specific/designated educational opportunities for them to have their potential abilities and competencies recognised early in schools. This early identification does tend to happen with informed and interested parents when they realise that there are discrepant differences evident between what their child does at home compared to samples of learning the child brings home from school. Often, these parents investigate the situation further with individual psycho-educational assessments.

Additionally, parents may perceive differences in educational expectations when they speak to their child’s teacher and they realise the teacher is unaware of their child’s capabilities. The research tells us that teacher education is important for teachers to be mindful of the needs of gifted and talented students in their classes. Government primary schools in NSW (Opportunity.classes) and WA (PEAC Program) offer specific programming opportunities for gifted students. Victoria has limited opportunities for gifted and talented students at primary school. All schools are meant to provide for students within mainstream classes. However, research tells us that most teachers do not differentiate for students in their classes and as there are more students with disabilities integrated into mainstream classes, teachers often have less time to provide for highly able students.

6. Overcoming negative attitudes and misconceptions surrounding giftedness and talent

It is evident that teacher education is one of the most effective ways of changing teacher attitudes and misconceptions regarding giftedness and talent development. More opportunities for teacher education need to be made available.

Research project on changing teacher attitudes towards teaching gifted
students

Since 2008, pre-service teachers have been offered a gifted education elective to study in a range of undergraduate courses in the Faculty of Education at Clayton, Gippsland and as an off-campus learning subject. In four years more than 600 pre-service teachers have completed the unit in gifted education. Yet as this unit is only an Elective, there are many who leave Monash Education programs without any preparation for teaching highly able students.

Since the inception of this unit Dr Plunkett & Dr Kronborg who teach this unit, have been conducting a research project examining the impact on attitudes of students who undertake EDF4512. Research suggests that specific education enhances attitudes and practices that are conducive to appropriate provisioning for gifted students (Copenhaver & McIntyre, 1992; *Feldhusen, Haeger & Pelligrino, 1989; Geake&Gross, 2008; Gross, 1994, 1997; Korynta, 1982; Kronborg & Meyland, 2002; Plunkett, 2000). Furthermore, attitudes impact on practice attitudes and are influenced by a greater understanding of the specific characteristics and learning needs of highly able students.

So far approximately 330 students have been involved in the research completing pre and post attitudinal surveys with findings showing statistically significant changes in a positive direction in relation to gifted students and gifted education. The statistical data indicated strong positive changes in all areas covered by the survey, but particularly in relation to acceleration and ability grouping. Students have also been asked to provide qualitative reflections on their attitudes towards giftedness and where their perspectives have changed.

The two data sets offer a valuable insight into the areas where student opinions had either strengthened or changed, with reflections suggesting that access to research and literature on giftedness had rarely been encountered in their Education courses and yet had been instrumental in assisting them to challenge their previous opinions, many of which they now viewed as uninformed misconceptions. The findings of this project will soon be available for publishing.

7. Mechanisms to improve the capacity of teachers to identify and adequately respond to gifted and talented students

Refer to Gifted Education Report with a focus on courses in gifted education offered in the Faculty of Education, Monash University.

8. Any broader implications for school communities arising from the education of gifted and talented students

When schools implement programs for gifted students in a high ability cohort such as a SEAL program, there does appear to be a ‘spill-over effect’ to the mainstream programs as professional learning often required to provide for the cohort of highly able students
impacts all teaching in the school (Plunkett & Kronborg, 2007). Furthermore, it does seem to be critical for optimal student learning in these selective extension programs that leaders of these programs do have teacher education in gifted education as this impacts the quality of the program offered to students (Kronborg & Plunkett, 2008, 2009; Kronborg, Kelly and Plunkett, 2010).

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