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Bright Sparks: A Study of the Availability of Gifted Education Programs Within Seventh-day Adventist Primary Schools Within Australia

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A study of the availability of gifted education programs within Seventh-day Adventist Primary Schools within Australia.

by

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Supervisor: Dr Merle Cozens

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Supervisor's Signature

Merle Cozens _____

Date: _____

Examiner's Signature

_____

Date: _____

Declaration

I declare that all material contained in this thesis submitted to Avondale College is my own work, or fully and specifically acknowledged wherever it is adapted from other sources. I understand that if at any time it is shown that I have significantly misrepresented material presented to the College, any degree or credits awarded to me on the basis of that material may be revoked.

Signed: _____ Date _____

Rhian Hebbard

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Abstract

This study investigated the provisions made for gifted students in Seventh-day Adventist Primary Schools in Australia, with particular reference to six aspects of gifted education, namely: (1) identification, (2) gender equality, (3) priority, (4) the extent of provision, (5) forms of gifted education, and (6) the qualifications and professional development of teachers in the Seventh-day Adventist Education System.

Data were collected from 27 principals of Seventh-day Adventist Primary Schools in Australia using a survey instrument specifically designed for this study. Qualitative and quantitative analyses were used to analyse the data derived from the survey instrument.

The findings of this study have shown that in the majority of cases, Seventh-day Adventist Primary Schools may not be adequately providing for the needs of gifted children in their care. Although some schools were found to provide better provisions for gifted students than others, many schools failed to even identify minimum expected proportions of gifted students. It was found that an equal overall proportion of males-females were involved in a gifted education program, but that the extent of provision for gifted students was generally quite limited. The various schools identified an awareness of a variety of programming strategies, although these strategies were not always implemented. It was also found that a lack of teacher qualifications and professional development in relation to gifted education was present in many schools.

Recommendations and suggestions for further research are included in the study.

Chapter 1
Introduction to the Study

Introduction

This chapter outlines the rationale, the aims and objectives of this research, and the hypothesis and associated assumptions. It also details research questions in six related areas of study. The scope of the study and the arrangement of the report are also included.

Rationale

There are many reasons why it is important for gifted students to develop their abilities. The special abilities of the gifted child should be developed primarily for the student's benefit. However, the benefit of the development of this potential is two-fold. As students are guided in growth and development, they learn more and develop their abilities. Society then benefits from the development of the gifts of these children. Professor Brian Start of the University of Melbourne concludes that: "The [gifted] will produce far more than they consume...they are our greatest natural resource" (cited in Commonwealth of Australia, 1988).

However, indications are that Australian society does not fully value the existing and potential contributions of its gifted citizens. In fact, Gross (1993) concludes that Australia is a country that pays high respect to those possessing sporting and musical ability but pays little regard to intellectual giftedness. To the extent that this happens, Australia is a poorer country. Gross (1993) also points out that in order for gifted individuals to reach their full potential they must be provided with a differentiated curriculum.

The purpose of differentiated gifted education is to create a better learning environment for these students. Some problems which are faced by gifted students who are not recognised and placed in differentiated programs, include boredom, failure to reach their potential, failure to retain their giftedness, and the loss of their right as a student to receive the best education that can be provided for them. These problems are discussed in further detail in the following section.

Prevent Student Boredom

Highly gifted students may work below their level of ability, are unlikely to emerge as leaders, and become frustrated by the curriculum in the regular classroom, which they often find boring and repetitive (Cummins, 1993). To prevent this boredom, gifted students need a challenge beyond what is provided in the regular curriculum. Students who are bored, and subsequently frustrated, may, as a result, score poorly on class tests (Commonwealth of Australia, 1988). This may cause them to be overlooked for

inclusion in gifted programs and prevent them from reaching their full potential. Students respond negatively to an environment that they find boring and repetitive. These students may demonstrate behaviour problems or simply "mark time" in relation to learning (Reis, Burns, & Renzulli, 1993).

It is further suggested that negative behaviour demonstrated by frustrated, underachieving gifted students will diminish if the curriculum is designed to meet their individual needs through a variety of learning styles (Lummins & Laherty, 1996). Research into curriculum compacting conducted by Reis, Westberg, Kulikowich, & Purcell (1998) indicates that gifted students may already know between 40-50% of the content of their lessons before they are taught. Reis et al (1993) report that recent studies showed that average students were able to reach accuracy rates of 92% in pre-tests of comprehension skills. Purcell (1993) also found that when programs designed for gifted students were eliminated from schools, an overwhelming number of students demonstrated an increased boredom with the traditional curriculum, and some demonstrated disruptive behaviour in class. This same study revealed that students were disengaging from the traditional curriculum as they became bored, frustrated, and disruptive.

Help Students Reach Their Full Potential

The Gifted Children and Students Policy provided by the South Australian Department for Education and Children's Services recognises that gifted and talented students need

help to achieve their full potential. It states that, "While [gifted students] have often been perceived as being capable of high achievement without assistance, gifted children and students are, in fact, at risk of not fulfilling their potential if they are not identified and their talents and skills are not nurtured" (South Australian Department for Education and Children's Services, 1996, p 0-2). Research conducted by The National Research Centre on the Gifted and Talented, during the period 1990-1991, produced results indicating that major classroom modifications that will facilitate the learning needs of gifted students are not being made (Reis et al., 1993).

Allow Students to Retain Their Giftedness

Torrance (1965) conducted longitudinal studies, which indicated that some children never regained the creativity they had demonstrated in earlier years (in Landvogt, 1997). Similarly, Thomas and Crescimbeni (1966) suggest that identification should be conducted early as Athere is a growing suspicion that delayed identification of gifted children can limit the growth of such individuals once they have reached adolescence≅ (in Landvogt, 1997, p24).

It is the Students' Right

Jeptha V. Greet (1990, cited in Clizbe, 1993) asserts that in the same way that students with disabilities are entered into special educational programs, gifted students also deserve 'differentiated educational programming'. The United Nations has pronounced

that all children "shall be given an education which will...enable [them], on a basis of equal opportunity, to develop [their] abilities [and their] judgement...the best interests of the child shall be the guiding principle of those responsible for his education" (cited in Commonwealth of Australia, 1988). While gifted students have been granted the right to an education that equals their abilities, research by Purcell (1993) has found that in 84% of the activities undertaken by a gifted student, there is no differentiation.

Thomas Jefferson is quoted as saying "There is nothing more unequal than the equal treatment of unequal people" (Joshua, 1993, p73).

Christian Responsibility

The need for this study to be conducted also arises from the fact that, currently, the South Pacific Division Education Department of Seventh-day Adventists has no formal Australia-wide gifted education policy in place. The Associate Director of the Primary Curriculum division of the South Pacific Division Education Department, Dr Don Roy, reports that the Seventh-day Adventist Education System sees the education of gifted students as one need in a spectrum of special needs (see Appendix 1). Therefore, it is not singled out in a formal policy statement. Consequently, students in the Adventist school system may not have the opportunity to be involved in a gifted education program. Teachers who wish to cater for these students are left with no guidelines. It is recognised that individual schools within this system may have a policy in this regard or

make provisions for gifted students. However, until there is an Australia-wide policy, there will inevitably be some students who will miss out.

There is also the added responsibility that Christian schools have to develop the gifts and talents of the students they educate. The Bible (Luke 19:12-26) speaks of talents and admonishes one to increase his/her talents or the talents will be taken away. This is the case with gifted education. If we do not help these students develop their talents, they are at risk of losing them. With such insight and counsel from God, a Christian school should work harder than most to develop the talents of all its students.

Finally, Rittenbach (2000, p25) suggests to teachers in Seventh-day Adventist Schools that "...nurturing the gifted student's untapped potential can be one of the most important things a teacher does for a student whose gifts can bless the church, the community, and the world".

Aim

The aim of this study is to provide guidelines to enhance the education of gifted students within the Seventh-day Adventist Education System.

Objectives

The objectives of this study are listed below.

(1) To find out what provisions are currently made for the education of gifted children within the Seventh-day Adventist Education System.

(2) To recommend to the Seventh-day Adventist Education System what provisions should be made for gifted students.

(3) To create a resource for future graduates of Avondale College who may otherwise leave without receiving instruction in the education of the gifted child.

Hypothesis

The researcher feels strongly about what she perceives as a lack of provisions made for gifted students in her experience in the Seventh-day Adventist Education System, both as a student and as a trainee teacher.

She is also concerned about the inadequacy of pre-service training in the area of gifted education provided for students at Avondale College. As this tertiary institution provides the primary pool of teachers for the Seventh-day Adventist Education System, the researcher is concerned that teachers will be untrained in strategies for identifying and catering for gifted children within their schools.

Prior to beginning research into the availability of gifted education in Seventh-day Adventist Primary Schools, it was hypothesised that the majority of schools would not adequately cater for gifted students in their schools.

Research Questions

The purpose of this study is to determine if the Seventh-day Adventist Education System is making provisions for the gifted students within its care in relation to identification, gender equality, priority, extent of provision, forms of gifted education, and the qualifications and professional development of teachers in the Seventh-day Adventist Education System.

From the purpose of the study outlined above, research questions that allow this to be explored in further detail are listed below.

(1) Are all gifted children in the Seventh-day Adventist Education System being identified?
(2) What is the male-female ratio of gifted children identified within the Seventh-day Adventist Education System?
(3) What priority does the Seventh-day Adventist Education System place on gifted education?

(4) What is the extent of the provision made for gifted students?

(5) What forms of gifted education are used in each school?

(6) What qualifications are possessed and what professional development is undertaken in relation to gifted students by teachers in Seventh-day Adventist Schools?

Scope of the Study

The potential scope of this study is too broad to be included in this research. Therefore, the following limitations have been set on the study.

(1) The study is restricted to Seventh-day Adventist Primary Schools in the Australian Union of Seventh-day Adventists.

(2) The research focuses on information obtained solely from the principal of each school.

(3) The research in limited to primary schools (K-6/7, depending on the state).

Arrangement of the Report

This thesis has been divided into six chapters. The current chapter introduces the study, provides a rationale for the research, and identifies the aims, objectives and hypothesis of the study. The research questions and the scope of the study are also outlined.

Chapter 2 reviews literature on the subject of gifted education to provide a framework for this study. It includes research in the areas of definitions and occurrence of giftedness, issues in gifted education, characteristics and identification of gifted students, and discusses common teaching models.

Chapter 3 provides details of the research methodology for the study and outlines the procedures followed in this research.

Chapter 4 presents the results gathered during the study. These results are related to the research questions posed in this chapter.

Chapter 5 contains a discussion of the results and trends identified in chapter 4, with particular reference to both the literature review and the research questions.

Chapter 6 provides an overview of the findings of the previous chapter; outlines the limitations of the study; makes recommendations based on the findings herein; and concludes the study with suggestions for further research.

Chapter 2
Literature Review

Introduction

The focus of this chapter is on the presentation of the various aspects of giftedness through a literature review of the ideas proposed by many researchers in this area. This chapter looks at giftedness from the viewpoint of academic giftedness as a basis for answering the research questions proposed in Chapter 1.

Definitions

Giftedness

Formulating a definition for giftedness is a constantly changing and dynamic process. Many new, emerging theories are being proposed which add more depth to our understanding of giftedness and widen the scope of who is a gifted child (Gange, 1997; Landvogt, 1997; The Marland Report, 1978, cited in Gross, 1993). There is also a recent emphasis on identifying under-represented groups for inclusion into gifted programs (Braggett, 1985; Cline & Schwartz, 1999; Daignault, Edwards, Pohlman, & McCabe, 1991; Frasier, 1993; Gallagher & Gallagher 1994, cited in Gallagher, 2000; Kearsley, 1991; Whitmore, 1980; Whitmore & Maker, 1985).

While there is debate over the definition of giftedness, the absence of a universal definition should not create a barrier that prevents planning and intervention on behalf of gifted students. Indeed, it would be difficult, if not impossible to formulate a definition that encompasses every aspect that each researcher regards as an essential part of giftedness.

Recent definitions generally contain a series of common themes, indicating the growth of the concept of giftedness over time. The following themes, identified by Landvogt (1997), and supported by numerous researchers include: a recognition that giftedness is multi-dimensional; develops through the lifespan; is influenced by biological and environmental factors; is socially and culturally defined; and that definitions, identification, programs and evaluation need to be linked.

Giftedness is multi-dimensional rather than unitary.

The school of thought that giftedness is multi-dimensional is evident in many theories. Gibson (1996) identifies that "giftedness can be manifested in different ways and in different areas of endeavour". Winner (1998) identifies children whom she refers to as "unevenly gifted". These children are quite common, displaying extraordinary ability in one area while they may be average or deficient in another. The Marland Report of 1972 also indicated that giftedness could be demonstrated across a broad range of areas

including general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, and psychomotor ability (cited in Landvogt, 1997).

Giftedness develops throughout the lifespan

A definition formulated for the U.S. Department of Education in 1994 (cited in Stephen & Karnes, 2000) omitted the word "gifted". Stephens and Karnes (2000, p200) agree with the elimination of the word gifted, which they suggest, "insinuates a formed and finished ability rather than a developing one." Terms such as "outstanding talent", "high levels of accomplishment", and "high performance capability" are preferred. In a similar manner, Renzulli (1986, cited in Davis & Rimm, 1989) suggests that the term "gifted" is not a label to give to students who pass a selection process; rather it is a behaviour to be developed through specialised educational opportunities.

Gifted performance is influenced by biological and environmental factors

There has been considerable debate in the literature as to whether giftedness is biologically or environmentally determined. According to some researchers, giftedness is largely biologically determined and may be based 80% on heredity (Gardner, 1985). Conversely, other researchers argue that this figure may be as low as 0-20% (Gardner, 1985). In regard to environment, Gardner (1985) argues that while an individual may

have a natural ability in relation to, say, chess, that ability will not be recognised if that individual never sees a chessboard.

Giftedness is socially and culturally defined

A number of researchers contend that giftedness is socially and culturally defined as different groups value different qualities. Braggett (1985) argues convincingly that despite living in a multicultural society, our concept of giftedness is narrowed to a mono-cultural and academic focus. This theory is also advocated by Gardner (1985) who suggests that intelligence is defined by need.

Definitions, identification procedures, programs and evaluation must be linked.

Identification should result in useful curriculum planning and program implementation aimed at meeting the needs of gifted children in regard to education (Gibson, 1996). The curriculum/instructional design model for constructing curriculum for gifted learners, proposed by Van Tassel-Baska (1992), is included below, demonstrating how all components of education, from identification to evaluation, must be linked in order to provide an effective education for gifted students.

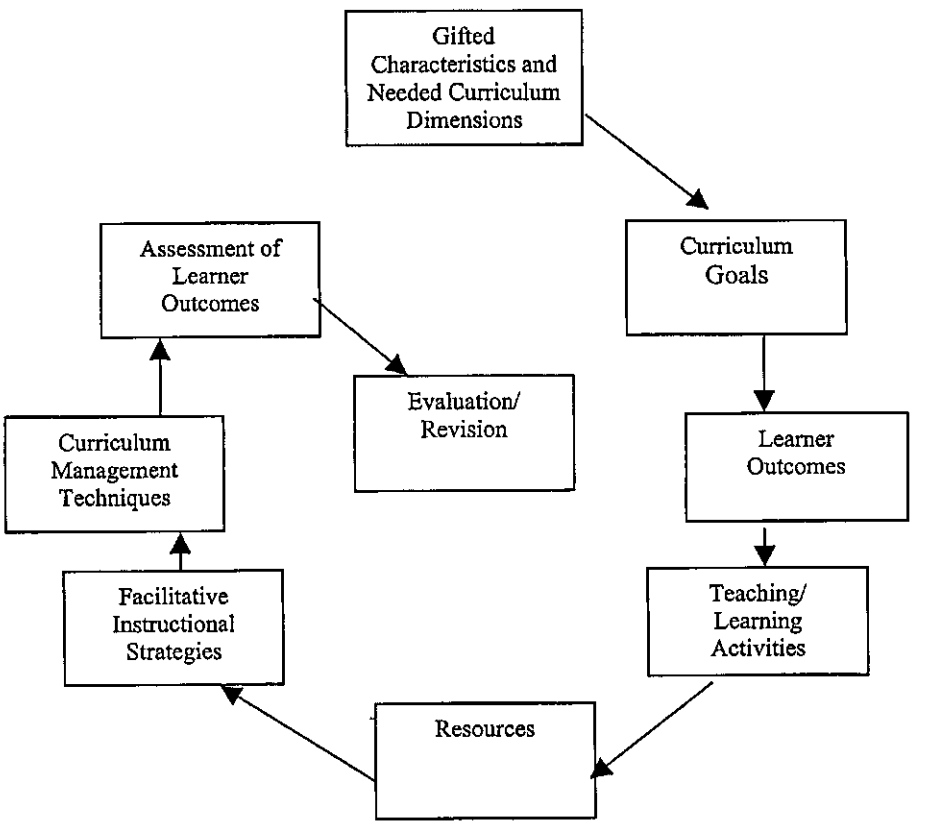


Figure 2.1 Curriculum/Instructional Design Model for Constructing Curriculum for Gifted Learners (Van Tassel-Baska, 1992)

Gifted and Talented

According to various definitions, the terms giftedness and talent may, or may not, refer to the same special abilities. Many definitions do not make the distinction between a gifted and talented child. Rather, they are treated as possessing the same abilities.

By contrast, some definitions make a distinction in terms between a gifted child and a talented child. Gange (1997) suggests that there is a clear distinction between giftedness and talent. He refers to giftedness as untrained ability in at least one ability

area that is sufficiently developed as to place the child in the top 15% of their age peers. Talent, according to Gange (1997), refers to mastery of skills through systematic development, which places that child in the top 15% of their age peers.

The Definition Used in This Study

One broadly encompassing definition, which includes many of the dimensions mentioned previously, and which has influenced education of the gifted world-wide (Gross, 1993), is that adopted by the United States Office of Education under Commissioner Marland in 1972 and revised in 1978 (cited in Gross, 1993).

The revised (1978) edition reads:

> "The terms 'gifted and talented children' means children and, whenever applicable, youth, who are identified at the preschool, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capability in areas such as intellectual, creative, specific academic or leadership ability or in the performing and visual arts who by reason thereof require services or activities not ordinarily provided by the school.

Under this definition, a minimum of three to five percent of the population will be identified as gifted (Commonwealth of Australia, 1988; Gross, 1993).

It will be noted that, while this definition does not distinguish between giftedness and talent, it does view giftedness as multidimensional, and it emphasises the continuing development of giftedness across the school years. Also, with its emphasis on both demonstrated and potential abilities, this definition recognises the need for the

development of programs for gifted 'underachievers', many of whom will be found in disadvantaged or minority groups. Furthermore, this definition suggests that schools should not only identify the gifted and talented but also provide programs and services outside of those normally offered by the school.

Because of its all-encompassing nature, the Marland definition will be the one used in this study. Moreover, while it is recognised that there are many forms of giftedness, and that students can be gifted in many encompassing areas, for the purposes of this study the focus will be on students who are academically gifted.

Levels Of Giftedness

Researchers have identified various levels of giftedness. DeHaan and Havighurst (1957, cited in Stephens & Karnes, 2000) suggest gifted children fall into two categories, namely, the extremely gifted child, and the solid, superior child. Extremely gifted children are referred to as being in the top 1% of their peers while the solid, superior child falls in the top 10% of students. Silverman and Kearney (1992, cited in Cline & Schwartz, 1999) and Gross (1993) also acknowledge two levels of highly gifted students. They refer to exceptionally gifted students as those who have an IQ score in the range of 160 to 179. A profoundly gifted student has a rare high score of 180 or above.

Gross (1993) provides a more detailed view of the range of ability displayed by gifted students. She suggests that there are four levels of giftedness, based on the IQ ranges of intellectually gifted students. According to Gross, moderately gifted students have an IQ range of 125-144. Highly gifted students range in score from 145-159, while the exceptionally gifted score between 160-179 in IQ tests. Profoundly gifted students are defined as those who have an IQ score of 180 or more. The distance between profoundly and exceptionally gifted students and the others in the class of the same chronological age is said to be too great for the teacher to make adequate provisions in the general classroom. These children require more individual attention.

Occurrence Of Giftedness

Students who are moderately gifted will appear in the population at a ratio of 1 in 20, while profoundly gifted students are fewer than 1 in 1 million (Gross, 1993). Thus, the more gifted children are, the more they differ from their age peers in social, emotional and educational needs (Gross, 1993). The ratio of moderately gifted students in the population would suggest that in an average classroom, there would be between one and two moderately gifted students (Cummins, 1993).

However, while moderately gifted children may be catered for in the regular classroom through a school support system (DeHaan & Havighurst, 1957, cited in Stephen & Karnes, 2000), it has been suggested that exceptional and profoundly gifted children

require a program which differs significantly in structure, pace, and content (Gross, 1993).

Issues In Gifted Education

Equality

The issue of equality and inequality rises in the gifted education debate. There are many who believe that developing the minds of gifted students is 'elitist'. For example, Boag (1990, cited in Gross, 1993) suggests that to develop the abilities of the gifted causes us to overlook and devalue the excellence that each person possesses. By way of contrast, many parents, teachers, and researchers, as reported in the following section, feel that some groups in our society are under-represented in programs for the education of gifted and talented students (Cline & Schwartz, 1999; Daignault, Edwards, & Pohlman, 1991; Whitmore, 1980; Whitmore & Maker, 1985).

Van Tassel-Baska (1992) asserts that gifted students may come from all racial, ethnic, and socio-economic groups. Frasier (1993) notes that children from disadvantaged and culturally different backgrounds are disproportionately represented in gifted education programs. Concerns have been raised by McLeod & Cropley (1989, cited in Frasier, 1993) suggesting that the basic problem lies in the choice of indicators used to identify giftedness rather than the lack of gifted children in these culturally different or disadvantaged children. Kearsley (1991) argues that when disadvantaging factors are

present - such as different cultural or linguistic backgrounds, low socio-economic status, specific disabilities, underachievement, or gender - the chances of detection are significantly reduced.

Cultural Equality

Braggett (1985) claims that despite the reality that we live in a multicultural society, many schools are still reflecting, valuing and fostering mono-cultural, academic and narrow concepts of gifted and talented children. This assertion is supported by the research of Gallagher and Gallagher (1994, cited in Gallagher, 2000) who found that there are a disproportionate number of children from ethnic backgrounds represented in gifted programs in American schools. Fewer Black and Hispanic students were enrolled in gifted programs and more Asian students were enrolled to their proportions in society. If the ratio of gifted students to others is, for example, 1 in 20, then this ratio of giftedness should extend, not just to the dominant culture, but also to all cultural and socio-economic groups (Kearsley, 1991).

Socio-economic Equality

A further objection to the term 'gifted' is that it favours economically advantaged children. The consequences of this are that the abilities of children from less socially favoured circumstances may be suppressed or limited. Sapon-Shevin (1996, cited in Gallagher, 2000) argues that by providing gifted education to the privileged in our

society, we widen the gap between gifted students and economically disadvantaged students. Children from a low socio-economic background have a reduced capacity to compete with other students. Maslow (1970, cited in Kearsley, 1991) suggests that the potential these students may possess will not be effectively developed if these children remain hungry, cold, or clothed and housed inadequately. Sayler and Brookshire (1993) concluded by thorough research that students in accelerated and gifted groups came from the top half of families nationally in relation to income, resources and experiences. They were also more likely to have a parent who had completed tertiary education. This may be due to a lack of distinction by many teachers in defining and identifying giftedness as exceptional *performance*, rather than exceptional *potential* (Braggett, 1996).

Intellectual Giftedness In Persons With A Specific Disability

As schools become more integrated and inclusive, regular classroom teachers need to be aware of giftedness displayed in students with a specific disability. While proportionally, there may be as many gifted children with a disability as there are without, children who are both gifted and handicapped are generally under-represented in programs for the gifted, and, in fact, more often than not, may even be excluded from gifted programs for various reasons (Cline & Schwartz, 1999). This is because their gifts are often obscured by their disability (Commonwealth of Australia, 1988). Cline & Schwartz (1999) and Feldhusen & Jarwan (1993) identified obstacles that often prevent these students from reaching their full potential. Stereotypical expectations,

developmental delays, incomplete information about the child, lack of challenge, lack of appropriate testing, and lack of opportunity to develop superior mental abilities are common obstacles for gifted disabled children. It should be remembered that, as for all gifted students, gifted disabled students couldn't be expected to realise and achieve their full potential on their own. Despite the fact that some students demonstrate characteristics that suggest greater ability, the emphasis of schools tends to be more on 'catching up' in preference to developing particular gifts (Kearsley, 1991).

Whitmore & Maker (1985) and Yewchuck & Lupart (1993) identify specific conditions that may cause intellectually gifted students to be overlooked for selection in a gifted program. These specific conditions may include students who demonstrate the following impairments: motor impaired, hearing impaired, visually impaired, learning disabled, neurologically impaired, and emotionally disturbed. Cline & Schwartz (1999) found that these under-represented students fall into three main categories: students with physical disabilities, students with sensory impairments, and students with specific learning problems.

Underachievers

Pirozzo (1991) reports research indicating that around half of gifted children in Australia who achieve test results in the top 5% do not match their school achievement with their intellectual ability. In recognition of this, an initiative funded by the Commonwealth Government in Australia is targeting gifted underachievers. This

project, known as Unicorn, aims to increase educational outcomes for gifted underachievers by providing enriched learning experiences (Lummins & Laherty, 1996).

Gender Equality

Girls are more likely to be underachieving gifted students (Landvogt, 1997), are more at risk of depression and lower self-esteem, and experience more psychosomatic symptoms than are experienced by academically gifted boys (Winner, 1998). Adolescent girls are also less likely to accept a position in an accelerated program than boys (Crombie, Bouffard-Bouchard, & Schneider, 1992).

Research conducted by Gange (1993) confirmed that gender stereotypes exist in gifted programs. He found that, when assessed by peers and teachers, boys were judged to be talented in the physical and technical aptitudes while girls were identified as being more talented in arts, particularly music, and socio-affective abilities.

Pohlman (1986, cited in Daignault et al., 1991) noted that females comprised only one third of participants in gifted education programs. Further research by Daignault and associates (1991) revealed that the proportion of females involved in gifted programs is consistently in the range of 30-40%.

It should be noted that because of the limitations of this study, no attempt was made to determine whether there was equality of provisions for gifted children from disadvantaged cultural or socio-economic backgrounds, or students with disabilities. Rather, the research was limited to issues of gender equality.

Influence of Egalitarianism

In Australia, egalitarian attitudes held by many, add further fuel to the debate over issues of equality and inequality in gifted education. Egalitarianism is a theory that has its roots in Australia's convict origins when society was split into two distinct classes – the aristocracy and the convicts (Ward, 1958, cited in Gross, 1993). From this developed resentment against privilege, which in turn developed into a resentment of, and hostility toward, those who possess high intellectual ability. Gross (1993) claims that this national resentment of 'elitism' has affected our attitudes towards gifted education in Australia. Similarly, in a report, *Issues in the Education of Gifted and Talented Children in Australia and the United States,* Goldberg (1981) warned against the trend by some to argue that giftedness was a reflection of opportunity and circumstance, rather than ability. Teachers in Australia, Goldberg (1981) noted, expressed a feeling that exceptional teachers should not be used to teach exceptional students; rather, they should be used to teach less able students to achieve uniformity in educational outcomes. It is this equality of outcomes, rather than equality of opportunity, that opposes gifted education in favour of uniform educational outcomes.

Psychology

Some concerns have been raised as to how gifted programs affect the children who are placed in them. Some researchers suggest that children placed in gifted programs experience different needs in regard to peer relations, social and emotional needs, and performance pressure (eg: Cummins, 1993; Winner, 1998).

Peer Relations

Winner (1998) suggests that those around gifted students often view them as odd, or nerds. Often, the parents of gifted children are criticised for pushing their children too hard. The feelings of isolation that are often experienced by gifted students become more powerful when the level of giftedness is higher.

Social and Emotional Needs

Profoundly gifted children have been found to have social and emotional problems at about twice the rate of other students, but moderately gifted students do not differ from the average (Winner, 1998). Similarly, Cummins (1993) reveals that the more gifted children are, the more they differ from their age peers in social, emotional and educational needs.

Performance Pressure

There is an expectation placed on gifted students by society that they become intellectuals when they reach adulthood. Gifted students are often viewed as failures if they do not live up to the expectations society places on them (Winner, 1998).

Qualifications

'Specialists' and Teacher Education

Researchers in the area of gifted education agree that there is a need for a clear specification of what knowledge and skills are needed for specialists in gifted education. Gallagher (2000, p9) suggests that teachers, or specialists, must have:

> "The skills to develop differentiated lessons and units that stress complex ideas and conceptual systems, and that means the specialist should have content sophistication in some content area or areas...She or he should have extensive knowledge of the various ways to access information sources so that the students can search effectively for a wide range of information on their projects. He or she should also have a fundamental grasp of higher thinking processes and how these can be utilised in instruction, be able to collaborate with general education teachers in enriching the program for advanced students in the general classroom, and, finally, be able to so some individual mentoring for those extraordinary students who are clearly three or more grades in advance of their age group."

Gear (1976, cited in Landvogt, 1997) and Kearsley (1991) report that the accuracy of identification by teachers increases significantly if appropriate information and training is provided and as familiarity with the topic increases. Similarly, teachers are more likely to recognise giftedness if they possess experience in this field (Kearsley, 1991).

Characteristics of a Teacher of Gifted Education

Passow and associates (1955, cited in Goldberg, 1981, p49) suggested a portrait of the characteristics of a teacher of gifted students. This list includes such characteristics as "high intelligence, special aptitudes, knowledge of own field, broad knowledge of related fields, productivity in a creative area, sensitivity to creative expression of students, flexibility of standards - not a perfectionist, acceptance of differences and original ideas, warmth and friendliness toward students". In addition, "acceptance of nonconformity, the ability to inspire students to strive for higher levels of achievement, being a person of very few prejudices and being a sufficiently integrated member of the community to have ready access to its resources" were also listed as important characteristics. Additionally, it concludes that the teacher must be aware of his or her limitations and freely admit to them, and must have positive attitudes toward gifted students, enjoy teaching gifted learners and remain unthreatened by their ability.

Accessibility to a Qualified Teacher

Just as regular students can expect that their teacher has been properly trained in how to best teach them, gifted students should also have this right. Research indicates that this, however, is not the always the case. Wilson (1996) raises concerns regarding the alarming reality that very few teachers in Australia have participated in training in the teaching of gifted children. There is a feeling of concern expressed in relation to the

fact that most Australian teachers have no experience in dealing with gifted children. Gross (1993, p52) reports, "...Australian teachers receive virtually no training, either at pre-service or in-service level, in how to identify and foster academic or intellectual talent". Gross (1993) also refers to a survey conducted by Start in 1985 which found that for every hour trainee teachers receive in teaching the gifted, a total of 18-24 hours were spent learning how to teach the disadvantaged.

In view of those findings, some questions that should be asked in regard to helping all gifted children reach their full potential, include the following: Do all gifted students have access to a teacher who specialises in gifted education? Do all gifted students have a teacher who will cater for their individual needs in the mainstream classroom? Do all gifted students have access to extra-curricula gifted activities?

Characteristics Of Gifted Students

There are various traits that are common among gifted children. A gifted child, when compared with chronological peers, will exhibit some of the following characteristics. This list is not comprehensive. Gifted children may exhibit many traits that are outside of the characteristics listed below. The following headings and the characteristics therein, are collected and summarised from studies conducted by a wide variety of researchers (Clizbe, 1993; Comerford and Creed, 1983, cited in Landvogt, 1991; Davis & Rimm, 1989; and Hegeman, 1990).

Intellectual Characteristics

At the basic intellectual level, gifted students often find pleasure in intellectual activities, and display great intellectual curiosity and inquisitiveness. They are rapid learners and, therefore, learn basic skills better, more quickly, and with less practice. Consequently, they are able to memorise easily and retrieve information from memory more easily and quickly. Gifted students are also characterised by highly developed literacy skills. They enjoy reading and learn to read early, often before school. They exhibit verbal proficiency and use a vocabulary that is superior both in quantity and quality. This is demonstrated through a richness of imagery in informal language and brainstorming. When observing the characteristics of gifted students at a higher cognitive level, they are seen to function at higher cognitive levels, think critically, and see relationships more readily and earlier. They show evidence of an ability to cope with more than one idea at a time, generating many ideas and multi-solutions to problems. They show alertness and quick responses to new ideas, becoming excited by them, but often without carrying them through. They display an intellectual restlessness, exploring wide-ranging and special interests in great depth. Students are able to generalise, construct, and handle high levels of abstractions. Also demonstrated is an ability to follow complex directions easily.

Creative Characteristics

In conjunction with intellectual characteristics, there are also creative characteristics that are exhibited by gifted students. Creative characteristics include a desire to create,

invent, investigate, and conceptualise. Gifted children possess an unusual imagination that enables them to cope with problems and situations in resourceful and creative ways. They show initiative and originality, versatility and virtuosity, thus creating and inventing beyond the parameters of knowledge in a field. Artistic and aesthetic interests spur an attraction to the novel, complex, and mysterious. These characteristics are fuelled by high energy, an adventurous spirit, and curiosity.

Affective Characteristics

Gifted students generally demonstrate similar affective characteristics. They show evidence of a longer attention span enabling concentration on, and perseverance in, solving problems and/or pursuing interests. This may lead to single-minded persistence in pursuit of that which captures interest, sometimes causing the child to become difficult to redirect into other activities. These students measure low levels of anxiety and depression; rather, they seek out a challenge, are resourceful, responsible, independent, self-confident, and demonstrate internal control. Gifted students often show a preference for individual work, and a need for time alone. They demonstrate a highly developed sense of social and moral responsibility, questioning arbitrary decisions, and demonstrating keen insights into the thinking, abilities, and motivation of others. Strong leadership qualities are displayed as they know their own mind and abilities. Furthermore, these students are characterised by empathy, idealism and reflectiveness, perspective taking, and a well developed, keen sense of humour. Further social characteristics are also exhibited in gifted students. They are generally quite

socially aware. They tend to respond and relate better to older children and adults and often prefer them to their chronological peers. This may be due to the fact that gifted children often mature a little earlier than other children.

Motivational Characteristics

The primary characteristic regarding motivation of gifted children is that they are more self-motivated than teacher-motivated. They demonstrate an ability to do effective work independently and when given minimal direction and guidance, for a longer period of time. These students sustain involvement, and, once encouraged, are seldom passive learners.

Negative Characteristics

Torrance (1962, cited in Davis & Rimm, 1989) and Smith (1966, cited in Davis & Rimm, 1989) identified common characteristics of gifted students, particularly creatively gifted students, which may be perceived as negative. While gifted students are generally socially aware, they may be indifferent to common conventions and courtesies, and argue that the rest of the parade is out of step. They also tend to be stubborn, to resist domination, and question laws, rules, and authority in general. Non-cooperation and non-participation in class activities may be accompanied by capriciousness, cynicism, egocentrism, and withdrawal. Furthermore, they may demonstrate forgetfulness, absentmindedness, sloppiness or disorganisation with

unimportant matters. Additionally, their minds may wander, they may show low interest in details, or become uncommunicative. Finally, they may be either physically or mentally overactive, temperamental, demanding, or emotional.

The Australian Scene

In an Australian context, Frasier (1995, cited in Gibson, 1996) has identified ten core components of giftedness that have been shown through research to apply to Australian students, including Aboriginal students. These ten components are: communication, motivation, interests, problem solving ability, imagination/creativity, memory, inquiry, insight and reasoning. It has been suggested that a further component, intrapersonal/interpersonal ability, be added when used with Aboriginal populations of children (Gibson, 1995, cited in Gibson, 1996).

Identifying Gifted Children

Before gifted students can be adequately catered for, they must be identified. The purpose of identification is, therefore, to guide the educational opportunities for these students and to best serve the students involved (Feldhusen, 1985, in McGrath, 1993). "...Identification of gifted and talented students is a process through which we attempt to become aware of students whose abilities, motivations, self concepts and creative capabilities are so far above average that differentiated educational services are needed

if they are to make the full educational progress indicated by their potential" (Brandwein, 1980, in McGrath, 1993).

As the concept of giftedness broadens, so should the content and type of tools we use to measure giftedness. Landvogt (1997) suggests that strategies need to be incorporated which will identify not only the highly motivated gifted students, but will also identify gifted students who have become disillusioned with what the school can offer them in terms of learning and are, therefore, underachieving. Other minority groups should also be considered carefully when choosing a method of identification. Consideration should also be given to students who are unevenly gifted and may perform poorly on IQ tests while displaying giftedness in one or more areas (Winner, 1998).

Researchers agree that there is no single method of identifying gifted children, which, on its own, provides a reliable and non-discriminatory measure. There needs to be a variety of instruments and tools that will help to identify the gifted students in a school (Davis & Rimm, 1989).

Methods of Identification

Identification should not be a stagnant process that is completed as a one-off occasion. Continuing assessment of the needs and abilities of students needs to be undertaken (McGrath, 1993). It is important that the process of identification is on-going to reduce the risk of factors such as lack of motivation, gender, peer pressure, and self esteem

hindering the identification process. It is also important to provide continuous assessment, as the accuracy of identification of gifted children appears to increase as the age of the children increases (Commonwealth of Australia, 1988).

There are many methods of identification carried out by a wide variety of people. The following discussion identifies some common methods of identification.

According to McGrath (1993) identification procedures may fall into one of two categories; incidental, or structured. The Commonwealth of Australia (1988) suggests that identification procedures may fall into two additional categories - subjective identification procedures and objective identification procedures.

The characteristics of gifted disabled students differ from the characteristics exhibited by other gifted students. The characteristics of disadvantaged gifted students also differ from the norm. Since characteristics of these students are different, therefore, so too the identification procedures must be different (Cline & Schwartz, 1999). While it is recognised that different identification methods are required and different characteristics are demonstrated, the following list of identification procedures and characteristics of gifted students is reflective of "normal" gifted students. That is not to say that disabled or disadvantaged students will not reflect these characteristics, but they may be more easily identified using a more specific list of characteristics and identification procedures.

Teacher Observation

This method of identification involves teacher observation of students, comparing their demonstrated behaviour against a checklist. This identification procedure is often a subjective and incidental process. The Department of Education Western Australia (2001) has suggested the use of teacher observation as part of the process of identification. This may take place through the possible use of student outcome statements, developmental continua, syllabus documents, Monitoring Standards material, and Teaching TAGS (Talented and Gifted Students) observation schedules.

Some researchers have expressed concerns that this method of identification is not the most accurate. In 1959, Pegnato and Birch (cited in Commonwealth of Australia, 1988) found that teachers only identified about half of the students in their class with a high IQ score. Similarly, the South Australian Association of Gifted and Talented Children conducted a study and recorded that teacher's nominated only 6% of a pool of gifted children (Commonwealth of Australia, 1988). Fatouros (1986) and Rost (1993) question the ability of the teacher to competently identify gifted children through the use of checklists (cited in Perleth, Lehwald, & Browder, 1993). Further concerns emerge suggesting that the teachers' observations are unlikely to be systematic, and that teachers have a tendency to nominate students who conform and are well behaved (Clark, 1985, cited in Wilson, 1996; and Ward 1962, cited in Landvogt, 1997). However, it is reported that the accuracy of identification by teachers increases

significantly if appropriate information and training is provided (Commonwealth of Australia, 1988; Gear, 1979, cited in Landvogt, 1997; and Gibson, 1996).

LOTE and ESL teachers are often more effective in identifying above average ability in students from other cultures as they work in smaller groups and are often more able to look past stereotypes and see real potential (Kearsley, 1991).

Parent Nomination

This subjective, incidental, form of identification encourages parents to observe their children and nominate them through the possible use of checklists and surveys. This form of identification has obvious biases and problems associated with its use. Potential biases may be that the parent exaggerates the child's ability or provides the child with too much assistance. However, researchers have suggested that most parents are conservative in their nominations (Wilson, 1996). Although some research indicated that many parents lack the educational background and the broad frame of reference to accurately identify their child as displaying gifted characteristics (eg., Hager, 1980, cited in Landvogt, 1997), other studies suggest that parents may be able to provide valuable information in the identification process (eg., Gibson, 1996). Furthermore, parents may even be more accurate than both teachers and other specialists in the identification of giftedness in their children (Taplin & White, 1998). In particular, parents may be especially useful in the identification of gifted preschool

students, whose giftedness tends to be difficult for teachers to detect (Jacobs, 1971, cited in Wilson, 1996).

Landvogt (1997) questions how many children are disadvantaged by the lack of parental involvement in their education and suggests that parents' views should be considered with information gained through other channels. It is important to note that parents are a valuable source of information in the identification of minority groups who are not identified by conventional testing methods (Department of Education Western Australia, 2001). The accuracy of information provided by parents is affected by socio-economic status, with parents from lower socio-economic backgrounds making more accurate identification, and by the level of achievement of the parents (Commonwealth of Australia, 1988).

Peer Nomination

The Department of Education Western Australia (2001) suggests that peer reporting is a reliable tool for the identification of gifted students. Careful structuring is necessary to gain relevant information. It is believed that a pattern of responses usually emerges which identifies gifted children and supports other methods of testing. It is also a useful tool in helping to identify gifted students from minority groups who may otherwise be overlooked (Department of Education Western Australia, 2001; Gibson, 1996). Peer nomination provides information that teachers may not have access to through any other

means of testing. It should not be used to establish giftedness, but rather to support other methods of identification (Landvogt, 1997).

Rost (1993, cited in Perlith et al., 1993), on the other hand, believes peer and self-nomination to be useless for the identification of gifted primary school students. Fatouros (1986) and Gange (1989) have previously asserted their ideas (cited in Perleth et al., 1993). Hagen (1980, cited in Landvogt, 1997) advises that this form of identification should be used only with children of or above the age of ten and can be used to supplement other methods of identification.

Self Identification

Self-reporting should be used to relate information obtained from both peers and parents. It is suggested that students are generally objective when reporting about themselves (Education Department Western Australia, 2001a).

Some groups of students often underestimate their ability. Girls in particular, may under-estimate their potential and achievements, according to research studies reviewed by Landvogt (1997). Gifted students who are learning disabled have also been found to demonstrate lower self-concepts than many other gifted students (Van Tassel-Baska, 1992).

Standardised Tests

Various forms of standardised tests are available to test the students' performance and help to determine giftedness. These tests may include group or individual intelligence tests, achievement tests, specific aptitude tests, and creativity tests. One such test, which is commonly referred to, is the WISC-R (Wechler Intelligence Scale for Children – Revised, 1974). This test is divided into sub-tests and is able to provide information relating to the various areas of mental functioning. The Torrance Test of Creative Thinking, and similar tests, have been devised to measure the ability of divergent thinkers (Commonwealth of Australia, 1988). Frasier (1989, cited in Feldhusen & Jarwan, 1993) recommends that schools use standardised tests that allow for cultural differences in the manifestation and interpretation of intellectual ability. Some standardised tests are available that attempt to reduce the cultural bias contained in many tests. These tests include the SOMPA (System Of Multicultural Pluralist Assessment) and the Draw-a-man Test (Kearsley, 1991).

Teaching Models

Many teaching models have been proposed for the education of gifted children both in a differentiated educational setting and within the mainstream classroom. Some models work best when used in specialised, differentiated classes. Others can be effectively adapted and included in the regular classroom. A variety of models proposed by various researchers in the area of gifted education are discussed in the following section

with particular emphasis on the potential use of each model in differentiated and/or mainstream educational settings.

Most Difficult First

The pedagogical technique known as 'Most Difficult First' is one of the first strategies that a teacher can use effectively in the mainstream classroom to challenge gifted students. Students are allowed the opportunity to complete the five most difficult questions of the set exercise and have them checked by the teacher. If students score an accuracy rate of between 80% and 100% for that exercise, they do not have to do the previous, easier questions as they have demonstrated their competency in that particular area. Allowing gifted students to complete their classwork in this manner helps to prevent boredom and in some cases, student misbehaviour arising from lack of stimulation or motivation (Winebrenner, 1993). Gifted students can demonstrate that they have met the standards for their grade level and can then become involved in enrichment activities that are based on the general course curriculum (Gallagher, 2000).

Curriculum Compacting

Curriculum compacting "is an instructional strategy that has been used to streamline the learning activities for students who demonstrate proficiency on curricular objectives prior to teaching" (Reis et al., 1998). This allows gifted students to learn at a faster pace and to develop their skills in the higher cognitive areas (Wilson, 1996). Curriculum compacting is useful in dealing with students who already know up to 88%

of the content of the curriculum before it is taught to them (Reis et al., 1993). Reis et al (1993) also report that testing has indicated that teachers can safely eliminate between 40-50% of the regular curriculum for 10-15% of all students, while children of higher ability can have between 70-80% of their curriculum eliminated.

Curriculum compacting has many benefits. One of the greatest benefits is the time saved when the curriculum is compacted. The time saved can then be used to participate in other programs for gifted students, or many other options (Reis et al., 1993). Planning and programming for implementing curriculum compacting and subsequent enrichment or acceleration activities is made easier by using *The Compactor* developed in 1978 by Renzulli and Smith (Reis et al., 1993). *The Compactor* shows areas of proficiency and methods of testing used, along with test scores; a description of how the material will be compacted; and a list of the acceleration or enrichment activities that will be undertaken in the time saved through compacting.

Reis et al (1998) report that many teachers cite reasons for not using curriculum compacting which include lack of preparation, limited time to prepare supplementary lessons, financial restriction on the purchase of appropriate resource material, and fear that the student will not achieve necessary results on standardised tests. However, research conducted by Reis et al (1998) found that those students who had their curriculum compacted showed no significant difference in achievement on standardised tests.

Some challenges are presented when dealing with curriculum compacting. One challenge is to avoid presenting and repeating material for students who do not need such repetition. Problems are also presented when the curriculum is disorganised as it is then very difficult to compact. The negative attitude of some teachers also presents a challenge to implementing curriculum compacting. Insufficient enrichment resources, and the need for flexible classroom management and staff development in relation to gifted education all challenge the successful implementation of curriculum compacting (Reis et al., 1993).

Acceleration

Acceleration is the principle of placement according to performance. Pressy (1949, cited in Evans, 2000) was the first to describe acceleration as the progression through any educational program at rates faster than or ages younger than what is considered to be conventional. In an accelerated educational program, the speed of learning, teaching, and instruction is higher than that experienced by the normal learner (Urban, 1993). Braggett (1993) suggests that there is a distinction between acceleration and accelerated learners. Accelerated learners learn at a more advanced rate and more deeply than their peers, and progress through their studies more quickly or at an earlier age than their peers. The students' abilities develop through stimulation provided in their environment both at home and at school.

Several studies indicate that many students are able to mentally cope with acceleration. Bailey (1998) states that between 20% and 25% of students are able to comprehend and complete work that is a year ahead of where their ages places them and Evans (2000) claims that between 2% and 25% of students could benefit from some form of acceleration. However, the ideas of the principal and staff of a school are generally the determining factors in the inclusion or exclusion of acceleration in that particular school (Bailey, 1998).

Forms of acceleration

Many forms of acceleration have been identified and implemented in schools across Australia and around the world. Forms of acceleration suggested by Braggett (1993) and Urban (1993) include the following:

Early admission into school: Early entry occurs when children begin their formal schooling at a chronological age less than the official starting age (Evans, 2000). Some researchers have made suggestions that early admission reduces the social problems that occur when a child is accelerated through grade skipping further along in their schooling. However, Southern and Jones (1991) have suggested that early admission be restricted to extremely advanced students in relation to their chronological age in the academic and emotional fields (cited in Bailey, 1998).

Grade skipping: Grade skipping is an option for students who are accelerated learners and who are not being adequately catered for in their classroom. Some students skip a grade as they have already met the entry requirements for that grade without having completed the intermediate grade. Advanced intellectual abilities, high academic performance, and sustained motivation are obvious prerequisites for students who will be grade skipped. Schools should also provide the option for the student to return to the original class if they wish to do so (Braggett, 1993). Bailey (1998) suggests that there needs to be three phases in the implementation of the advanced placement of a student. First phase is a lead-in, which involves assessing the child's readiness, both academically and socially. It should also include an opportunity for the child to express any concerns. Next, a trial period of relocation into another classroom is conducted for approximately six weeks. Finally, ongoing monitoring and reappraisal of the situation are required.

Accelerated classes: A whole class is specially set up for gifted students that provides fast paced learning for the whole class (Evans, 2000). The luxury of forming an entire class of gifted students is usually limited to larger schools. Accelerated classes are closely associated with curriculum compacting (Braggett, 1993).

Partial acceleration: This approach involves students of high ability in one area of the curriculum to work with a higher grade for that particular subject (Evans, 2000). Partial acceleration may take place in one or more subjects (Urban, 1993). Winner (1998) claims that it is more beneficial for unevenly gifted students to be accelerated in the

areas in which they excel, and remain in the regular classroom for subjects in which the student shows no exceptional ability.

Content acceleration: This form of acceleration allows students to progress at a rate which suits the student through a certain subject or content area. Content acceleration allows students to employ their high ability, strong motivation and their interest or current performance to their full potential. Within this framework, students may be permitted to work in areas of interest, complete learning centres around the classroom, negotiate contracts for independent study, work with members of the community, or learn in small groups (Evans, 2000).

Arguments For Acceleration

Teachers in regular age-based classrooms are unable to provide the most appropriate programs for gifted students. Acceleration is about providing the most appropriate education for those children. It allows them to progress according to academic and developmental readiness rather than age. Students of the same age do not provide the peer academic support a gifted student requires. By providing a supportive learning environment, these students can maximise their potential. Students are able to work in a challenging environment, thus developing a good attitude toward school and developing good study habits. Acceleration minimises the problem of underachievement and boredom. Students interact with different age groups outside of school, and therefore would be able to cope without their similar age group whilst at school. Gifted students

are often also more advanced in their social development. Being in a class with older children is often better for them as their emotional age is linked more closely with their mental age than with their chronological age. Acceleration facilitates the earlier completion of school, and thus professional training in future years (Braggett, 1993; Evans, 2000). Research results from a study conducted by Sayler and Brookshire (1993) concluded that accelerated students were generally not disadvantaged, and showed higher levels of emotional adjustment and feelings of social acceptance than did regular students. Acceleration also provides for unevenly gifted students who are able to learn at an appropriate pace in all their subjects (Winner, 1998).

Arguments Against Acceleration

Serious questions are asked about the consequences of grade skipping. There are concerns that gaps may develop in the student's knowledge as a result of grade skipping, or that it may lead to negative social or emotional experiences (Bailey, 1998). Further concerns are raised questioning the value of acceleration. There are suggestions that there may be cognitive, psychological, personal development problems leading to negative effects on the student's social behaviour, emotional stability, and self-concept. (Bailey 1998; Urban, 1993). Similarly, Evans (2000) suggests that some younger students may be socially and emotionally disadvantaged while being intellectually mature. It is also suggested that the child's development may become uneven and that the student may be robbed of a carefree childhood. Burnout is also listed as a possible

effect of acceleration (Evans, 2000). Some suggest that the boredom often experienced by gifted children can be alleviated through alternative methods such as enrichment rather than acceleration. Fears also exist that the learner may become a passive recipient in the process rather than an active decision maker (Evans, 2000).

How to Make Acceleration Work

Acceleration can be a very successful form of gifted education when approached in a manner that will facilitate success. Acceleration needs to be clearly planned in order to function optimally. To achieve this, clear guidelines must be provided, correctly implemented and evaluated to assess progress and usefulness. The teacher's attitude has a strong influence on the success or failure of an acceleration program (Evans, 2000). The negative attitude of teachers is often based on misconceptions and has been found to seriously affect the child's progress. Teachers with a positive attitude have often had successful experiences with acceleration and, hence, produce a more positive outcome for the student (Evans, 2000). Teachers who are trained in gifted education also contribute to the success of acceleration as a form of gifted education. Another significant factor contributing to the success of acceleration is matching the level of giftedness to the level of acceleration. Along with this, proper monitoring and evaluation of the program will contribute to its success (Evans, 2000). The Australian Association for the Education of the Gifted and Talented (1997) concluded that the learning environment must be challenging, planning must be well documented, and

monitoring and evaluation must follow. Included with these suggestions, is a strong recommendation that counselling also take place in order for accelerated progression to be successful. It is also recommended that schools adhere to expert advice as they consider what forms of acceleration are most useful in their school (Australian Association for the Education of the Gifted and Talented, 1997).

While acceleration can be used as an effective method of meeting the needs of gifted students, it should not be presumed that it alone is sufficient in meeting the gifted child's needs. It will be most effective when used in conjunction with other methods (Bailey, 1998; Braggett, 1993).

Enrichment

Enrichment allows gifted students to explore further into their areas of interest in the manner that is most appropriate to their learning needs (Wilson, 1996). Enrichment is the type of provision in which the normal academic curriculum is enriched in depth and breadth. Enrichment extends instructions beyond the boundaries set in the curriculum (Southern, Jones & Stanley, 1993). Areas such as knowledge, understanding, application and integration, thinking processes, strategies and skills, physical performance, and attitudes are developed at a higher level of complexity which is appropriate to the student's level of achievement (Braggett, 1994). Passow (1958, cited in Southern et al., 1993) asserted that there are three essential ways through which the curriculum could be modified. These areas are (1) the breadth and depth of study, (2)

the tempo or pace at which material is presented, and (3) the content of material. He also suggested that (4) the development of process skills is of high importance in the development of a curriculum for gifted students. These four guidelines still dominate enrichment programs. The Victorian Draft Gifted Student Information Kit (1993, cited in Wilson, 1996) suggests that the emphasis of enrichment is to "...keep children with their peers whilst simultaneously fostering the development of higher cognitive and affective processes. The time spent on a course of study remains the standard length but additional breadth and depth of content is provided". Freehill (1961, cited in Urban, 1993) suggests that enrichment may take the form of special tasks, projects, or freely selected activities. Further ideas include the use of demonstrations, correspondence studies, preparation of special materials, or holiday schools and other extra-curricula activities.

Enrichment Triad

Renzulli is known as one of the leading advocates for the enrichment program as a means of educating gifted children. He has proposed a model known as the Enrichment Triad, which expresses his concept of giftedness and how he believes enrichment should be approached. This structure involves three types of enrichment of varying difficulty (Renzulli, cited in Boskell, 1988; Maker & Nielson, 1995). These three levels of the enrichment triad are (1) general exploratory experiences, (2) group training activities, and (3) individual and small group investigations of real problems (Renzulli, Reis, & Smith, 1981).

Arguments for Enrichment

Enrichment provides an optimum learning environment in which any child may begin to develop gifted behaviour. It is demanded (Wallace, 1986, 1990) that the emphasis of educators should be on providing all students with an enriched curriculum (in Urban 1993). Similarly, the Enrichment Triad Model proposed by Renzulli (1977) also provides for the gifted children by extending the curriculum to include new ideas, topics and fields and stimulate the students' interest through a wide range of materials (cited in Boskell, 1988).

The increased breadth of the program allows increased opportunity for the application of knowledge and skills by looking at topics in greater depth. Students are also able to learn useful knowledge, skills and application that are not included in the regular curriculum (Southern et al., 1993).

Enrichment is a process where gifted students can be catered for while working in the classroom with their peers, or in a withdrawal program (Wilson, 1996).

Arguments Against Enrichment

There is concern expressed by educators regarding the possible pitfalls of process training in the enrichment model proposed by Passow (1958, Southern et al., 1993).

Teachers are concerned that process-training skills may produce a gifted education program that is in no way related to the school curricula. Problem solving and creative exercises could be conducted without any relation to the various subjects the students study (Southern et al., 1993).

Mentoring

The Victorian Department of Education, Employment and Training (2001) defines mentoring as "the generic title of a range of initiatives in which experts from cultural, scientific and educational institutions are matched with a desire to learn skills and information within that area".

Mentoring is a widely recommended method, which involves utilising the interests and expertise of adults who have similar interests or talents in order to enrich and extend gifted students (Pirozzo, 1991; Wilson, 1996). Pirozzo (1991) has described mentoring as a most practical alternative for educators for three reasons, listed below. First, no additional funds, personnel or resources are required as the program is based on community members entering a partnership with the student on a voluntary basis (also in Haeger & Feldhusen, 1991). Second, the program is conducted outside school hours thereby eliminating any timetable changes. Finally, no administrative changes are required. The program is viewed as part of the school's educational provision for these students.

New initiatives from the Victorian Department of Education, Employment and Training (2001) include a Virtual Mentoring Program where gifted students are matched with university students who act as their mentors. A project in the student's area of interest is negotiated and interaction is conducted using e-mail and other interactive technology. This method is particularly useful for students in rural or isolated areas.

Differentiated Curriculum

The principles of a curriculum for gifted students have been developed by the USA National Leadership Training Institute. These principles are:

1. The content of curricula for the gifted/talented should focus on and be organised to include more elaborate, complex, and in-depth study of major ideas, problems, and themes that integrate knowledge with and across systems of thought.

2. Curricula for the gifted/talented students should allow for the development and application of productive thinking skills to enable students to reconceptualise existing knowledge and/or generate new knowledge.

3. Curricula for the gifted/talented should enable them to explore constantly changing knowledge and information and develop the attitude that knowledge is worth pursuing in an open world.

4. Curricula for the gifted/talented should encourage exposure to, selection, and use of appropriate and specialised resources.

5. Curricula for the gifted/talented should promote self-initiated and self-directed learning and growth.

6. Curricula for the gifted/talented should provide for the development of self-understanding and the understanding of one's relationships to persons, societal institutions, nature and culture.

7. Evaluations of curricula for the gifted/talented should be conducted in accordance with prior stated principles, stressing higher-level thinking skills, creativity, and excellence in performance and products (Maker, 1986, cited in Wilson, 1996).

Withdrawal

Withdrawal involves the removal of gifted students from their peers and placing them in a class with other gifted students for part of the school period (Wilson, 1996).

Feldhusen, Van Tassel-Baska, and Seely (1989) found that when gifted children are grouped together for special classes each day, they thrive and learn best. Conversely, despite its widespread use in schools, Felhusen and Treffinger (1985) highlight that this model often fails to meet the academic needs of gifted children (cited in Wilson, 1996).

Choosing A Model

It is suggested by Wilson (1996) that the most appropriate curriculum model is one that is best suited to the training and experience of the teachers, the resources available to the school, and the needs of specific children. Whatever method of catering for gifted students is adopted, it must be structured, not ad hoc, and be a program that has form, purpose and direction. General programs of work in the schools have careful documentation that outlines the concepts and skills that the students will be taught, and the order they will be taught in. There must be clear aims and objectives, which provide direction and purpose. The same structure and direction is necessary for programs for gifted students if they are to be successful (Wilson, 1996).

Braggett (1994) has proposed what he labels a defensible classroom model for planning gifted education programs in the mainstream classroom. The following diagram is based on the program he suggests, and modified according to the literature review.

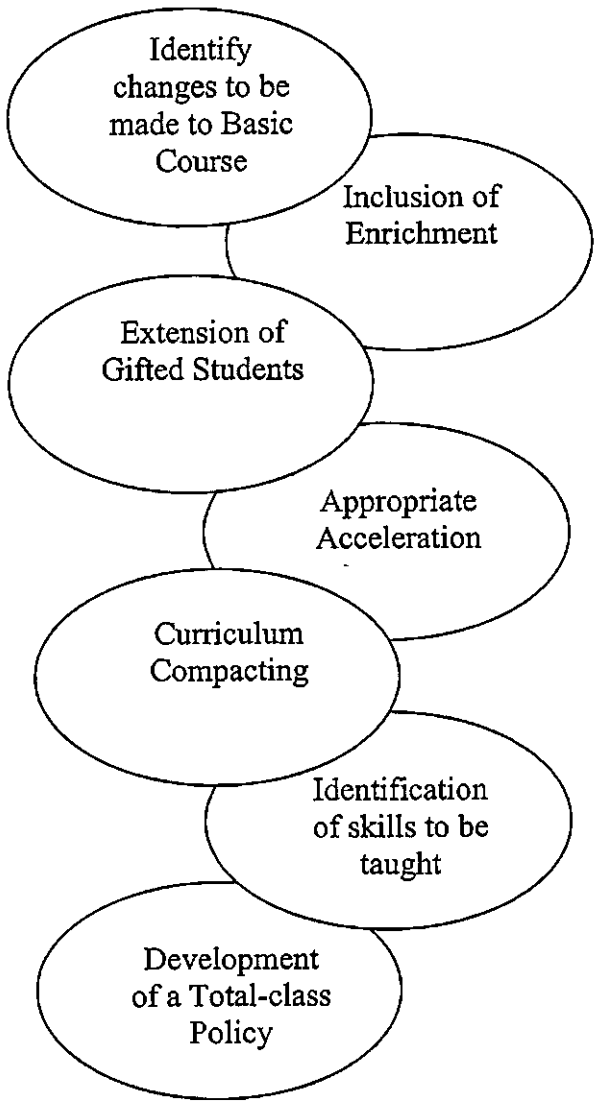


Figure 2.2 A total-class approach (Braggett, 1994)

Chapter 3
Research Methodology

Introduction

This chapter outlines the research methodology for this study used in obtaining results for research and analysis. It describes the subjects, and survey instrument, and provides a discussion of the survey instrument, the procedure, and the data analysis process.

Subjects

A total of 27 principals responded to the survey instrument, representing 2899 students in all. The average number of students in each school was 107, with schools ranging in size from eleven students to 373 students. The number of staff ranged from sole charge schools to schools with 17 full-time teachers. Schools also differed in the number of specialist teachers present in the school. Some schools had no specialist teachers while others had up to three.

Survey Instrument

A comprehensive questionnaire was the only survey instrument used to obtain data from the subjects. The questionnaire was developed based on information gathered in

research. Members of the Faculty of Education at Avondale College edited the questionnaire before the main data collection was conducted. The questionnaire was composed of twenty-five questions providing both qualitative and quantitative data. The questions covered aspects of gifted education that were pertinent in identifying the provisions being made for gifted students. See Appendix 2 for a copy of the survey form.

Discussion of Survey Instrument Questions

The survey instrument was designed to collect responses that would provide data to answer the research questions outlined in Chapter 1. The questionnaire was divided into 5 sections. Section one (questions 1-7) served to determine the demographics of the school in relation to student and teacher numbers. Section 2 (questions 8-9 related to the provisions being made in relation to gifted education policy and programs. Section 3 (questions 10-13) sought to uncover the driving force behind the gifted education program, the priority placed on gifted education by the school through allocated funding, and the qualifications of teachers in the school in relation to gifted education. Section 4 (questions 14-21) aimed to determine how gifted education was implemented in each school - from identification to programming and extra-curricula activities. Finally, section 5 (questions 22-25) strove to gain further insight into the concerns and attitudes of principals by using open-ended questions.

Section 1 (see Appendix 2)

Section one was designed to provide information relevant to research questions 1, 2, 3 and 4. Question one was designed to give an idea of the size of the school and calculate the proportion of gifted students, relevant to research question 1. In order to answer research question 2, the number of students was divided into male and female totals for questions one and two to determine if the ratio of gifted males to gifted females corresponded both with the literature and with the ratio of males to females in the total school population. Information regarding the number of teachers employed at the school (question 3) could be compared with the number catering for gifted students in their classrooms (question 4) to determine the ratio of those catering and those not catering for the needs of gifted students, and therefore determine the extent of provision being made (research question 4). The number of specialist teachers (question 5), the fields they work in (question 6), and the number of specialists for gifted students (question 7) disclosed school demographics and educational priorities, relevant to research question 3.

Section 2 (see Appendix 2)

This section aimed to gain an insight into the policy and practice of schools in relation to gifted education, in order to provide answers for research question 4. Question 8 looked for the presence of a gifted education policy in each school. If schools had a

policy, the content was useful in determining how gifted education was viewed in each school. If the school had no policy, it was requested that reasons for not having one be given. The same process was applied to question 9 relating to a school-wide program.

Section 3 (see Appendix 2)

Section 3 aimed to identify results in three areas relating to gifted education. Firstly, the person responsible for initiating the establishment of a gifted program was identified to establish where the push for gifted education came from (question 10). Question 11 aimed to find the level of funding available for special education children at both ends of the spectrum. A comparison between the value of funding for gifted education and children with other special needs was sought to provide an insight into the priority placed on gifted education in relation to the education of other special needs, and was relevant to research question 3. Information was sought regarding the resources available to teachers for the education of gifted students both within and outside of the school (question 12) in order to answer research question 3. Furthermore, question 13 sought to determine what teacher professional development has taken place during 2000-2001, and between 1995-1999 to answer research question 6. As teachers' identification rate is affected by their knowledge of gifted education (Commonwealth of Australia, 1988; Gear, 1979, cited in Landvogt, 1997; and Gibson, 1996), it was seen as an important link to the rest of the questionnaire.

Section 4 (see Appendix 2)

This section investigated the implementation of programs and policies for the education of gifted students in each school, and provided information relevant to research questions 4 and 5. Various forms (question 14) and frequencies (question 15) of identification were explored, along with programming strategies (question 16) and their implementation (question 17). It also explored the provision of extra-curricula activities, both within (question 18) and outside (question 20) of the school, along with the number of hours per week that this takes place (questions 19 and 21).

Section 5 (see Appendix 2)

This section focuses on the concerns and challenges faced by teachers, along with any success stories. Additional comments were requested. This section allowed open-ended responses. It was hoped that this section might shed light on the issues that need to be addressed in relation to gifted education in Seventh-day Adventist Schools in Australia.

Response Rate

The survey was sent out to all fifty Seventh-day Adventist Primary School principals. Thirty responses were received. Three of the thirty schools returned the surveys without completing them. School 7 responded by saying, "Not applicable for our

school". Other reasons for not completing the survey were that: "I do not have any gifted and talented students this year" (school 21), and an apology for not filling in the survey (school 24) as the principal had recently taken over at the school and felt unable to accurately comment on the students' abilities at that time. Analysis of results was therefore limited to the 27 responses that contained meaningful data.

Procedure

An extensive literature review was conducted, including material from a wide range of sources, to enable the development of a questionnaire. The literature review formed a basis for comparing the results obtained in the survey to current research.

Comparisons needed to be made between the provisions made by the State Departments of Education in Australia, and those made by the Seventh-day Adventist Department of Education. Contact was made with the Department of Education and Training in Newcastle in order to locate a state policy for gifted education. However, no significant information was obtained. Internet sites were used to locate the policies for gifted education of each state in Australia. To determine the presence or absence of a gifted education policy in the Seventh-day Adventist Education System, contact was made with Dr Don Roy, head of the South Pacific Division Education Department. Dr Don Roy confirmed via email correspondence that no such policy existed in the Adventist Education System (see Appendix 1).

A questionnaire was constructed to send to the various principals of all Seventh-day Adventist Primary Schools in Australia. The questionnaire could not be piloted in schools as every Seventh-day Adventist Primary School in Australia was being targeted as a subject. To ensure that the questionnaire was accurate and would return pertinent information, lecturers in the Avondale College Faculty of Education were involved in proofreading the survey instrument. Feedback from these lecturers assisted in formulating the final format of the questionnaire. Once the questionnaire was completed, a research design proposal was submitted to, and approved by, the Avondale College Human Research Ethics Committee (HREC) (see Appendix 3).

The survey instrument was then posted to each of the fifty Seventh-day Adventist Primary Schools in Australia, with a requested return period of two weeks. Following a waiting period, a reminder notice was faxed, along with another copy of the survey. Principals were given the option of replying by post or returning their survey by fax to the office of the Faculty of Education at Avondale College. Following this action, the reply rate was still not high enough to obtain accurate results. An increase in the response rate was required to produce a more accurate picture of the provisions being made for gifted students. To achieve this, contact was made with Dr John Hammond, Education Director of the Australian Union Conference of Seventh-day Adventists. A copy of the survey and consent form were forwarded to Dr Hammond who distributed them with an attached letter.

Of the total number of surveys returned, 6 were missing basic information such as the number of teachers and the number of students. These schools were contacted by phone to gather the data.

The collected data was analysed using both quantitative and qualitative methods.

Data Analysis Process

In order to answer the research questions posed in Chapter 1, both qualitative and quantitative measures were incorporated into the analysis of the data. Data from sections 1-4 of the survey was collected using quantitative measures, while data concerning the final section of the survey, section 5, was collected through qualitative techniques.

Quantitative data results were processed using SPSS. Cross tabulations were processed to find if any relationship between the various items in the survey were of significance to the study.

Because of the small sample size, qualitative data was entered into a chart and the concerns, challenges, and other significant matters were plotted against each school. From this, trends could be seen in relation to each of the three survey items.

Chapter 4
Findings

Introduction and Overview of Findings

The following summary of findings provides details of the answers given in each section of the survey as they relate to the research questions proposed in Chapter 1.

Section 1

As previously outlined, Section 1 (questions 1-7), served to determine the demographics of the school in relation to both students and teachers. It focused on the collection of meaningful data to provide information in respect to research questions 1, 2, 3, and 4.

School Category

To enable comparisons between the provisions made in schools of varying sizes, schools were divided into five categories according to the size of the school. The categories are as outlined below:

Category 1: Schools with 50 students or less

Category 2: Schools with 51-100 students

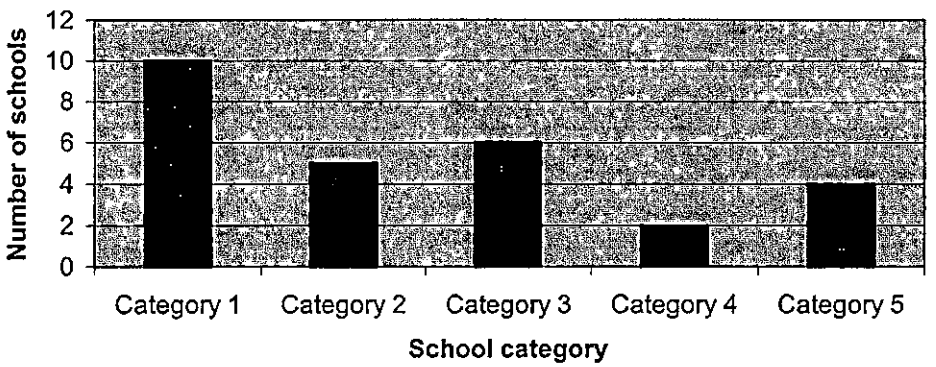
Category 3: Schools with 101-150 students

Category 4: Schools with 151-200 students

Category 5: Schools with more than 200 students.

As can be seen in the graph in Figure 4.1, most of the responding schools were small schools, with 10 schools from category 1 responding. Category 2 and category 3 also demonstrated responses numbering five and six, respectively.

Figure 4.1
Number of students in each school category



Number of Students in the Survey

The total number of students, and the number of gifted students in the responding schools are shown in figures 4.2 and 4.3, respectively.

Figure 4.2
Number of students covered by the survey according to gender

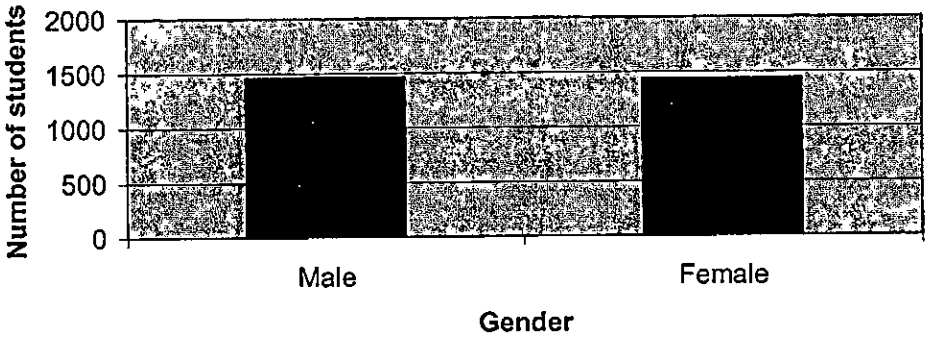
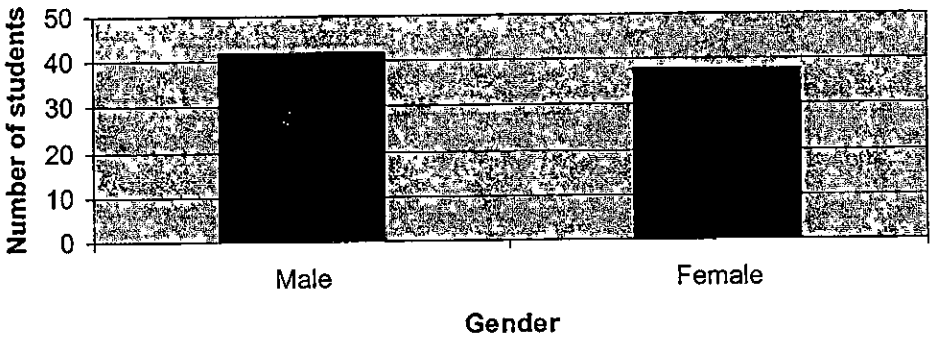


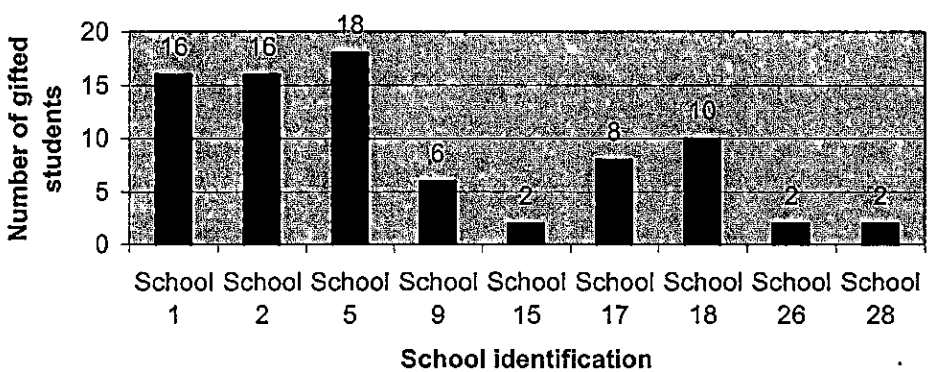
Figure 4.3
Number of gifted students covered by the survey according to gender



As can be seen from the graph in Figure 4.2, there was a total of 2899 students represented. Figure 4.3 shows that 80 of these students were identified as gifted, of whom 42 were male and 38 were female.

Specific numbers of gifted children identified in each school are outlined in Figure 4.4, below.

Figure 4.4
Number of gifted students specific to each school

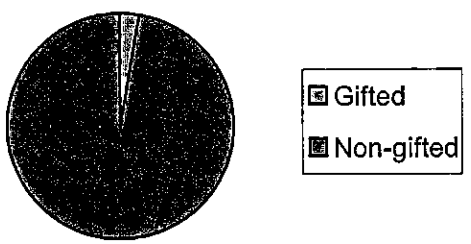


From the graph in Figure 4.4 it can be seen that schools 15, 26, and 28 have only 2 gifted students in each school, while school 5 has the highest number of gifted students with a total of 18. The schools not included in this graph have not identified gifted children within their school.

Ratio of Gifted to Non-gifted Students

The overall proportion of gifted students as well as the proportion of gifted students in individual schools is shown in figures 4.5 and 4.6, respectively.

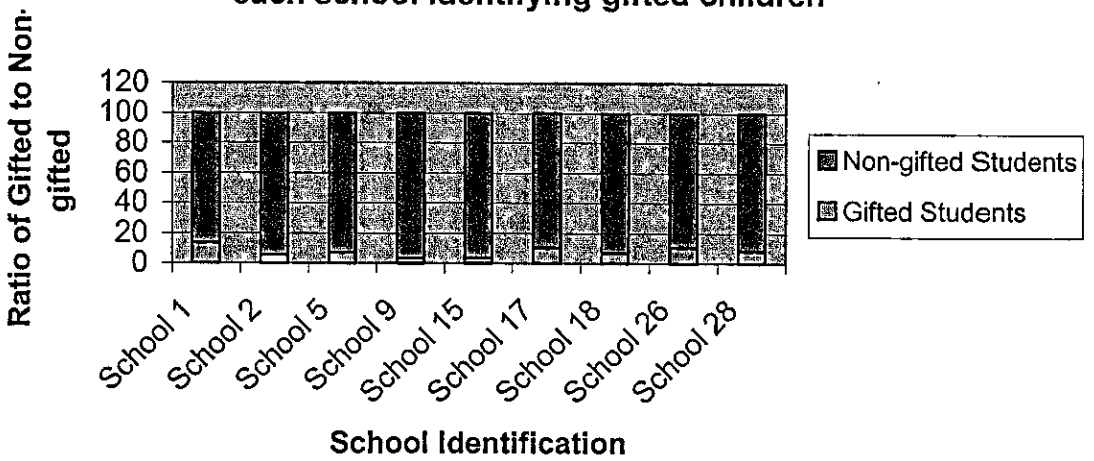
Figure 4.5
Total ratio of gifted to non-gifted students



The average proportion of gifted students throughout the system was equal to 2.76 percent, as indicated in Figure 4.5.

Specific school ratios are represented in Figure 4.6, below. Only schools that have identified gifted children are represented in the graph below. It can be seen that school 1 had the greatest proportion of gifted students to the general school population, with 13.6 percent of its school population identified as gifted. School 9 had the lowest proportion of gifted students at 3.2 percent of the total population.

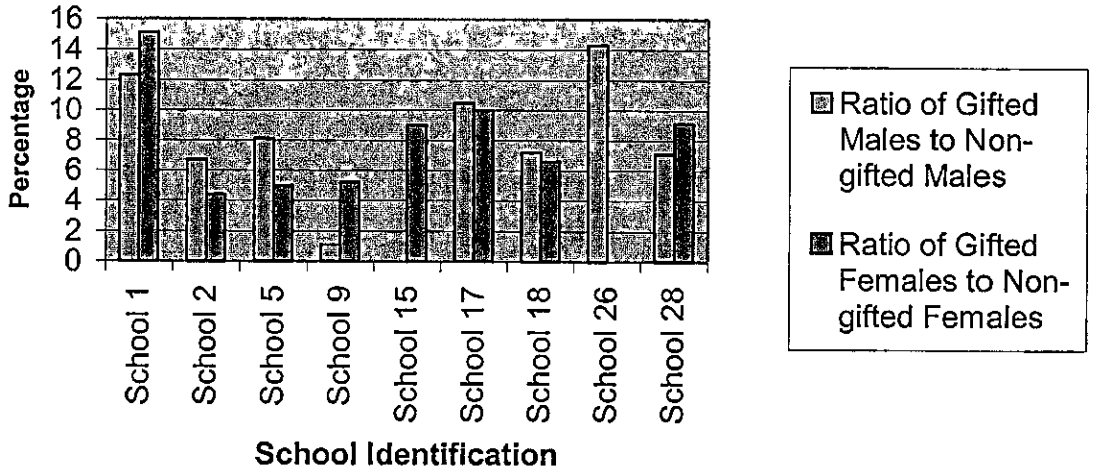
Figure 4.6
Ratio of gifted students to non-gifted students specific to each school identifying gifted children



Ratio of Male to Female Students Included in Gifted Programs

Figures 4.2 and 4.3 reveal that the overall average produced a close split between male and female gifted students, similar to that demonstrated in the general school population. Information specific to the male-female ratio of gifted students is outlined following in Figure 4.7.

Figure 4.7
Ratio of gifted males and females to the total school population



In Figure 4.7 above, it can be seen that, of the nine schools that identified children in their schools as gifted, schools 17 and 18 had identified a close ratio of male to female gifted students when compared to the school population of each sex. Schools 1, 2, and 28 had reasonably close proportions, but not as close as those mentioned previously. School 5 had almost twice as many males represented while school 26 had a significantly high proportion of males and no females. Conversely, school 15 had a high proportion of females and no males.

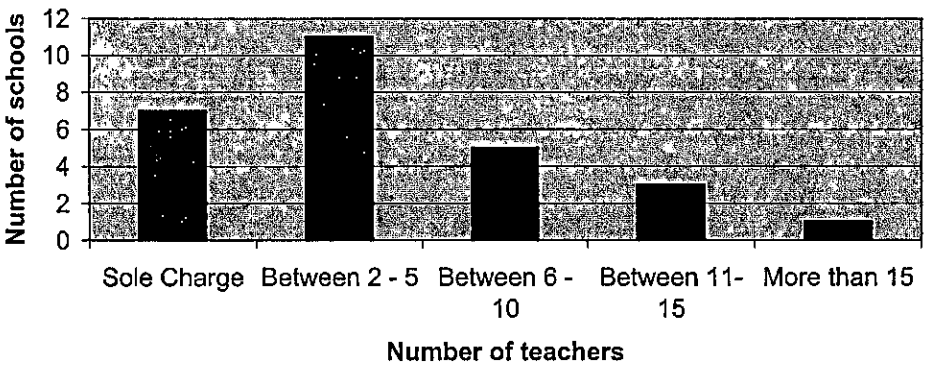
Number of Teachers

This section defines the number of teachers in each school, the proportion of teachers who cater for gifted children in the mainstream classroom, the number of specialist

teachers and the number of gifted specialists as outlined in figures 4.8 – 4.11, respectively.

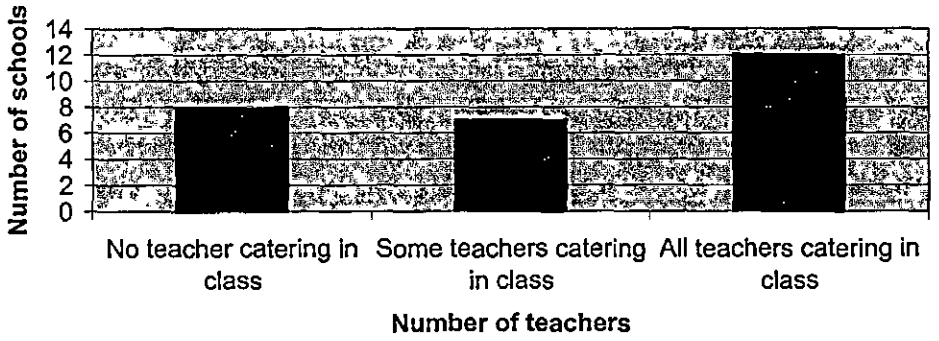
The number of full-time teachers at each school is explored in the graph below in Figure 4.8. The average number of full-time teachers employed in the schools was 4.89. This figure ranged from sole charge schools to schools with up to 17 full-time teachers. Small schools dominate the graph with schools of between 2-5 teachers being most common. Sole charge schools were the second most frequent.

Figure 4.8
Number of full-time teachers employed by the school



It can be seen below that Figure 4.9 explores the proportion of teachers who cater for gifted children within the mainstream classroom.

Figure 4.9
Number of teachers catering for gifted students in-class



It was found that while some teachers catered for the gifted students in their classrooms, others did not. Figure 4.9 shows that a total of 12 schools claimed to have all teachers catering for gifted students in the mainstream classrooms. Of these schools, however, nine claimed to have no gifted children. The proportion of teachers who did cater for gifted children to the total number of teachers across the surveys was 44 percent.

Specifically, the schools that had all teachers catering for the gifted students in their classroom were schools 3, 6, 8, 12, 13, 15, 22, 23, 25, 26, 28 and 30. Eight schools acknowledged that none of the teachers in the school catered for gifted students in their classrooms including schools 4, 9, 10, 11, 14, 19, 27, and 29.

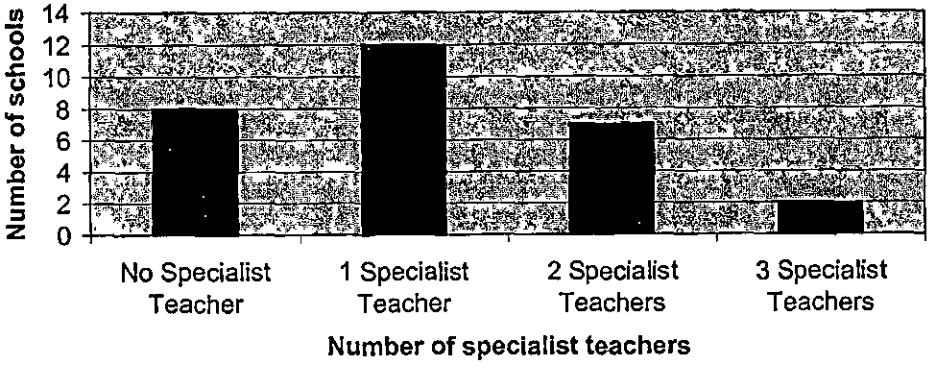
The school with the lowest ratio of teachers catering for gifted students within the mainstream classroom was school 10, which had 10 full-time teachers, none of whom

catered for gifted children in the mainstream classroom. From a total school population of 119 students, this school did not identify any students as gifted.

Another school that produced conflicting results was school 6 which claimed to have all 17 teachers catering for gifted students in their classrooms, yet also claimed to have no gifted students out of a total school population of 373 students.

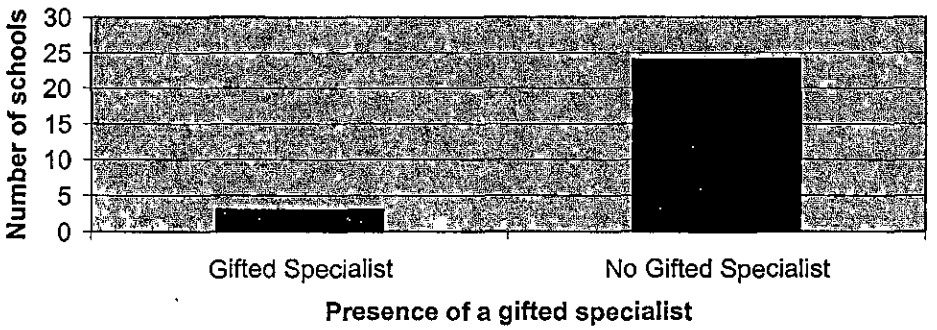
The number of specialist teachers employed across the schools in varying number is shown in the results below in Figure 4.10. The numbers of specialist teachers ranged from having no specialist teacher in the school to having as many as three. It was most common for schools to have one specialist teacher, with 12 schools in this category. Eight schools had no specialist teacher, followed by two and three specialist teachers respectively.

Figure 4.10
Number of specialist teachers at each school



While Figure 4.10 shows that the majority of schools had at least one specialist teacher, Figure 4.11, shown below, indicates that only a small number of schools had the presence of a specialist teacher in the area of *gifted* education. Question 7 was used to determine the presence or absence of a gifted specialist teacher at each school, the graph below in Figure 4.11 shows that only three schools had a gifted specialist.

Figure 4.11
The number of schools that have a gifted specialist teacher



The greatest difference in the number of gifted specialists to other specialists was in school 25, which had no gifted specialist teacher and three other specialist teachers.

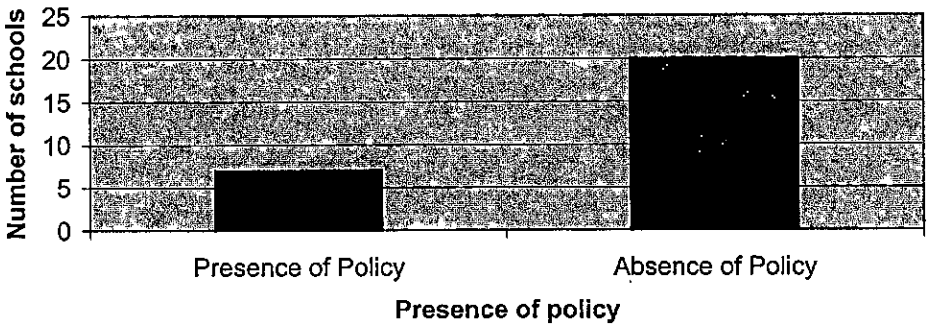
Section 2

This section of the survey aimed to answer research question 4 with particular reference to the extent of provisions made for gifted students by examining the presence of a policy and/or program for the education of gifted students.

Presence of a Policy Regarding Gifted Education

The presence or absence of a gifted education policy in the schools is outlined below in Figure 4.12.

Figure 4.12
The presence of a school policy regarding gifted education

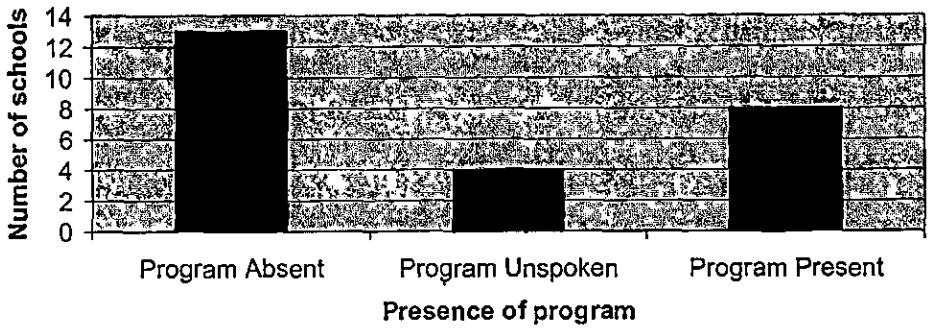


The results indicated in Figure 4.12 above show that twenty schools responded that they did not have a school policy regarding gifted education and seven schools responded that they had a school policy in relation to the education of gifted children. It can be seen in Figure 4.12 that almost two thirds of respondents indicated that they did not have a gifted education policy, and approximately one-third claimed to have a policy regarding gifted education in their school.

Presence of a Program Regarding Gifted Education

The graph shown below in Figure 4.13 outlines the number of schools that have a *program* for gifted children. Seventeen schools responded that they did not have a school program regarding gifted education. Conversely, eight schools responded that they did have a program. Further analysis suggests that while seventeen schools responded that they did not have a program, additional questions relating to how a gifted program was implemented were answered. This is seen to indicate the presence of an unspoken program. Four schools were found in this category. Even when the total numbers of programs and unspoken programs are combined, they still fall below the number of schools without a program. The results have been graphed below in Figure 4.13.

Figure 4.13
The presence of a program for the education of gifted students



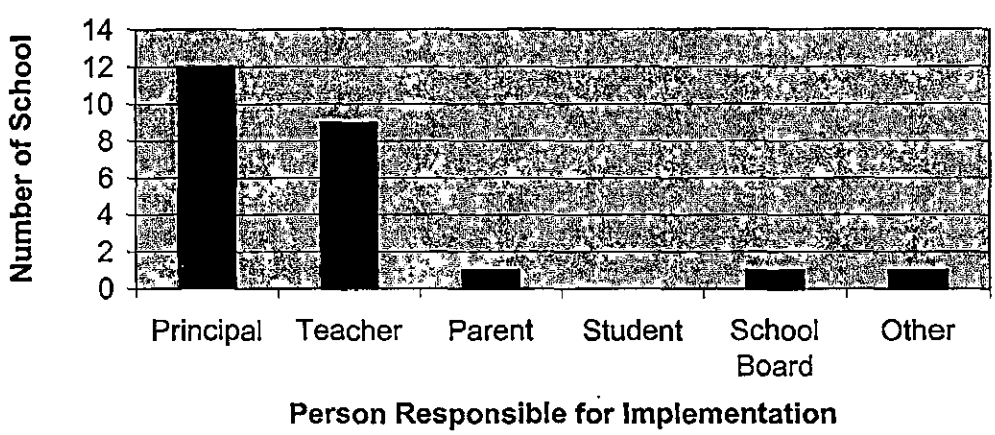
Section 3

Section 3 aimed to answer research questions 3 and 6 outlined in Chapter 1. This was done with reference to the initiation of a gifted education program, funding, resources, and teacher professional development in the area of gifted education.

Initiation of Establishment of Gifted Education Program

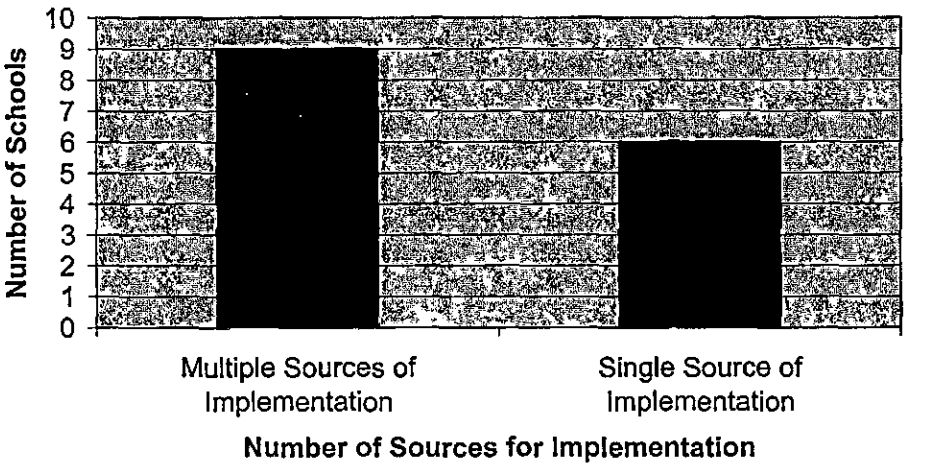
Initiation of the establishment of a gifted education program came from a variety and combination of sources as seen below in Figures 4.14 and 4.15. It can be seen from the graph in Figure 4.14 that initiation came primarily from within the school, either from the principal, a teacher, or both. Students were not responsible for the establishment of a program in any of the schools. Parents, the school board, and other means of establishment were each mentioned by only one school.

Figure 4.14
Persons identified as responsible for the implementation of a gifted program



The number of sources responsible for the implementation of a gifted program may be either single or multiple sources. It can be seen in Figure 4.15 that nine schools reported having a gifted program established by more than one source. Six schools had a program implemented by only one source.

Figure 4.15
Number of sources responsible for implementation of a gifted program



Funding Available for Gifted Students

The available funding is categorised into those schools that have funding for both gifted education and other special needs, and those schools that provide a budget only for children with other special needs, seen in figures 4.16 and 4.17, respectively.

Figure 4.16
Percentage of school budget for gifted and other special education

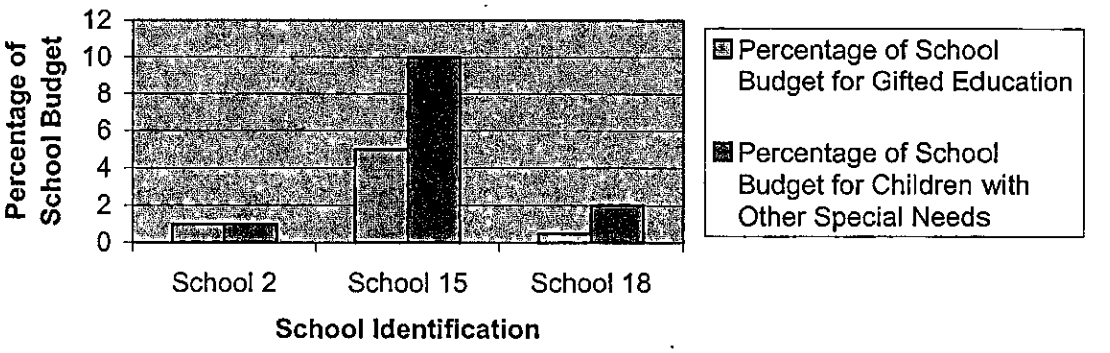
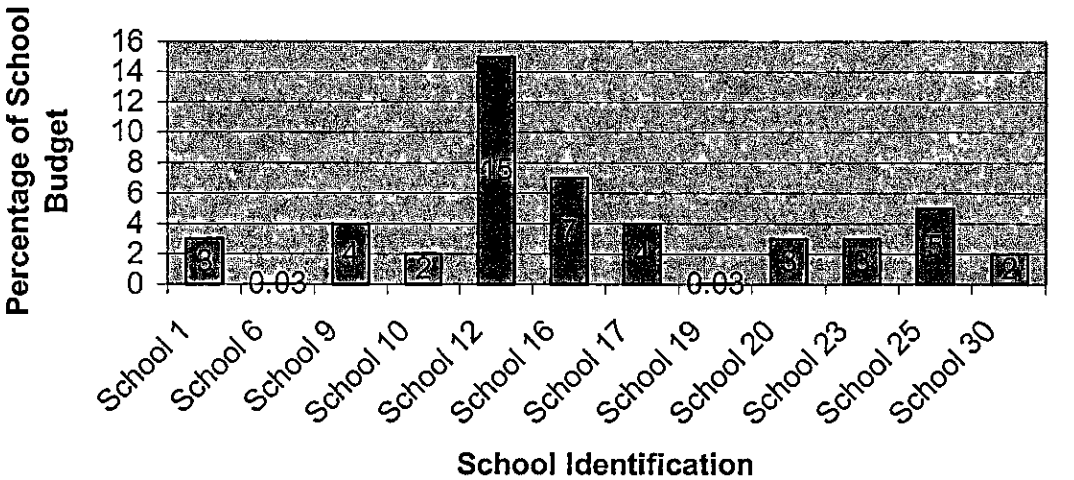


Figure 4.17
Percentage of school budget for children with other special needs



Only three schools out of 19 that responded to this item have any funding for gifted education. Of those schools with a budget for gifted education, the level of funding for gifted education is seen in Figure 4.16 to range from no funding up to five percent of

the total budget. School 15 received the highest level of funding at 5%, while school 18 received the lowest percentage of those schools that received any funding, receiving only 0.50% of the budget for gifted education. School 2 was the only respondent that had equal funding for gifted children and children with other special needs at 1 percent for each. Figure 4.16 above shows that no school in the study had a greater budget for gifted education than for the education of children with other special needs. The average level of funding for gifted programs was 0.342 % across 19 schools.

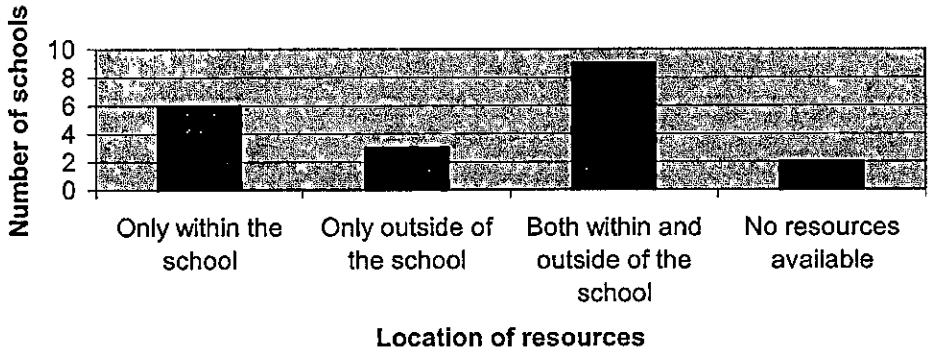
The 16 schools that did not allocate any funding to gifted education programs are identified in Figure 4.17. An overwhelming trend seen in Figure 4.17 above is that schools are spending a considerably greater percentage of the budget on the education of children with other special needs than on children who are gifted. For example, school 12 spends 15% of the budget on education of children with other special needs, while schools 6 and 19 spend only 0.03% of the budget. No attempt has been made to determine the exact nature of the other special needs discussed in this survey item.

Resources Available to Teachers for the Education of Gifted Students

It can be seen in Figure 4.18 below that, out of 20 schools that responded to this question, 18 schools had access to resources either within the school or from outside of the school, or both. Two schools suggested that they had no access to resources for the education of gifted and talented children, either within the school or outside the school. Eight schools identified resources both within and outside of the school, and six schools

identified resources only within their school. Two schools identified only resources outside the school. Both of these schools were sole charge and may have limited resources within the school.

Figure 4.18
The availability of resources for the education of gifted students



Teacher Qualifications and Professional Development

Teacher professional development over two time periods, 2000-2001 and 1995-1999, is illustrated in figures 4.19 and 4.20, respectively. The graph in Figure 4.19 shows that teacher professional development in relation to gifted education for the period of 2000-2001 was limited to five schools. As a total of 25 schools responded to this item, it is seen that only one school in every five surveyed had participated in teacher development regarding gifted education in 2000-2001.

Figure 4.19
Teacher professional development in the time period 2000-2001

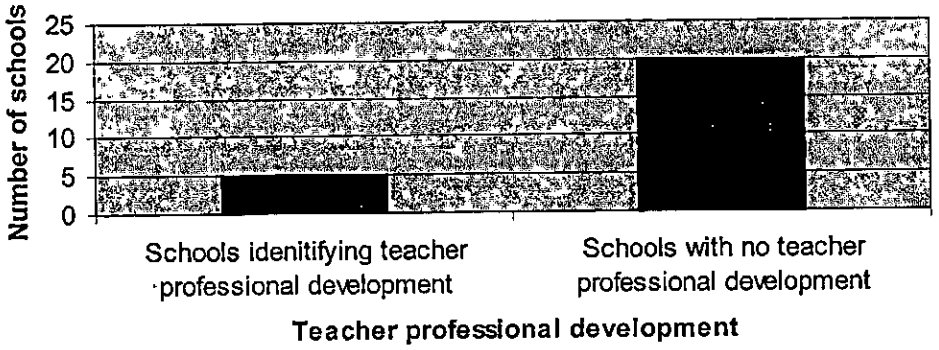
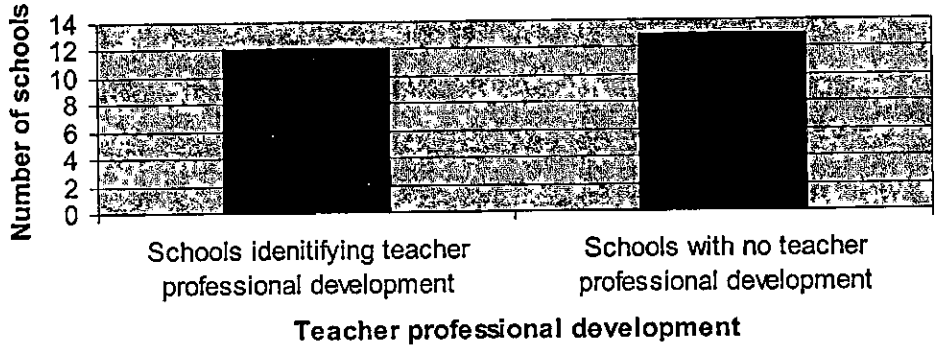


Figure 4.20 shows that in the preceding period, 1995-1999, 12 schools out of a total of 25 had taken part in teacher professional development in relation to gifted education. The number of schools with no teacher development was greater in this period also, but by a far smaller margin.

Figure 4.20
Teacher professional development in the time period 1995-1999



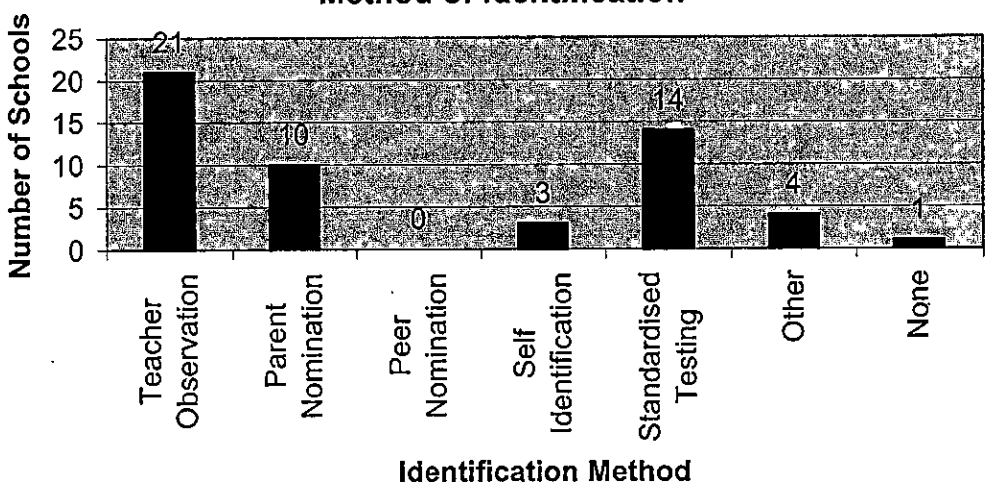
Section 4

As previously outlined in Chapter 1, this section of the questionnaire focused on the implementation of gifted strategies in relation to identification, frequency of testing, teaching methods and programming strategies, extra-curricula activities in and outside the school, and time spent by students in gifted education programs. These aspects of gifted education were analysed primarily in response to research questions 4 and 5.

Method of Identification

The following graphs in figures 4.21 and 4.22, respectively, outline the methods of identification used by the various schools, and identify how many schools use singular, multiple or no method of identification.

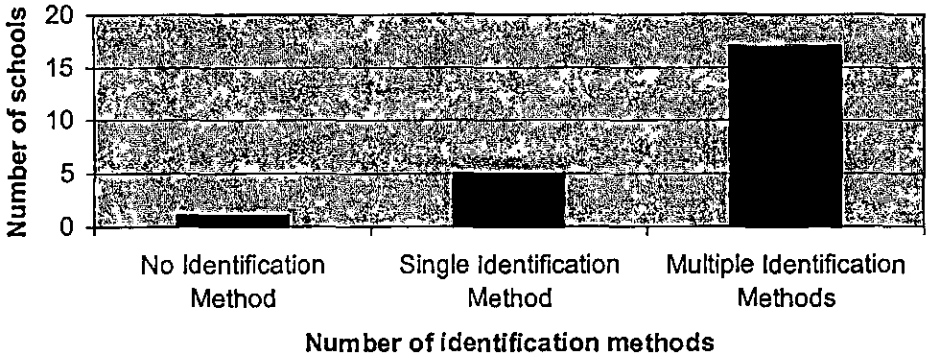
Figure 4.21
Method of identification



Examination of the results in Figure 4.21 above shows that the most common form of identification used by the schools is teacher observation, followed by standardised testing and parent nomination. Finally, other forms of identification, self-identification, and no form of identification are listed. No school listed peer nomination as a method of identification.

The graph in Figure 4.22 shown below indicated that six schools used only one form of identification while 17 use a combination of methods.

Figure 4.22
Use of multiple identification methods



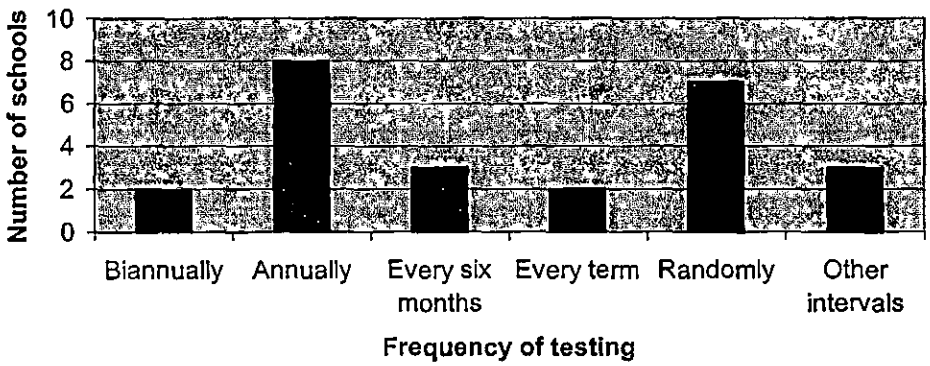
Of those schools shown above in Figure 4.22, only two forms of identification are found in schools that use only one method of identification. Teacher observation is the

primary form of identification (three schools), followed closely by standardised testing (two schools).

Frequency of Testing

The rate of testing is analysed in relation to the frequency of testing shown in Figure 4.23. Testing for the presence of gifted children in the schools was most often conducted annually, with eight schools doing so. Random testing was also shown to be a popular frequency with seven schools identifying random testing as the frequency used in their school. Two schools tested biannually, two tested every term, while three tested at other intervals and three tested every six months.

Figure 4.23
Frequence of testing



Programming Strategies

Programming strategies are outlined in two areas, the number of programming strategies, and the type of programming strategies, graphed below in figures 4.24 and 4.25, respectively.

Figure 4.24
Number of programming strategies used

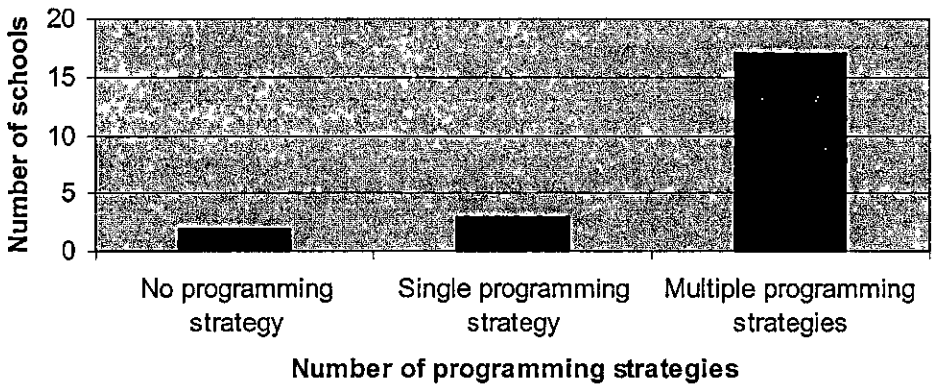
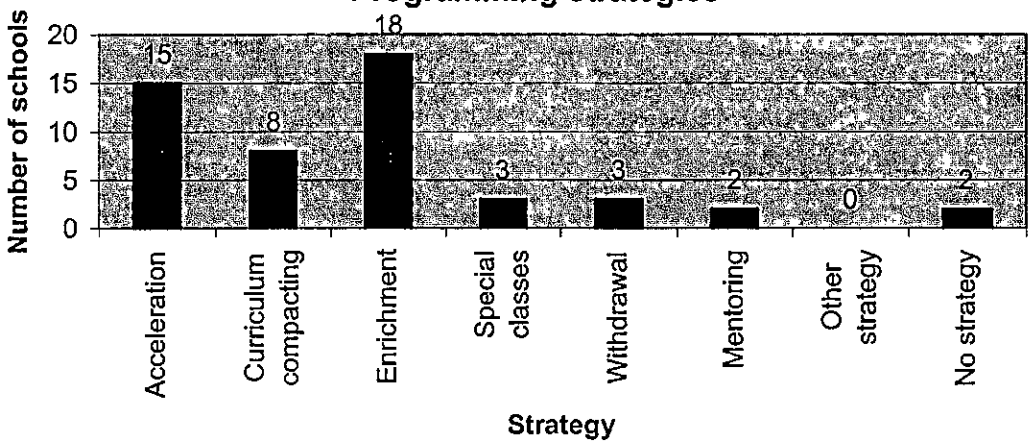


Figure 2.25
Programming strategies



It can be seen above in Figure 2.24 that seventeen schools used a combination of programming strategies, three used only one strategy, and two schools used no programming strategy.

The most common programming strategy is revealed in Figure 2.25 as enrichment, which 18 schools used, followed closely by acceleration, which was used in 15 schools. Eight schools used curriculum compacting, followed by special classes and withdrawal, with three schools each using those strategies. Mentoring and no strategy scored very low in the responses with only two schools identifying the use of each. No 'other' programming strategies were reported by any of the schools.

Extra-curricular Activities at School

The provision of extra-curricula activities for gifted students within the school is examined in relation to activities provided within the school in Figure 4.26, and in relation to activities provided outside of the school in Figure 4.27.

Figure 4.26
Provision of extra-curricula activities within the school

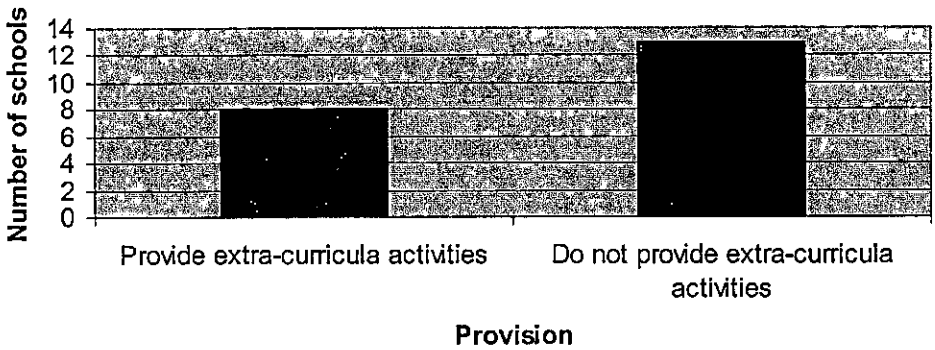
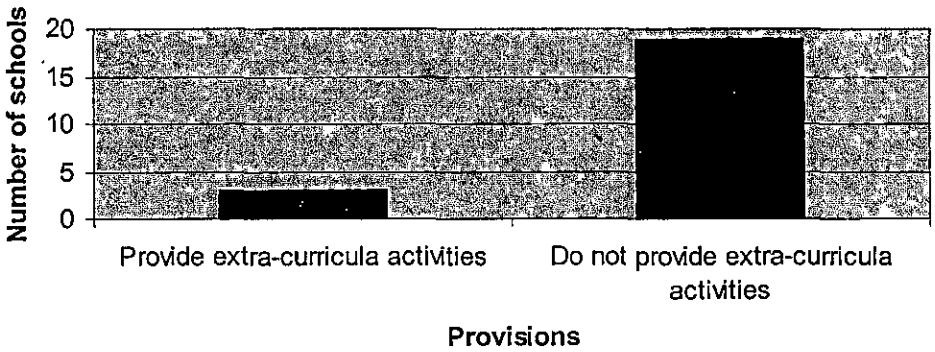


Figure 4.26, in the graph above, shows that only eight schools provide extra-curricula activities for gifted students at their school compared to 13 schools that do not provide this activity.

It can be seen below in Figure 4.27 that three schools responded saying they do provide extra-curricula activities for gifted students outside of the school, while in contrast to this, 19 schools do not send their children to programs for the education of gifted children outside the school.

Figure 4.27
Provision of extra-curricula activities outside of the school



Time Spent in Gifted Programs

The amount of time spent in gifted education programs is calculated for time spent within the school in Figure 4.28, and time outside the school in Figure 4.29.

The total number of hours spent, within the school, by gifted students across all the schools responding to the question was 46 hours. This total was spread over 21 schools, with 10 schools spending no time in gifted education within the school. The amount of time spent in gifted education within the school ranged from no time, recorded by 10 schools, to 12 hours per week in two schools. The following graph in Figure 4.28 lists only the number of hours specified by the schools.

Figure 4.28
Number of hours per week spent by students in gifted education within the school

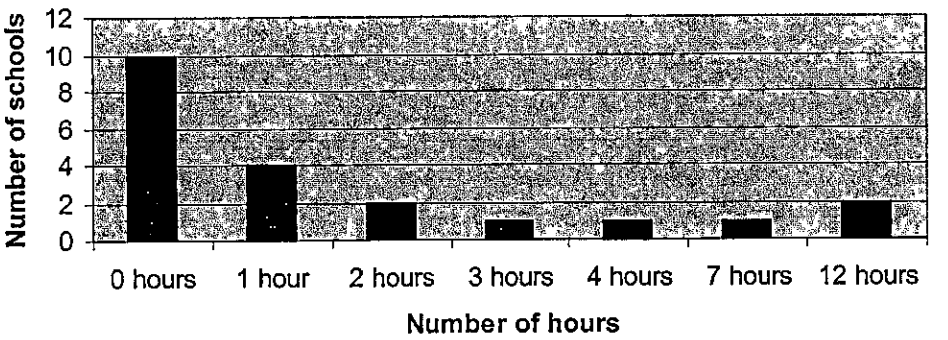
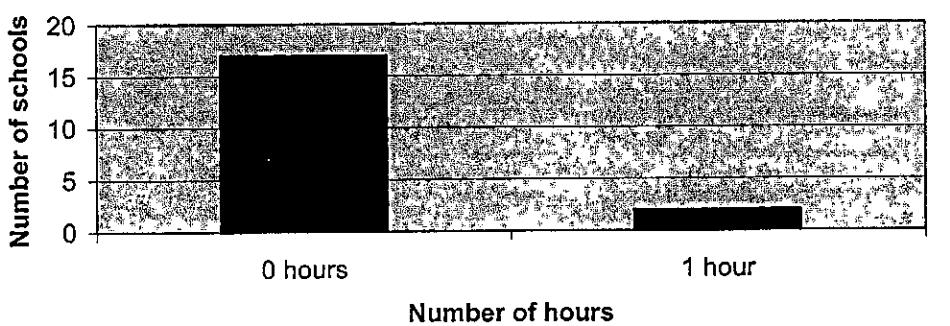


Figure 4.29, shown below, reveals that the total amount of time spent out of school across the schools was two hours. This total was spread across 19 schools with only two schools spending time out of school in gifted programs. The remaining 17 respondents to the question revealed that no time is spent outside the school. Finally, it can be calculated that gifted students spend an average of 2.19 hours in gifted education within the school, and only 0.11 hours outside the school.

Figure 4.29
Number of hours per week spent by students in gifted education outside of the school



Section 5

Section 5 of the survey contained open-ended questions. It sought to establish the concerns, challenges, success stories and significant matters identified and, in some cases, prioritised by the schools.

Challenges

Seven schools did not respond to this survey item. However, the responses for this item were wide and varied. Despite this, some trends did become apparent on close analysis. By far the three most challenging issues were finance, time, and staff. Further challenges were mentioned in relation to resources. The responses have been loosely divided into five sections, namely:

(1) Time

(2) Finances

(3) Staff

(4) Program development and resources

(5) Logistics

These sections will be further detailed and discussed in the following pages.

Time

Three main themes in relation to time were identified through the responses, namely: time to find teachers and resources, time to meet individual needs in the classroom, and time to prepare extension work for gifted students.

Two schools identified time to find teachers and resources as significant challenges for their schools. Challenges in relation to time to meet individual needs in the classroom were identified by three schools. However, by far the major challenge in relation to time was that of preparing extension work for gifted students, this being reported by a total of eight schools.

Finances

Finances were another significant challenge faced by many schools in relation to gifted education programs. Finances were divided into two main sections, money for teachers and money for resources, with many schools identifying a combination of both.

Three schools identified funding for a teacher as a significant challenge, two schools identified money for resources as significant, and six schools identified a combination of both as a significant issue in relation to a gifted education program.

Staff

Challenges regarding staff were raised in several areas. These included introducing a gifted program for all staff (two schools), having no qualified staff (two schools), inexperienced staff (one school), and general staffing concerns (three schools).

Program Development & Resources

There were several areas in program development that presented challenges to the schools surveyed. These concerns included curriculum development (two schools), identification (one school), establishing a program (one school), not a priority (one school), and no demand (one school).

Challenges faced in relation to resources were often linked with other challenges. Three schools cited resources as a challenge to their school, and eight schools were concerned with money for resources.

Logistics

There were several areas included in the area of logistics. Challenges were faced in finding a space in which to work (one school), low socio-economic area (one school) and international population (one school), having no gifted children (one school), and small school numbers (two schools).

Other challenges

Two schools cited challenges that do not lie within the above areas. A major challenge cited by one school was that of overcoming the entrenched ideas that gifted children are all right in the classroom. Finally, one school had a challenge relating to the philosophy of giftedness.

Concerns Regarding Implementation of Gifted Education Program

While 14 of the 27 schools did not respond to this item, concerns raised regarding the implementation of a gifted education program had some similar aspects to the challenges listed in the previous survey item.

The concerns are grouped into six main categories:

(1) Finances

(2) Staff factors

(3) Student factors

(4) Time

(5) Programming

(6) Resources

The above concerns are discussed in further detail in the section below.

Finances

Of the schools that replied, five cited financial concerns regarding the implementation of a gifted program. Three of these schools cited money as their primary concern, one as its second concern, and one as its third concern.

Staff Factors

Staff factors crossed a wide area of teaching practice including staffing in general (one school), teachers reluctant to participate in a gifted program (two schools), non-acknowledgement of giftedness (one school), and staff fears of more work (one school). Further issues were raised in relation to teacher training (two schools), support for teachers (one school), the need for qualified staff (four schools), the possible need for gifted teachers to teach gifted students (one school), and the ability to motivate gifted students (one school).

Concerns about qualified staff were the most significant aspect and reflected the challenges listed in the previous survey item.

Student Factors

Student factors are also significant concerns listed by the schools. Concerns were raised over the number of students to be involved (one school), the amount of time out of class (one school), the selection of students for the program (two schools), parents pushing

for their children to be included (two schools), lack of gifted students (one school), and the number of students in the school (two schools).

Time

Time was listed as a concern from several perspectives. Five schools listed time as their primary concern regarding the implementation of a gifted program. Time was also a concern in relation to the amount of time that students may spend outside of the regular classroom (one school).

Programming

Programming was also an issue that concerned many schools. There was concern that no gifted curriculum was available in Australia (one school), that teachers had no knowledge about writing a gifted program (one school), and concern regarding identification (two schools).

Resources

Resources were also mentioned as a concern to some schools. Resources were a concern for one school, and transport and access to other programs was concerning for another.

Success Stories

As there were few schools that had programs for gifted children, the number of success stories was quite small. Nevertheless, there were nine schools that reported success stories. A selection of these is shared below.

School number 2 identified that while their gifted education program was relatively new, their success was seen in "the enthusiasm of the children and how they never forget to come to the enrichment class..."

School 5 reported that "the programme appears very popular with students now...some gifted underachievers have shown marked improvement in the classroom". (*NB: This school followed a program designed for gifted underachievers).

School 12 reported that "Last year 40% of our Gr 7 class were accepted into the Gifted Programs at State Schools...These kids were 'eccentric' in many ways and didn't fit your 'achieving gifted' profile".

School 15 told of, "2 students accepted into Special Stream for gifted kids at High school".

School 17 had "All pupils involved in [a gifted program] who sat for scholarship exams for high school were successful".

School 18 had students report that "it is the highlight of their week" and that they were "...fully engaged in an activity for a full hour".

School 20 acknowledged that "gifted students work closer to their potential".

School 26 reported that, "One of our gifted children entered High School a year ahead of regular schedule. He has thrived at High School (socially, emotionally and educationally)."

Finally, school 27 reported that children had won prizes in a writing competition, and that "several of the children here have won prizes in various music competitions".

Significant Matters

Only 10 schools chose to comment on significant matters. However, their responses were valuable in shedding light on the attitudes, concerns and responses of the schools to gifted education.

School 2 suggested, "Gifted programs do not have the same acceptance as support programs. But even a little program can bring rewards".

School 4 stated, "From my experience, most teachers struggle with GAT [Gifted and Talented] children, simply because they don't have the expertise". They further pointed out, "There is also a problem in our [the Seventh-day Adventist] school system of time and money".

School 5 indicated that the school is "aiming to move into the classroom with more work on curriculum compacting and tiered programmes of work". This school was also chosen as one of only 12 in the Brisbane area to receive the Unicorn* Grant.(*NB: The Unicorn Program, described previously in Chapter 2, is a program for the education of gifted children with a particular emphasis on underachievers.)

School 9 said that while they struggled with trying to help lower students, that was not to say that they would not develop a program in the future for gifted students.

School 10 touched on a very relevant point: "Qualification for teachers to gain accreditation is lacking as Avondale College does not cater for this need". They also questioned what the Education Department of Avondale College would do to "improve the quality and qualification for gifted and special needs teachers in SDA schools?"

School 12 commented, "As a school we have developed a G&T focus." They also acknowledged, "Not all people are comfortable with the idea and see it as elitist".

School 15 raised the concern that it was a small school and didn't always have 'gifted' students.

School 18 aimed high and suggested that it would "love to see our conference/system invest in a specialist Gifted Ed teacher". It suggested that it would be great PR and a resource for teachers "who struggle to meet the needs of such [gifted] students". Most importantly, it was pointed out that "our students deserve it – every child deserves to learn at their own level".

School 19 suggested, "A structured and appropriate program would no doubt assist some of these children". However it admitted that "this has not been a priority to this point", but did acknowledge an attempt to cater for these children as well as possible in multi-grade classrooms.

Finally, school 25 recorded that "Time and resource availability are always a concern in a small country school".

Cross Tabulations

Cross tabulations were calculated, comparing the relationship between many of the aspects of the survey. The findings were categorised according to the following areas: Influence of school category on the proportion of children identified as gifted; influence

of the presence of a school-wide policy on the percentage of the school budget spent on gifted education; teacher ability factors; method of identification; frequency of testing and identification. However, results were inconsistent, probably because (1) school principals were inconsistent in their responses (eg: school 6 which claimed to have 17 teachers catering for gifted students in-class, yet did not identify any gifted students), and (2) because of the small sample size. Because of this, no significant results were found from the cross tabulations and, therefore, cross tabulations have not been included.

Chapter 5
Discussion of Results

Introduction

This chapter looks at the data gathered though the analysis of the responses to the survey and compares these results to the literature. It is intended to create an accurate picture of both what the Seventh-day Adventist Education System is currently doing and what it should be doing.

The results are discussed in relation to the primary and secondary research questions outlined in Chapter 1. It has been attempted to answer these questions as fully and accurately as possible.

Research Question 1

Are all gifted children in the Seventh-day Adventist Education System being identified?

This question aims to discover if all gifted students in the Seventh-day Adventist Education System are being identified. This is done through comparisons between the

population of gifted and non-gifted students across the system and within individual schools. Furthermore, the presence of a gifted specialist in the schools is discussed in respect to the number of gifted students identified in this study, along with teacher participation in in-service training relating to gifted education. The system of identification used by each school is also discussed in the following section, along with the frequency of testing and identification.

Ratio of Gifted Students to Non-gifted Students

Gifted students reported in this study comprise 2.76% of the total population of Seventh-day Adventist Schools. This is just inside the expected ratio according to Gross (1993) and the Commonwealth of Australia (1988) who suggest that a minimum of three to five percent of the population will be identified as gifted, but outside of the ratio of the top 10% of moderately gifted students, suggested by Stephens & Karnes (2000), and the top 15% of age peers according to Gange (1997). While the overall ratio of gifted to non-gifted students fell within the range expected by Gross (1993) and the Commonwealth of Australia (1988), there were many schools that fell far outside of the minimum expected range. One of the most obvious examples of this was school 6, which had a total of 373 students and claimed to have no gifted children. By similar standards, school 12 had a total population of 185 students and also claimed to have no gifted students, as did school 20, with 237 students, and school 30 with 145 students and no gifted population. The expected minimum number of gifted students in each school according to the numbers posed by Gross (1993) and the Commonwealth of Australia (1988) would be 11-12, 5-6,

7-8, and 4-5 students, respectively. If the expected ratio suggested by Gange (1997) were used to determine these figures, they could be expected to be 55-56, 27-28, 35-36, and 21-22 students, respectively. It can be seen that between 2-15% of the student population, depending on the level of giftedness being targeted, are not receiving education that is specific to their learning needs.

Presence of a Gifted Specialist

The accuracy of identification of gifted students increases significantly if teachers possess appropriate information and training (Commonwealth of Australia, 1988; Gear, 1979, cited in Landvogt, 1997; and Gibson, 1996). Therefore, if a gifted specialist is present in the school, then the accuracy of identification should also be higher. Sadly, this study found that only three schools had a gifted specialist. It was noted that the schools employing a gifted specialist had fairly accurate identification rates at 5.442, 6.716 and 6.897 percents, respectively. The number of schools with a gifted specialist represented just over 10% of the total number of schools responding. It could be concluded from these figures that most Seventh-day Adventist Primary Schools were not accurately identifying gifted students, which may, in some ways, have contributed to the low numbers of gifted students reported in many schools.

Method of Identification

The method of identification can influence the accuracy of identification, particularly in relation to gifted children from other cultures (Braggett, 1985; Gallagher & Gallagher,

1994, cited in Gallagher, 2000; and Kearsley, 1991), gifted children with a low socio-economic background (Sapon-Shevin, 1996, cited in Gallagher, 2000; and Sayler & Brookshire, 1993), gifted females (Daignault et al., 1991; Winner, 1998), underachieving gifted students (Landvogt, 1997; Pirozzo, 1991) and gifted children with specific disabilities. As noted earlier, because of the limitations of this study, it could not be ascertained conclusively whether or not gifted students from these categories were accurately identified. However, the fact that two schools claimed a low-socio economic/multicultural catchment area as a reason for not having gifted students is a cause for concern.

By far the most commonly cited method of identification of gifted students was teacher observation. This raises concerns in relation to the accuracy of identification for, as previously stated, identification is far more accurate when teachers have had training and experience in the area of gifted education (Commonwealth of Australia, 1988; Gear, 1979, cited in Landvogt, 1997; and Gibson, 1996). Furthermore, teachers are likely to select conforming students (Clark, 1985, cited in Wilson, 1996; and Ward, 1962, cited in Landvogt, 1997), are only likely to select about half of the students in their class with a high IQ score (Pegnato & Birch, 1959, cited in Commonwealth of Australia, 1988), and nominate only a small percentage of gifted children. It is of even greater concern as very little teacher professional development occurs in the schools, and teachers from Avondale College receive no instruction in the education of gifted students. While most schools used a combination of methods to identify gifted students, teacher identification was

often the basis of a referral for further testing. The accuracy of teacher identification must be increased to produce more accurate results in the identification of gifted students.

The second most popular form of identification was the use of standardised tests. While standardised tests have their uses, concerns are raised regarding a cultural and physical bias (Frasier, 1989, cited in Feldhusen & Jarwan, 1993). Two schools cited that they had either a large multicultural population or children from low socio-economic background as a reason for having few gifted children. However, Kearsley (1991) believes that the ratio of gifted students should extend to all students, not just the dominant culture. Another problem associated with the use of standardised testing in the study is that many of the tests cited are not designed for the identification of gifted children. Many of the schools did not specify which standard tests were used. However, tests such as PAT Mathematics, Basic Skills, off-level teacher tests, ACER, English and Mathematics Competitions are frequently cited by those schools naming the tests used. Many of these tests are only a measure of basic skills, and, for this reason many of the suggested tests do not allow a student to demonstrate their full potential. If the test is too easy, it is possible that the student may "ceiling out" before their real potential is shown.

One school did identify that they used a recognised standardised test for the identification of gifted children – namely, the WISC III. In addition, several schools also identified the use of psychologists' reports as another method of identification.

Because researchers agree that there is no single method of identification that, on its own, provides a reliable and non-discriminatory measure of giftedness (Davis & Rimm, 1989), schools using a combination of methods are expected to be in a better position to identify gifted children. Seventeen schools used this preferred method of a combination of identification methods. While this is identified as good practice, there are still many schools that were not doing this.

Frequency of Testing and Identification

The frequency of testing and identification also has a significant impact on the reliability of identification. McGrath (1993) posits that identification needs to involve continuing assessment to reduce factors that may hinder the identification process. Only one school indicated that testing occurred over more than one time period. Testing was most often conducted annually or randomly. Other time intervals were recorded with fewer results.

However, the question remains as to whether identification times are available to each student, or whether the testing occurs at a set time and year level. That is, does the annual testing occur only once for a particular student, perhaps when they are in a particular grade level?

Research Question 2

What is the male/female ratio of gifted students?

Ratio of Gifted Males to Gifted Females

It has been established that many of the schools are not identifying the expected minimum number of gifted students. However, there is also an area of gifted education that needs to be addressed in schools that claim to identify gifted students. This area is the ratio of males to females represented in gifted education programs. Research suggests the ratio should be very close to one male to every one female according to the identification instrument WISC-R (Weschler, 1974, cited in Daignault et al., 1991). Further research by Daignault and associates (1991) found that very often the ratio of males to females in gifted education programs is not equal. Frequently, the proportion of females was as low as 30%. This gender imbalance is explored in relation to gifted children in Seventh-day Adventist Primary Schools in Australia. The overall ratio of male to female in gifted education programs is similar to that in the general population and close to 50%. In that regard, it is close to the ideal range of equal numbers of males and females (Daignault et al., 1991). However, on closer examination, it was revealed that there were many schools that had a significant discrepancy in the ratio of each sex in comparison to the general population of each sex. For example, it can be seen that school 26 had a very significant difference in the ratio of males to females. However, this may likely be due to the fact that in the general school population there were almost three

males to every female. School 15 showed surprising results with no males and a significant proportion of females.

Research Question 3

What priority does the Seventh-day Adventist Education System place on gifted education?

Establishing the priority placed on gifted education was done mainly through assessing the allocated budget for gifted education when compared to the budget for education of children with other special needs, and in the access to resources regarding gifted education. Priority was also seen in the open-ended responses given in section 5 of the survey.

Financial Priority

The majority of Seventh-day Adventist Primary Schools placed limited funds into the education of gifted children. The average level of funding for gifted education was 0.342% of the total school budget. When this is compared to the average level of funding for children with other special needs, a total of 3.21%, it can be seen that a far greater focus has been placed on children with other special needs, to the neglect of gifted students.

Resources Available to Teachers

Most schools had access to resources for the education of gifted children either within their school, outside of their school, or both.

School Response

School 19 suggested, "A structured and appropriate program would no doubt assist some of these children". However it admits that "**this has not been a priority to this point**", but did acknowledge an attempt to cater for these children as well as possible in multi-grade classrooms.

Research Question 4

What is the extent of provision made?

The extent of provisions made for gifted children in Seventh-day Adventist Schools was explored in relation to the provisions made in the mainstream classroom, the presence of a school-wide policy, and the presence of a school-wide program. The area of integrating policy and practice was explored. It established who is responsible for establishing a gifted program within a school, extra-curricula activities available to students both within and outside of the school, and the amount of time that gifted students spend in programs for gifted education.

Provision in the Mainstream Classroom

While it has been established that gifted students require differentiated education, it is possible for some gifted students to be catered for in the regular classroom. Students who are exceptionally and profoundly gifted require provisions that cannot adequately be made in the regular classroom. However, moderately or highly gifted children may be catered for in the mainstream classroom (Gross, 1993). It is also important to note that in an average school population, it would be expected that there would be approximately one gifted child in every classroom (Gross, 1993; Commonwealth of Australia, 1988). For this reason the number of teachers making provision within their classroom was explored.

There are very mixed results shown in the results of this survey item. A total of 19 schools claimed to have at least one teacher in the school catering for gifted students within the mainstream classroom. Taken in the context of other survey items, some of the results shown in this are unusual. For example, school 6 had a total school population of 373 students and recorded that they had no gifted students. Despite this, they claimed that all 17 teachers at the school catered for gifted students in the mainstream classroom, yet they claimed to have no gifted students to cater for. Similar results were shown for 10 other schools that also claimed to cater for gifted children they didn't identify that they had. However, there were 10 schools in which the principals believed that all teachers within the school catered for gifted students in the mainstream classroom. Conversely, there were eight schools in which none of the teachers catered for gifted children in the mainstream classroom. As some of these schools were small, sole-charge

schools, it could be expected that they had no gifted children. However, many of the schools would have at least one gifted child in the class (Gross, 1993; Commonwealth of Australia, 1988) who was not being catered for within the mainstream classroom.

Presence of a School-wide Policy Regarding Gifted Education

The presence of a policy should provide guidelines for teachers, both specialists and regular classroom teachers, regarding the implementation of a gifted education program. All states in Australia have a policy regarding the education of gifted and talented children, which generally outlines the philosophy, characteristics, identification, and provisions to be made for gifted children within the schools of that state. However, the Seventh-day Adventist Education System, while having its own syllabus documents, does not provide a policy regarding the education of gifted students in its schools. Only seven of the schools in this study have provided a school-wide policy regarding gifted education. While it is helpful that they have done this, students in other schools that do not have a policy are disadvantaged. Until a system-wide policy is in place, there will always be significant discrepancy in the way gifted children are catered for.

Presence of a School-wide Program for the Education of Gifted Students

Along similar lines, only eight schools reported having a school-wide *program* for the education of gifted students. Greet (cited in Landvogt, 1997) asserts that gifted children deserve differentiated educational programming. Similarly, the United Nations defends the right of each child to develop his or her abilities (Commonwealth of Australia, 1988).

While some teachers may have catered for gifted students within their classroom, it was established that there were many who didn't. While a student may receive some form of differentiated education in one class, unless a *school-wide* program is in place, that student has no guarantee of a continued differentiated program, to which they are entitled. Furthermore, teachers who attempt to cater for gifted students within their own classroom are often left to find and prepare resources with no back-up or assistance (Gallagher, 2000). The presence of a *school-wide* program shares the load between teachers.

Four schools were identified as having an *unspoken* program for the education of gifted students. Wilson (1996) suggests that in order for programs to be effective, they must be structured, not ad-hoc, and have form, purpose and direction. If a program is unspoken it is not fully structured and will therefore be less effective than a planned program.

Policy and Practice

A comparison was made between schools claiming to have a policy regarding gifted education and those that have a program for the same. Of those schools that had identified the presence of a school-wide policy, just over half claimed to also have a gifted program. This discrepancy between policy and practice meant that provisions were not being made in a tangible manner. Policy should be linked to practice in order for real provisions to be made (Forster, 1993).

Person responsible for implementing a gifted education program

In this section it was sought to establish the person/s primarily responsible for the implementation of a gifted education program. As the study shows, it is most commonly principals or teachers. Research conducted by Forster (1993) found that ownership of the decision to implement a program is a significant factor. If the decision is made where that action is, it is more likely to be followed through. In this respect, it is better that teachers and principals are responsible for the implementation of a program. This study found that this was the case in Seventh-day Adventist Primary Schools.

Extra-curricula Activities

There was limited provision of extra-curricula activities within the schools surveyed. Only eight schools provided extra-curricula activities for gifted students within the school. Fewer still provided extra-curricula activities outside of the school with only three schools providing this opportunity, and a staggering 19 schools not making this option available to students. Of those schools which did provide opportunities for gifted education outside of the school, one provided activities in the areas of sport and music, another provided access to the South Australian Gifted and Talented Association Saturday Clubs, and the other school did not specify what provisions were made.

Time Spent in Gifted Education Programs

The limited time spent on gifted education was of concern. With an average of 2.19 hours per week provided to students in the instruction in gifted education within the

school, a serious need was identified. Gallagher (2000) seriously questions the amount of time in which gifted students are engaged in a program designed specifically for their needs. His concern is that many schools believe that they are making provision for gifted students by simply providing an hour a day, or less, in differentiate programs. Gallagher (2000) questions, "What can a teacher do in that hour...that can make up for 23 ½ hours per week spent in a regular program with a curriculum that may not be appropriate for the student's needs?" He suggests that the minimum standard should include no less than five hours each week with a support person to provide a program relevant to the student's gifts, and the needs arising from those gifts. To do any less he claims is to provide a "non-therapeutic dose" where nothing constructive can happen for the child's education given the limited time (Gallagher, 2000). Most of the Seventh-day Adventist Schools fall far below the recommended time, with only three schools providing equal to or more than the recommended five hours. Eighteen schools fell below the recommended time allocation, falling into the time frame of a "non-therapeutic dose".

Research Question 5

What forms of gifted education are used?

This section looks at the programming strategies identified by the schools for the education of gifted students.

Programming Strategies

A combination of programming strategies is recommended by Braggett (1994) to produce the best model for catering for gifted students both in the regular classroom and across the school. The majority of schools in this study used multiple programming strategies. The most popular strategies were, by far, enrichment, followed closely by acceleration. Curriculum compacting was also mentioned a significant number of times. Despite being widely recommended as a strategy to cater for gifted students (Wilson, 1996; and Pirozzo, 1991), mentoring was only mentioned by two schools.

Research Question 6

What qualifications are possessed and what teacher professional development is undertaken in relation to gifted students by teachers in Seventh-day Adventist schools?

In-service Training

Forster (1993) suggests that for teachers to make real provisions for gifted students, all teachers need to be trained in understanding the nature of giftedness. The results from this survey seem to indicate that 12 schools have all classroom teachers catering for gifted students in their classrooms. However, ten out of these 12 schools have had no teacher professional development in the period 2000-2001. Six out of this same list of

schools had no professional development in relation to gifted education in the period 1995-1999.

Survey results indicate that only five schools participated in in-service training in the period 2000-2001. Numbers were higher for the period 1995-1999, with a total of 12 schools participating in professional development. Only three schools have participated in teacher professional development in both these time periods.

In addition to such low numbers attending any form of teacher development, Forster (1993) further suggests that in-service courses must be conducted with follow-up and advisory support if gifted provisions are to be made. It cannot be established from the surveys if follow-up teacher development was undertaken by any of the schools.

Chapter 6
Conclusion & Recommendations

Final Conclusion

The findings of this study indicate that the majority of schools within the Seventh-day Adventist Education System are not adequately catering for gifted students, particularly in relation to the qualifications and professional development of teachers, the time spent in gifted education programs within and outside of the school, and the implementation of policy and programs in the schools. It was also found that the schools are generally not identifying the expected proportion of gifted students. Some schools have demonstrated a far more accurate rate of identification than others, however, the majority of schools fall below the expected number of gifted students.

Recommendations

As a result of the study, there are five recommendations to be made, aimed primarily to the Department of Education for the Australian Union Conference of Seventh-day Adventists, and to the administrators of the Seventh-day Adventist Teacher-training Course at Avondale College.

(1) It is recommended that a committee be set up to formulate a policy for the education of gifted and talented students in the Seventh-day Adventist Education System. This committee should include specialists in the area of gifted education.

(2) It is suggested that the Seventh-day Adventist Education System employ qualified professionals in the area of gifted education to assist in identifying gifted students, and helping to co-ordinate and plan programs for gifted students.

(3) It is recommended that teachers within the Seventh-day Adventist Education System undertake a greater amount of professional development in the area of gifted education. This may allow teachers to be more successful in identifying gifted children within their classroom, and may give them greater confidence in their ability to teach gifted children.

(4) It is highly recommended that the Avondale College BEd and BA/BTch courses include instruction on how to identify and teach gifted students. This would best be achieved in a subject that is part of the course requirement. It is further suggested that an elective education subject regarding the education of gifted students be provided as an option to graduands in their final semester of study.

(5) As the Seventh-day Adventist Education System has developed its own syllabus, it is recommended that each syllabus document contain strategies for creating appropriate learning for gifted students, similar to those outlined in NSW primary syllabus documents.

Limitations of the Study

Despite every effort on the researcher's part to reduce the limitations of the study, there are several limitations that must be acknowledged.

(1) Every attempt was made to obtain results from all Seventh-day Adventist Primary Schools in Australia. However, a small sample size was used due to the limited number of Seventh-day Adventist Schools in Australia.

(2) A lower than expected response rate has limited the applicability of the findings to all Seventh-day Adventist Schools. However, a response rate of almost 60 percent is regarded as sufficient for this study.

(3) The scope of the study is limited to the perceptions of the principals regarding which procedures were carried out. It excludes the perceptions of teachers, parents and students.

(4) Each individual school carried out the identification of gifted students. The researcher has not attempted to establish if, in fact, these students are gifted. It is assumed, for the purpose of this study, that those students who are identified as gifted, are, in fact, gifted.

Future Studies

The limitations outlined above provide a basis for recommendations for future study in this area. Areas of study are also drawn from the findings in Chapters 4 and 5.

(1) Future studies could potentially explore the effectiveness of the Seventh-day Adventist Education System in catering for gifted students once a policy has been developed and implemented.

(2) A potential area of research may be the satisfaction of gifted students with the provisions made for them in the Seventh-day Adventist Education System. This may also include the satisfaction of parents with the provisions made for their children in the Seventh-day Adventist Education System.

(3) A questionnaire targeting teacher perceptions of gifted education would give a broader picture than has been provided in this study. The perceptions of parents and students may also be areas of further research in this area.

(4) Further research could also explore the extent to which the Seventh-day Adventist Education System is catering for giftedness in other areas identified by the Marland Report, eg, creativity, leadership ability, and performing and visual arts.

(5) Research could be conducted into the extent to which the Seventh-day Adventist Education System is identifying and providing for giftedness in children from disadvantaged and minority groups.

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List of Appendices

From: DRoy@adventist.org.au
Sent: Wednesday, 18 October 2000 11:10 AM
To: rollasonin@eisa.net.au
Subject: Gifted & Talented Education in SDA Schools

Reanne;

Following our phone conversation this morning -

Adventist education certainly recognises the needs of children that would fit into the "G & T" category, and attempts to cater for such children. However, as a system, it sees this as one of the needs among a anumber in the spectrum of "special needs" and consequently does not single out G & T in a formal policy statement. While there is no formal policy on G & T exclusively, a number of SDA schools do make provision according to localneeds, expertise and available resources at various levels of sophistication. The best example of a systematically promoted, organised and managed facility for G & T is the Prescott Southern school in Adelaide. The principal of this school is Mrs Christine Clark who I'm sure would talk to you with great enthusiasm.

Contact me again if you want to talk further.

Regards,
Don Roy

Dr D C Roy
SPD Education Department
Associate Director - Primary Curriculum

Gifted Education Survey

I am completing a thesis to try to determine the availability of gifted education programs in Seventh-day Adventist schools in Australia.

I would like to know what provisions are made for gifted students in your school. The answers you provide will be valuable in assisting my research.

Your time and effort in completing this survey are much appreciated.

The space provided for each question is not indicative of the expected length of response. If more space is required, please use the back of the survey form. Thank you.

1. How many students are enrolled in your primary school?

   Male _____ Female _____

2. How many students are involved in a gifted educational program at your school?

   Male _____ Female _____

3. How many classroom teachers are employed at your school?

   Full Time _____ Part Time _____

4. How many regular classroom teachers within your school cater for the needs of gifted students in their own classroom? _____

For the purpose of the following question, a *specialist teacher* is defined as one who participates in the education of students with special learning needs in your school.

5. How many specialist teachers are employed at your school? _____

6. In what field of education does each specialist work?

   _____

   _____

   _____

   _____

7. Does your school employ any specialist teachers in the area of gifted education? Please tick the appropriate box.

   Yes ☐ (please specify number _____)

   No ☐

8. Does your school have a school-wide *policy* regarding gifted students? Please tick the appropriate box and complete the requested information.

   Yes ☐

   Please briefly state what this policy includes, or attach a photocopy of this policy.

   _____

   _____

   _____

   _____

   No ☐

   Please state any reasons for not having a policy.

   _____

   _____

   _____

   _____

9. Does your school have a school-wide *program* that caters for gifted students? Please tick the appropriate box and complete the requested information.

   Yes ☐

   Please briefly outline the program you are running.

   _____

   _____

   _____

   No ☐

   Please state any reasons for not having a program.

   _____

   _____

   _____

10. Who initiated the establishment of a program for gifted students? Please tick any that apply.

Principal	☐
Teacher	☐
Parent	☐
Student	☐
School Board	☐
Other (please specify)	☐_____

11. Approximately what percentage of the school budget was spent on the following in 2000?

(a) Education of the gifted? ____ %

(b) Education of children with other special needs? ____ %

12. What resources are available to teachers for the education of gifted students:

(a) Within the school

_____

_____

_____

(b) Outside the school

_____

_____

_____

13. Please describe any teacher professional development in relation to gifted education that teachers have participated in:

During the period 2000-2001

_____

_____

_____

_____

During the period 1995-1999

_____

_____

_____

_____

14. What methods of identification of gifted students does your school implement? Please tick any that apply.

- Teacher Observation ☐
- Parent Nomination ☐
- Peer Nomination ☐
- Self Identification ☐
- Standardised Tests (please specify) ☐_____
- Other (please specify) ☐_____
- None ☐

15. How often is testing and identification conducted? Please tick the appropriate box.

- Biannually ☐
- Annually ☐
- Every 6 months ☐
- Each term ☐
- Randomly ☐
- Other (please specify) ☐_____

16. What programming strategies for gifted students are currently used in your school? Please tick those that apply.

- Acceleration (specify type/s below) ☐
- Curriculum Compacting ☐
- Enrichment ☐
- Special classes ☐
- Withdrawal ☐
- Mentoring ☐
- Other (please specify) ☐_____
- None ☐

17. Please provide a brief description of how the programming strategies identified in question 16 are implemented in your school.

_____

_____

_____

_____

_____

_____

18. Does your school provide gifted students with the opportunity to be involved in extra-curricula activities designed for gifted students? Please tick the appropriate box and provide any requested information.

No ☐

Yes (please specify activities) ☐

_____

_____

19. Approximately how many hours per week does each gifted student receive instruction in gifted education:

Within the school? _____

20. Are any of the students enrolled in your school involved in gifted education programs at any other institution? Please tick the appropriate box and provide any requested information.

No ☐

Yes (please specify institution) ☐

_____

_____

21. Approximately how many hours per week does each gifted student receive instruction in gifted education:

Outside the school? _____

22. Presently, what challenges are you facing in regard to a gifted program at your school?

23. List, in rank order from least to most concerning, any concerns you or your staff may have regarding the implementation of a gifted education program.

24. What are some of your recent success stories in relation to gifted education in your school?

25. What other significant matters do you wish to comment on?

Thank-you for your participation.

Avondale College
DEGREES WITH A CAREER FOCUS

Human Research Ethics Committee
Avondale College
9-11-00

Rhian Hebbard
Avondale College

RE: Bright sparks: A study of the availability of gifted education programs in Seventh-day Adventist primary schools in Australia

Dear Rhian

I am happy to inform you that your research proposal was approved at the recent meeting of the Human Research Ethics Committee.

However, could you please make the following changes on the recourse statement in your information letter, so as to reflect the contact details for next year's secretary of the HREC, ie, Darren Morton.

Phone:	02 4980 2161
Fax:	02 4980 2118

Wishing you all the best in this research.

Merle Cozens
Secretary
Human Research Ethics Committee

582 Freemans Drive PO Box 19 Cooranbong NSW 2265 Australia Telephone 02 4980 2222 Facsimile 02 4980 2118
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