

*Identification of Gifted Students in
Australian Catholic Primary Schools*

Catherine Mary Young

Dip. Teach (CCES)

B. Ed (CCES)

M. Ed (Religious Education) (ACU)

M. Ed (Leadership) (ACU)

Cert. Gifted Ed (UNSW)

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Abstract

The research investigated the problem of identification of giftedness in primary-aged school students. The study was conducted in primary schools in a large Australian metropolitan Catholic education system, referred to in the study as the system that claims best practice and has historically provided strong support for the specific needs of students with learning difficulties. Gifted education is, however, new to the culture of this system of schools and the under-identification of gifted students has been identified as a matter of concern. The scholarly literature provides considerable research regarding teacher attitudes and their impact on gifted education and gifted students, but little research has been undertaken to investigate the impact of teachers' knowledge, attitudes and experiences on the identification of giftedness. To address this gap in the research, the present study examined the question: How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?

Using a mixed methods design within the paradigm of pragmatism, the research data were collected in two phases: the collection and analysis of quantitative data at a system level through an online survey, and case study involving analysis of school documentation and semi-structured interviews across six sites.

In Phase One, the online survey was distributed across the system of 111 Catholic primary schools. The responses from the system-wide survey assisted in the selection of schools with high and low rates of identification of gifted students as case study sites for the second phase of the study. In Phase Two, a total of six principals and 44 teachers participated in the case study from across six sites selected as three successful- and three non-successful schools. Phase Three included the final synthesis and analysis of all data. The data collected sought to determine the knowledge, attitudes and experiences of teachers and leaders, and

school approaches and practices of identification, and their influence on the identification of giftedness in these schools.

The central findings of the study are reflected in a proposed model, which elucidates specific elements in relation to knowledge and attitudes of educators, and the approaches and practices of schools, towards gifted education and identification of giftedness that enable the effective identification of giftedness. Within knowledge, the levels of training and the significance of understanding the multidimensional nature of giftedness were identified as core to the process of identification of gifted students in the primary school setting. Positive attitudes towards giftedness, and a shared responsibility for the identification process, among the school leadership and teachers leads to effective identification. The research also found that sharpened focus on identification through leadership, embedded school-wide policy and practices, provision of resources, and ongoing professional learning are key elements of effective identification. Essential to the identification process is the involvement of teachers and leaders in early and ongoing identification practices using a range of accessible objective and subjective measures.

The model highlights the complex interplay of factors that contribute to effective identification of giftedness and the significance of teacher, leader and systemic commitment to gifted education. The research findings and recommendations have significance from the perspective of educational system leaders and school-based practitioners who have the challenge of effectively identifying, and responding to, the needs of their gifted students.

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they made to this research study, for the improvement in identification practices of gifted students in schools.

This thesis is dedicated to my dear late father Barrymore Thomas Briggs, who loved me, and through this love taught me I could achieve anything with hard work, commitment and a sense of humour.

Declaration

I, Catherine Young, declare that the Doctor of Education thesis entitled *Identification of Gifted Students in Australian Catholic Primary Schools* does not contain any material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the Australian Catholic University, and where applicable, any partner institution responsible for the joint-award of this degree

All research procedures reported in the thesis received the approval of the Ethics/Safety Committees on 28 March 2013 and given approval number 2013 48N.

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Abbreviations

ACU	Australian Catholic University
AP	Assistant Principal
DMGT	Differentiated Model of Giftedness and Talent
EAL/D	English as an additional language or dialect
EQ	Emerging question
ESL	English as a second language
G and/& T	Gifted and talented
GE Coordinator	Gifted Education Coordinator
ID	Identification
IQ	Intelligence quotient
LBOTE	Language background other than English
REC	Religious Education Coordinator
Scale	Gagné and Nadeau Attitude Scale
Special ed	Special education

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Chapter 1

Introduction to the Research Problem

1.1 Introduction

Throughout its history, researchers and scholars in the field of gifted education have sought to understand and measure giftedness, continually building upon earlier work and shaping the field of gifted education. For more than a century, an increasing volume of research and innovation in gifted education has occurred internationally, and yet, as Dai (2010) asserts, ‘The term *gifted*, or *giftedness*, has never been more problematic than it is today’ (p. 8). Not surprisingly, then, the education provided for gifted students in Australian schools has received increasing attention during the last three decades following the release of a major national senate report in 1988 (Senate Committee Select, 1988). The Senate Report recommended that a more concerted effort was needed in the area of gifted education. Since this time, a number of developments have occurred in Australia: a range of research studies have been undertaken to gain a clearer understanding of what it means to be gifted and how to identify and cater for gifted students (Garvis, 2009; Gross, 2004a; Harrison, 2004; McBride, 1988; Valpied, 2005); there is a growing awareness of the diverse needs of gifted learners (Carnellor, 1996; Gallagher, 2007); and the development of a more extensive range of resources for use by teachers (Gross, 2004b; NSW Department of School Education, 2004; Rowley, 2008).

According to Slade (2012), the first and most critical component of improving the overall effectiveness of gifted education is to ensure gifted students are identified. As Slade (2012) points out, identification results in a match of learning needs to an adapted curriculum ‘... Therefore a strong and efficacious student identification process can enhance gifted education programming’ (p. 184). Hence, an effective identification program is an imperative for addressing the needs of gifted students, as identification links directly to program

provision; as Renzulli and Reis (2012) point out: ‘Congruence between identification and programming is so important that it might be viewed as “the golden rule” of gifted education’ (p. 31).

Despite the importance of identification, research concerning identification and program provision suggests that teachers and principals draw on their own knowledge, attitudes and experiences when endeavouring to identify and cater for the needs of the learners they serve, including gifted learners (Béchervaise, 1996; Bransky, 1987; Galitis, 2009; Haight, 2006). The difficulties this presents for gifted education were identified more than two decades ago in an investigation that found a major barrier to identification was teachers’ inability to recognise giftedness in certain groups of learners, and the use of narrow measures to identify gifted behaviours. Additionally, the role of teacher prejudice was also identified in a study by Frasier et al. (Frasier, Hunsaker, Lee, Finley, Frank, García, & Martin, 1995a) as a barrier to identification of giftedness. According to Smith and Chan (1998), there is consensus among educators in the field of gifted education that the implementation of appropriate identification for gifted learners significantly relies on ‘...teachers’ attitudes, views, understanding of the nature of giftedness and issues regarding the education of the gifted’ (p. 30). A decade later, A. Robinson (2008) highlighted the need for future research on the characteristics and competencies of those responsible for the education of gifted learners, to plan for the delivery of effective gifted education in the future. In addition, VanTassel-Baska (2013), an eminent expert in the field, more recently called for cross-cultural research to gather data on elements that support the implementation of gifted education programs.

Given the minimal research available on factors that support identification in the school context, it is judicious and timely to further investigate teachers’ attitudes, views, understanding of the nature of giftedness and issues regarding the education of the gifted. As Brown et al. (2005) assert, ‘these are the people who must carry out their responsibilities

harmoniously and ensure that there is integrity between guidelines and regulations on one hand and the implementation of program practices on the other' (pp. 68-69).

This study addressed this gap in the research by investigating the relationship between the knowledge, attitudes and experiences of teachers and principals, and identification practices. Through a mixed methods study of Catholic primary schools in a large diocese in Australia, this research sought to investigate the factors that impact the identification of gifted students.

This chapter describes the context of the research undertaken to investigate the identification of gifted students in a large Australian metropolitan Catholic education system of schools, referred to as the system within this study. The three-phase research study first explored the knowledge, attitudes and experiences of principals and teachers, as well as identification practices across this diocese. Then, through comparative study of six primary schools in the diocese, the study investigated factors that influence the identification of gifted students. The final phase of the research involved the synthesis and integration of all findings. The broad research question for the study was: How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?

The relevant research sub-questions, generated from the literature review, gave direction to the research and are included in this chapter.

1.2 Context

1.1.1 International Context

The study of identification of giftedness is a relatively recent phenomenon in the broader history of education. Efforts towards identifying and addressing the needs of gifted students in the USA began in the early 1900s (Nazarro, 1977). Some strong advocates for gifted education emerged in the mid-1950s, triggered by the launch of the Russian satellite,

Sputnik. The apparent dominance of the Russians in scientific endeavours resulted in an appeal for a more rigorous program in schools to cater for the gifted students in American schools (Vialle & Rogers, 2009). In the latter half of the 20th century, interest in gifted education spread internationally with developments in the identification of gifted students in the United Kingdom, Korea, Turkey and Hong Kong, manifesting in the establishment of gifted and talented centres, academies and selective schools, as well as increased research in the area (Casey & Koshy, 2013; Lee, Cramond, & Lee, 2004; O'Reilly, 2013; Tommis, 2013). Over the last fifteen years, a large quantity of research has emerged from countries now considerably more focussed on the education of their gifted, such as Singapore (Neihart & Teo, 2013), New Zealand (Newton, 2010; Riley, Bevan-Brown, Bicknell, Carroll-Lind, & Kearney, 2004; Watts, 2006), Ireland (O'Reilly, 2013), Czech Republic (Portesova, Budikova, & Koutkova, 2011), South Africa (Scott, Davis, & Osman, 2009), Japan (Sumida, 2013), Scotland (Sutherland, 2003), Finland (Tirri & Kuusisto, 2013), China (Wenzhong, 2004), Austria (Weyringer, 2013) and Poland (Limont, 2013).

Internationally, gifted education has fielded strongly opposing views, with some commentators considering gifted students as an asset to a nation, and others arguing elitism and that provisions for gifted students are a drain on resources best directed to more disadvantaged areas of education (Davis, Rimm, & Siegle, 2011). The identification of gifted students in education seems to heighten the tension between commitment to excellence and commitment to equity (Davis et al., 2011), and may account for the contentious profile of gifted education internationally. For many years, internationally held beliefs equating giftedness with high IQ, above all else, made the task of identification of gifted students seemingly straightforward, linked to a score, but far from satisfactory, as identification of giftedness based solely on an IQ measure fails to recognise the complexities in identification and the various constructs of giftedness. How giftedness is defined has direct and immediate

impact on what identification procedures will be mobilised: what giftedness is or isn't depends upon the criteria set for defining it, and subsequently determines what is being used to measure or assess it.

The research literature acknowledges the great advances of the field of gifted education in both theory and research in the development of identification protocols (Callahan, 2009). However, the preoccupation with achieving consensus on a universally accepted conception of giftedness, has dominated debate and inquiry in the research of gifted education for more than 80 years (Jolly & Kettler, 2008), and has subsequently confounded the approaches to identification. There is no one absolute set of criteria and the disagreements continue as to what criteria should be applied (Kaufman & Sternberg, 2008).

Before decisions about identification policy, procedures and measures can be made, an agreed conception of giftedness needs to be established. Needless to say, differing conceptions of giftedness add another level of complexity to the process of identification. Without a clear and agreed theory of giftedness, the task of implementing an effective identification program within schools is challenging for principals and teachers and maintains a reliance on their existing knowledge, attitudes and experiences.

Current research reflecting a growing acceptance of an expanded conception of giftedness, yet still without consensus, has presented a problem of international significance (Brown et al., 2005; Pfeiffer, 2003), as the definition of giftedness provides the direction for decisions concerning who will benefit from program provisions for the gifted. As Callahan, Renzulli, Delcourt, and Hertberg-Davis (2018) explain: 'The various components of a definition should lead to independent, distinct identification procedures and decisions' (p. 86). However, a universally accepted model for the identification of giftedness does not exist. Sternberg, Jarvin and Grigorenko (2010) clarify the situation:

There is no set of assessment procedures that everyone today or ever will unanimously agree upon as the ‘right’ set of procedures for identification of the gifted. Further, there is no one test score that tells us all we need to know about giftedness; we need multiple criteria. (p. 12)

Numerous and diverse procedures, processes and measures of identification in response to many and varied conceptions of giftedness account for this. Hence, the complexity of defining, and subsequently identifying, giftedness with any certainty has proven to be problematic. Given the absence of an accepted assessment procedure, reliance on teachers’ existing knowledge, attitudes and experiences becomes increasingly important, hence the need to research how these factors impact on identification.

1.1.2 National Context

Australia is a nation of 23.4 million people (Commonwealth of Australia, 2017), living within six states and two territories. Population growth has more than doubled in the last 50 years; however, scholars in the field suggest that developments in the field of gifted education in Australia have been slow and inconsistent (Geake, 1999; Plunkett & Kronborg, 2007). Australia has no federal policy on the education of gifted students. In 1988, the Australian Senate Select Committee on the Education of Gifted and Talented Children delivered its report: *The Education of Gifted and Talented Children* (Australian Government Publishing Service, 1988), inclusive of nine recommendations. Of the nine recommendations, two specifically referred to the identification of gifted students.

Recommendation 2: The Committee recommends to teacher training institutions that preservice training courses include sufficient information about gifted children to make student teachers aware of the needs of those children and the special identification techniques and teaching strategies which the student teachers will have to use with the gifted on graduation.

Recommendation 3: The Committee recommends to the Commonwealth Government that the professional development of all teachers in the areas of education currently accorded special assistance, namely, the education of girls, Aborigines and disadvantaged children, include the identification and education of gifted children from these populations. (Senate Committee Select, 1988)

Ten years after the release of the Senate Report, Geake (1999), an Australian expert in the field, commented, ‘Within the gifted education community, the Senate Committee report is regarded as an unrealised potential, much like many of the children of its purview’ (p. 59). Further to the 1988 Senate Report, the Senate Standing Committee commissioned a second report, *The Education of Gifted Children* (2001). This report included 20 recommendations for action with specific references and one recommendation directed towards the need for teachers to be educated in the identification and education of gifted students. In general, the implementation of the 20 recommendations has lacked impetus (Rogers & Vialle, 2006), and many of the issues addressed remain critical, and in some ways contentious, including the identification of gifted students. Five years after the release of the Senate Report, a study (Taylor & Milton, 2006) of Australian university course provision in gifted education found that, despite the report’s recommendations, those undertaking teacher preparation courses continue to have little preservice education in relation to the education of gifted students. Moreover, there continues to be no federal policy or funding directed towards gifted education.

According to Milne, in a submission to the 2001 Senate Committee on the education of gifted and talented children, in Australia ‘...interest in “gifted” children and “gifted” education is cyclical with some states in Australia almost eliminating specifically targeted funding at times’ (2001, p. 2). In Australia, at present, state and territory education systems have documented policies or procedures, commonly not mandated, for identifying and

catering for the needs of gifted students. These policies, in some instances position statements, vary in quality, in the degree they draw from research, in the direction they provide to principals and teachers, and to the degree they are supported by funding. The successful implementation of these policies requires teachers and school principals who are professionally and specifically educated in the identification of gifted students, and understand the nature of giftedness and the range and complexities of the profiles of such students (Rosemarin, 2014; Wycoff, Nash, Juntune, & Mackay, 2003). As a consequence, there exists an inconsistent approach to gifted education, inclusive of identification, across the states and territories. This may be at the cost of our most gifted students. According to Jolly (2016), the academic performance of Australia's most advanced students has been on a steady decrease since 2000, owing to 'inconsistent, varied and, arguably, inadequate support' (p. 1) for gifted learners.

1.1.3 State Context - New South Wales

The nation of Australia consists of six states and two territories. Education policy is developed and implemented at the national level, as well as at the level of individual states and territories. Within the state of New South Wales (NSW), according to the 2016 census (Commonwealth of Australia, 2017), there are almost 682,000 students attending primary (elementary) education in NSW. Three broad affiliations exist in NSW education: government, catholic and independent. The share of state student enrolments at the affiliation level showed that 19% of primary-aged students in NSW choose a Catholic education, 11% independent, and the remaining 70% have a government school education. Regardless of the affiliation, all schools are bound by the same curriculum and compliance regulations.

There has been increased interest in the education of gifted students since the NSW Department of Education (NSW DET) released mandatory policies in relation to their educational provision in 2004. Since the release of the *Policy for the Education of Gifted and*

Talented Students (NSW Department of School Education, 2004) (NSW DET), along with the support document *Implementation Strategies for the Education of Gifted and Talented Students*, all NSW schools have been required, though not mandated, to identify their gifted students. Subsequent to the policy release, the NSW DET began to develop resources and provide additional support to assist teachers to respond to the needs of gifted learners. In its *Support Package – Identification*, DET states its position as being ‘... committed to high quality educational outcomes for all gifted and talented students and the provision of an appropriate curriculum to meet these students’ needs within the school education system’ (2004, p. 7).

In 2006, the NSW DET released its *Gifted and Talented Policy*, a brief document outlining its objectives, context and responsibilities in the implementation and monitoring of gifted and talented education. This policy applies to all staff employed in the DET State Office, regions, NSW public schools, their school communities and all students who attend public schools.

1.1.4 A Catholic Diocesan Systemic Schools Context

In response to the increasing focus on gifted education at both national and state levels, a number of Catholic diocesan systems of schools have released position papers or policies on gifted education, designed as a support for school communities in addressing the educational needs of students identified as gifted within the last 10 years (Catholic Education Archdiocese of Brisbane, 2013; Catholic Education Melbourne, 2013; Catholic Education Office Diocese of Wollongong, 2011; Catholic Education Office of Western Australia, 2014; Catholic Education Office Sydney, 2007; South Australian Commission for Catholic Schools, 2014; Tasmanian Catholic Education Commission, 2014).

The focus on identification of giftedness, and gifted education, within the system of Catholic education in this study is at an early stage. The system in the current study released a

position paper on gifted education and invested in gifted education at a system level. Tangible support was provided in the form of sponsorships for teachers to undertake postgraduate studies in gifted education, with approximately 140 teachers receiving sponsorship over the course of 10 years. However, despite the significance and status of the position paper on gifted education, and the increased profile gifted education has received in a range of system improvement strategies across this diocese, a report undertaken in 2011 (Laughlin, 2011a) revealed that gifted education has remained a low-level priority in most schools. A further audit of current gifted identification and monitoring practices in 2013 also indicated that there are significant inconsistencies in rates of identification from school to school. More recent evidence from parent forums and system principal meetings has revealed that while gifted education is considered an area of concern in many schools, only limited initiatives in identification, and in some instances one-off strategies, have been implemented. At a system level, there was also a lack of information available concerning approaches to, and practices for, the identification of gifted students within the system of schools. Perhaps as a consequence, a system policy in gifted education was released in 2015, outlining the adoption of definitions for giftedness and talent from a leader in the field, Francoys Gagné, along with schools' responsibilities in the identification of, and provision for, gifted students (Diocesan System, 2015). That gifted education and, more specifically, identification of giftedness, is new to the culture of Catholic education in this system of schools raises an important question. The values of social justice and equity advocated within Catholic schools may have been a contributing factor in the resistance towards gifted education and the identification of gifted students. This factor heightens the importance of this study and the need to conduct this research within the Catholic system of schools.

1.3 Background to the Research

Research in gifted education, particularly over the last 30 years, has been focussed on three areas. First, research has addressed conceptions of giftedness (Baudson & Preckel, 2016; Harder, Vialle, & Ziegler, 2014; Kaufman & Sternberg, 2008; Lee, 1999; Moon & Brighton, 2008; Sternberg & Davidson, 2005). Second, substantial research has investigated provisions in gifted education. This research has predominantly focussed on teacher knowledge, attitudes and experiences in educational provisions for gifted students (Béchervaise, 1996; Colangelo & Kelly, 1983; Geake & Gross, 2008; Gross, Urquhart, Doyle, Juratowitch, & Matheson, 2011; Jones & Southern, 1992; Lassig, 2009; Lewis & Milton, 2005; Seedorf, 2014; Smith & Chan, 1998; Southern, Jones, & Fiscus, 1989; Taplin & White, 1998; Watts, 2006). A number of studies in the 1980s explored the roles of educators and their attitudes towards the needs of gifted students (Bransky, 1987; Dettmer, 1985; Ferrante, 1983), finding that educators' knowledge, attitudes and experiences influence the provisions made available to gifted students. As these variables influence the way teachers and principals provide for gifted students, it would suggest a similar link may exist between the knowledge, attitudes and experiences of teachers and the identification of gifted students. A third area of research has focussed on identification.

According to Bracken and Brown (2008), the topic of identification receives more citations in gifted education than any other area of the field. The research on identification has largely examined options for the procedures, measurement and assessment of giftedness (Lichtenberger, Volker, Kaufman, & Kaufman, 2006; Machek, 2003; Majkut & Rogers, 2004; McGowan, Runge, & Pedersen, 2016; Mills & Tissot, 1995; Miranda, Araujo, & Almeida, 2013; Naglieri & Ford, 2003; Newman, 2008; Newton, McIntosh, Dixon, Williams, & Youman, 2008; Pfeiffer & Blei, 2008; Rogers, 2012; Silverman, 2008; Sternberg & Grigorenko, 2002; Sulak, 2014; Worrell & Erwin, 2011). Numerous studies have also

addressed identification and the underrepresentation in gifted education programs of subpopulations, such as culturally diverse groups and gifted/learning disabled (Borland, 2004; Carnellor, 1996; Mullet & Rinn, 2015; Pierce, Adams, Neumeister, Cassady, Dixon, & Cross, 2007; Ruban & Reis, 2005; Warne, Anderson, & Johnson, 2013; Wormald, 2009; Wormald, Rogers, & Vialle, 2015).

Other issues in identification, which have also received attention in the research, particularly over the last 20 years, include: gender (Petersen, 2013); underachievement (Chaffey, 2003); multiculturalism (Baldwin, 2005; Sternberg, 2007); and domains of giftedness (Baum, Owen, & Oreck, 1996; Kim, 2006). In fact, identification is possibly the most researched and discussed issues in gifted education (Warne et al., 2013).

However, despite all this research on identification of gifted students, the existing body of research offers little insight to the combined impact of knowledge, attitudes and experiences of school teachers and principals on the identification process. While there have been studies that have involved an investigation of these factors separately, such as the attitudes of teachers towards identification (Brown et al., 2005; Lewis & Milton, 2005), teacher knowledge and identification (Gear, 1978; Newton, 2010; Taylor & Milton, 2008) and teacher experiences and identification (Walden, 2014), consideration has not been given to the three factors of knowledge, attitudes and experience of principals and teachers, and identification, and the factors that support identification. This study seeks to address this gap by investigating the relationship between these factors and the identification of gifted students.

1.4 Defining the Research Problem

The provision of educational programs that optimally match students' needs is arguably one of the key objectives of schools (Rogers, 2002). A key determinant in the appropriate educational decisions to be made for the gifted student is dependent, first and

foremost, upon the identification of their educational needs. Given this explicit link between identification and educational program provision for the gifted to meet their needs (Callahan et al., 2018), the research problem is of considerable interest to those responsible for the implementation of educational programs in schools, as well as the recipients of such programs. What remains largely unknown is how teachers' and principals' knowledge, attitudes and experiences influence identification practices, and more specifically what factors, if any, support schools to be effective in identifying gifted students. Given the inconsistencies in levels of identification, this study seeks to investigate the educators' knowledge, attitudes and experiences in relation to their influence on both the prevalence of gifted identification and the practices that facilitate the identification of the gifted learner.

1.4.1 Definition of Terms – Knowledge, Attitudes and Experience

The professional knowledge of teachers and principals is crucial to the effectiveness of an identification program in a school. For the purposes of this study, educator knowledge of giftedness refers to the professional learning and training/qualifications from which principal and teacher knowledge is drawn. In previous research, teachers and principals who were trained and undertook professional learning in identification were found to be significantly more effective in their identification of gifted students (Gear, 1978). Therefore, determining the level of training and professional learning of teachers and principals in identification, and their perception of self-knowledge in identification may add insight to factors that support the process of identification.

The research indicates that attitudes of teachers and principals can support gifted education programs in schools (Bransky, 1987). Enhanced attitudes towards identification may improve the effectiveness of the program, impacting their overall effectiveness. Therefore, clarifying the overall attitudes of teachers and principals towards gifted learners and gifted education, and then more specifically the attitudes towards identification, is

important in understanding how attitudes influence the direction and intensity with which they navigate or implement the procedures and practices of identification. Drawing on Gagné and Nadeau's work (1985) in the development of an attitude scale, this study defined attitudes as the 'direction and intensity' of one's feeling towards the gifted, giftedness and its identification, and gifted education.

Experience has been conceived in previous gifted education research (Walden, 2014) as a teacher's lived experience in working with gifted learners in a range of areas, including differentiated instructional practices and identification. In this study, experience was defined as direct or explicit involvement by teachers and principals in the identification of the gifted learner. It is envisaged that by investigating experience in identification, gains may be made in understanding how involvement may facilitate identification, and influence identification approaches and practices.

1.4.2 Definition of Terms – Practices and Approaches

In previous research of gifted education, practices have been conceived as classroom instructional modifications (Westberg & Archambault, 1997), differentiation strategies (VanTassel-Baska, Quek, & Feng, 2007), and curriculum models (VanTassel-Baska & Brown, 2007). In more recent research by Worrell and Erwin (2011), practices have been defined as those tools, measures and assessments used in the actual process of identification. VanTassel-Baska (2000) considers practices more broadly to include: the use of identification protocols; decision-making based upon a range of profile data; as part of an ongoing process; and involving a flexible response from the school based on the individual's level of giftedness. Similar to Worrell and Erwin's use of practices, this study defines *practices* as the measures and tools used, the timing of identification, and other specific methods of identification the school applies to assess academic giftedness. The term *approaches*, in this study, refers to the broader ways the school is organised to consider or manage identification,

and the policy it has in place to reflect the school's broader position or stance about identification.

This research study interrogated the teachers' knowledge, attitudes and experiences in the implementation of a gifted education identification program. The study explored current practices through the experience of teachers and principals in a sample of Catholic primary schools. The intention was to identify the participants' knowledge and experiences of, and their attitudes towards, identification and determine whether there is any relationship between these variables and the identification of gifted students.

1.5 The Research Purpose

The purpose of this research was to investigate any relationship between the knowledge, attitudes and experiences of teachers and principals on the identification of gifted students in Catholic primary schools. The study sought to understand whether knowledge, attitudes and experiences held by principals and teachers influence the approaches and practices towards identification of gifted students.

1.6 The Research Question

With its genesis in the research problem and research purpose, the major research question generated to address the issues already named is:

How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?

This question guided the planning and conduct of the research design. The contributing questions are:

1. What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification?
2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?

3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

1.7 The Significance of the Research

Despite there being considerable research in the area of teacher attitudes and the provision of gifted education, the literature review indicated that very little research has been conducted investigating whether knowledge, attitudes and experiences of teachers and principals influence the identification of gifted students.

International attention has been given to an array of issues related to the identification of giftedness. Policies and action plans have offered definitions and conceptions of giftedness; various tools, measures and practices have been proposed for effective identification; arguments for and against traditional as opposed to alternate measurements of giftedness are frequently presented. Nevertheless, there remains the absence of an accepted model of identification, and a lack of attention to the extant variables needed for identification to effectively take place. This problem is of significance as school communities and systems seek to find a framework for effective identification.

In the light of increasing focus on gifted education across many systems of schools, it is important for school leaders to understand what factors contribute to the effective identification of the students for whom gifted education programs are intended. Identification is the process of ascertaining the needs of gifted students, and identifying students who would benefit from gifted programs. Reis and Renzulli (2009) point out that ‘There is no single homogeneous group of gifted children and adults, and giftedness is developmental, not fixed at birth’ (p. 233), and, therefore, requires schools to identify and implement ongoing, appropriate educational support. As a critical first step in a school’s education plan for gifted students (Warne et al., 2013), identification is a process ideally involving both principals and teachers. Research investigating effective approaches and practices for identification

programs may help to assist schools through the challenge of decision-making, planning and implementation. The current study, in exploring the influences of principals' and teachers' knowledge, attitudes and experiences, aims to address this gap. This study also aims to identify the causes that facilitate identification. In doing so, schools and school systems may be able to draw from this research to identify factors within their own contexts that are mitigating factors for and against effective identification. The focus of many Catholic school systems in more recent times on the identification of gifted learners made this system a suitable educational context to explore a problem of national and international significance.

1.8 Research Design

The research design links the research questions with the methodology (O'Donoghue, 2007). A pragmatist approach is the theoretical framework for this research study. The pragmatic paradigm is open to collection and analysis of both quantitative and qualitative data. Pragmatism seeks to find practical solutions to real-life problems (Creswell & Plano Clark, 2011) and was, therefore, considered the most suitable approach in exploring factors that influence principals and teachers to be effective identifiers of the gifted. From within pragmatism, mixed method methodology was chosen. Adopting both the characteristics of quantitative research involving objective, empirical observation and measurement, and the descriptive, meaning-laden understandings that characterise qualitative research, strengthened the insights and results emerging from the research in determining what it is that supports identification within the school context.

The research was concerned with a system that made decisions towards system improvement in gifted education through policy and support documents, coupled with the provision of significant levels of funding for professional development of teachers in the form of postgraduate study. The research used multi-sites within the study to investigate the research question. The sites were six systemic Catholic primary schools.

The structure of the study included a three-phase sequential explanatory research design, as shown in Figure 4. The first phase involved a system-wide survey, which collected broad data on knowledge, attitudes and experiences of identification practices of principals and teachers across the system of schools. This data were also used as a purposeful sampling device and informed the selection of the six school sites. Three sites were selected due to high rates of identification relative to enrolment, and three sites were selected due to low identification rates. The second phase of the research utilised the survey data to investigate the knowledge, attitudes and experiences of principals and teachers within the six sites. The second phase also involved document analysis of key documents related to the gifted education provided by each site. In order to undertake a closer examination of factors that supported identification, the second phase of the research design also involved a semi-structured interview with consenting survey participants from the six sites. The data were analysed using both manual coding and NVivo, a software program for qualitative data analysis. The study identified commonalities across schools successful in identification, and commonalities across schools not successful, as well as commonalities and differences between the successful and non-successful sites. Phase Two enabled deeper understanding of the factors of influence on identification of giftedness that emerged within the case study.

In Phase Three of the study, the interpretation of the entire analysis of the preceding work took place. The emerging questions (EQ1 – EQ14) derived from the analysis of Phase One and Phase Two arose through an iterative process, where the quantitative and qualitative data were considered, compared, aligned and interpreted in direct and aggregated ways. Through the discussion of the analysis in Chapters 5 and 7, new understandings were gained from the complexity of the case through the interpretation of the within-case and cross-case analysis of the data (Creswell, 2013). In the search for new understandings, a non-linear analysis of both quantitative and qualitative data were used. Where consistency was evident,

naturalistic generalisations (Creswell, 2013) were established and enabled the development of global findings for the research. These generalisations were educative and insightful for the individual, and for their potential to apply to other school populations (Stake, 1995).

This chapter has presented the rationale for the proposed research and a brief overview of this thesis. Chapter 2 contextualises the research problem within the relevant and contemporary literature.

Chapter 2

Review of Related Literature

2.1 Introduction

Over the past century, internationally and within Australia, giftedness has been discussed by scholars across a range of areas: conceptions and models of giftedness and its manifestations; the processes and challenges in identification; educational provisions for the gifted; as well as the influence of educators and their impact in gifted education.

This review of literature is organised under the three conceptual elements of the framework identified in Chapter 1. The three conceptual themes, as shown in Figure 1, are:

- giftedness;
- identification of giftedness;
- influence of educators in gifted education.

The literature reviewed in this chapter focuses on studies that reported on these and, in particular, those that focussed on factors impacting the identification of giftedness. Following is an explanation of the criteria for the inclusion of studies in this review. One criterion for inclusion in this review of literature is a specific focus on conceptions of giftedness. To gain an understanding of the context of this study, this review examined the contributions by prominent researchers to the development of conceptions of giftedness throughout the past 100 years to the current day.

The focus on identification of the gifted within the school context has been a focus for empirical research more predominantly over the past four decades. For this reason, the second criterion for the literature in this review on identification includes studies from 1970 onwards. These were considered pertinent to the experience of identification of gifted students in the current system of primary schools within this study.

The knowledge, attitudes and experiences of educators, and their influence specifically on identification of gifted students, while receiving limited attention in the literature, was included in this review. However, given this limitation, the inclusion of studies from the past four decades, focussing on the influence of educators on gifted education and gifted students more broadly, provided a chain of research in the field directly linked to the current study on identification. The review included studies on primary/elementary schools, with an occasional inclusion of a secondary school study only where the research had direct relevance to the identification of giftedness.

The studies selected resulted from a database search including the following terms: gifted education; gifted students; gifted and talented; high ability; conceptions of giftedness; definitions of giftedness; models of giftedness; gifted characteristics; identification of gifted; measurement of giftedness; identification tools; testing and giftedness; identification practices; multiple criteria and identification; teacher attitudes and gifted; teacher beliefs and gifted. Various combinations of the search terms above were also used. A secondary search followed, based on a review of the references of the relevant articles located in the initial search. A range of databases were accessed in search of relevant studies. These included, but were not limited to, the following: Australian Public Affairs Full Text (APAFT); EBSCOhost; Educational Resources Information Center (ERIC); Gale Group; Google Scholar; Ovid; Proquest; Routledge Online; SAGE Online; ScienceDirect; Taylor and Francis Online; and Wiley Online.

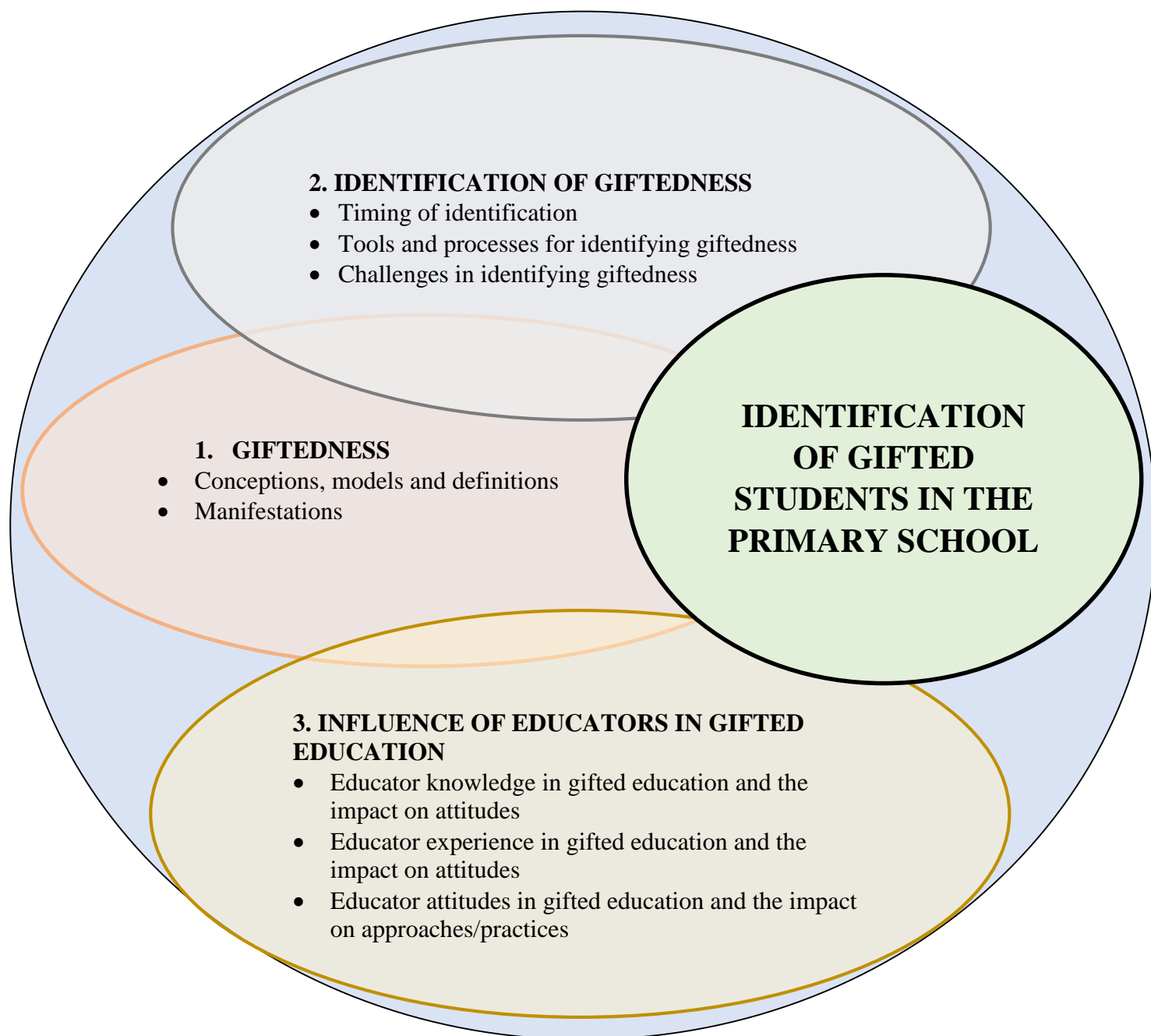


Figure 1. *Conceptual Framework*

2.2 Giftedness

2.2.1 Conceptions of Giftedness

Research into models and definitions of giftedness and talent tends to be motivated by two particular aims; the first is to generate theory concerning the psychological and genetic underpinnings of high ability and achievement, and the second concerns effective ways to

identify high ability students in educational settings (Dai, Swanson, & Cheng, 2011).

Investigating conceptions of giftedness is important in identification for, as Bracken and Brown (2008) found in their research, the conception of giftedness held by teachers influences the way they ultimately view and identify giftedness. While there have been attempts to shed light on aspects of high ability since ancient times, there has been a surge of research over the past century, led by the work of Lewis Terman (Terman, 1925, 1926, as cited in Davis et al., 2011). The following discussion reviews the literature around early conceptions, models and definitions of giftedness, and the development of more recent conceptions, models and definitions. It also explores the cognitive, behavioural and affective manifestations of giftedness.

Early Conceptions, Models and Definitions of Giftedness

Historically early models of giftedness centred almost exclusively on intelligence, equating giftedness with high intelligence quotient, usually referred to as IQ (Colangelo & Davis, 2003; Gross, Macleod, Drummond, & Merrick, 2005). Of note was the work of two prominent researchers of the early twentieth century, Lewis Terman and Leta Stetter Hollingworth.

In the early 1900s, Terman worked to modify an existing test developed by French psychologist Alfred Binet, designed to measure school skills rather than intelligence per se. Terman created the Stanford-Binet Intelligence Scale, and began publishing findings from his longitudinal study ‘Genetic Studies of Genius’ (Terman, 1925, as cited in Shurkin, 1992). From his work, Terman developed one of the earliest definitions of giftedness and talent. He proposed that high achievement was a consequence of having a high Intelligence Quotient (IQ) as measured by a standardised test instrument such as the Stanford-Binet Intelligence Scale (Dai, 2010; Frasier & Passow, 1994; Reis & Renzulli, 2010). To this, Terman applied Francis Galton’s theory of genius (1892). Galton’s view of giftedness was achievement based, with an emphasis on demonstrated performance or the production of evidence (Silverman,

2007) and, even more significantly, viewing giftedness as genetically inherited high ability. There was considerable agreement with this conception of giftedness among researchers and scientists at the time due in part to the prevailing values and attitudes about social class and genetic determinism (Colangelo & Davis, 2003).

While aware of the limitations of intelligence testing, Terman continued to use the arbitrary standard of IQ exclusively, as the criterion for inclusion in his study (Kreuter, 1962; Sternberg, 2004). Nevertheless, his research revealed findings of interest that continue to be accepted (Passow, 2004). Notably, when the character traits and potential of moderately gifted children are identified early, there is more likelihood of greater achievement later in life. This is supported by the findings of an extensive study (Walberg, Tsai, Weinstein, Gabriel, Rasher, Rosecrans, Rovai, Ide, Trujillo, & Vukosavich, 1981) of the traits and potential demonstrated in the childhood of 76 eminent scholars. While these characteristics could not necessarily foreshadow the degree and type of eminence achieved, Walberg et al.'s research shows they are traits that could foreshadow adult eminence. Jolly's (2008) examination of Terman's longitudinal study led her to disagree with Terman's label of eminence; however, as her research found, while many of his subjects were highly accomplished adults, they did not necessarily achieve eminence.

Another significant contribution of Terman's (1925) research to conceptions of giftedness was the introduction of levels of giftedness along the continuum of IQ scores (Kaufman & Sternberg, 2008). Terman regarded an IQ above 135 as moderately gifted and above 150 as exceptionally gifted and, with *genius* being defined by Terman as an IQ 180+, most of his subjects were not in this range. Terman also contributed to the shift from the notion of genius to gifted (Assouline, 2003). Despite his longitudinal study involving children with IQ scores above 135 IQ, Terman refrained from defining giftedness as a specific score of IQ.

Nevertheless, criticism of Terman's model exists. Initially, Terman's subjects were selected by their teachers because they showed, what Renzulli (2004a) would now describe, as 'schoolhouse giftedness' (p. xxv) or test-taking and lesson-learning giftedness, thereby eliminating those gifted in other domains, such as the creative arts. It was only after this pre-selection took place that Terman administered intelligence testing. Some research (Dai, 2010; Gottfredson, 1997) demonstrates that varying degrees of support for this simplistic notion of 'schoolhouse giftedness' remains. Review of the literature (Davis et al., 2011; Feldhusen, 2003; Robinson & Clinkenbeard, 1998) exposes disapproval of Terman's narrow model for determining the capacity of a young individual through teacher nomination and the single quantitative measure of general intelligence testing, as well as his over-reliance on genetic factors in determining intelligence.

The criticism of Terman's research regarding the likely skew towards cultural bias in the use of predominantly white, middle-class, Jewish children in the study, has been noted by Borland (2004), Davis et al. (2011), and Feldhusen (2003). They argue that Terman's sample was not representative of the general population of the time. Earlier criticism of Terman's study came through the work of Witty (1951) and subsequent research (Getzels & Jackson, 1962) that sought a broader conception of giftedness inclusive of originality and creativity, arguing that gifted creative students may not be considered if IQ scores remained as the established and lone criterion for selection.

With reliance solely upon intelligence testing, other measures (for instance, achievement tests), contributing characteristics and factors such as environmental, educational, cultural, language and socioeconomic variables, as well as family support and intrinsic motivation of the individual, were not considered in Terman's framework of giftedness. He did, however, hold the conviction that children with high IQs are better adjusted in the areas of social and emotional development than the norm (Grossberg &

Cornell, 1988). A number of other studies support this proposition (Kelly & Colangelo, 1984; Lehman & Erdwins, 1981), most particularly when gifted students are appropriately placed with like-ability peers and their giftedness is valued.

While Terman's research on conceptions of giftedness rested entirely on intelligence testing, and on the attainment of a certain IQ score, Assouline (2003) argues that this research cannot be dismissed, as while intelligence testing is not the only component of assessment of giftedness, it continues to be the most utilised one. More recent researchers caution that, to accept Terman's conception of giftedness as a defining model, eliminates other identification tools and, given that it negates any multidimensional nature of giftedness, would give a very different selection result (Mandelman, Tan, Aljughaiman, & Grigorenko, 2010). The multidimensional nature of giftedness, however, was recognised much earlier in the work of Leta Stetter Hollingworth, researching at around the same period as Terman.

Hollingworth's (Hollingworth, 1926, 1942) research reinforces the earlier research of Terman equating giftedness with high IQ (Reis & Renzulli, 2010). The reluctance by both to define intelligence beyond IQ was due to their conviction that intelligence was the only trait of giftedness that could be measured with any certainty. However, there was one feature that distinguished Hollingworth's work from Terman. Where Terman defined giftedness through the one unitary factor of intellectual ability as measured by an IQ test, Hollingworth considered that giftedness could manifest itself in multiple areas or domains. She recognised giftedness in characteristic behaviours within the social and emotional domain, as well as cognitive domains. In the late 1930s, while the definition of giftedness as measured by IQ remained, Hollingworth (1939) did advocate for a broadened conception of giftedness to incorporate more diverse areas, such as creativity, leadership and other social/emotional traits.

Hollingworth (1926) maintained that the higher the degree of giftedness, the greater the social and emotional needs of the child. This finding challenges Terman's earlier studies

that demonstrated children with high IQ are better adjusted in these areas than the norm (Grossberg & Cornell, 1988). Subsequent and more recent research (Austin & Draper, 1981; Janos & Robinson, 1985; Powell & Haden, 1984; Roedell, 1984; Silverman, 1993a) lends support to Hollingworth's proposition that highly gifted children may have greater social and emotional needs. Such research also highlights the importance of considering conceptions of giftedness not only in the cognitive domains, but also within the social and emotional domains.

A number of studies suggest that gifted children may have particular difficulty in social adjustment with their age peers (Austin & Draper, 1981; Gross, 2004a; Janos, Fung, & Robinson, 1985), and that vulnerabilities such as perfectionism, high emotional sensitivity, anxiety related to parental and teacher expectations, early and intense analysis of self, and alienation from peers (Roedell, 1984) are often present in highly gifted students. These vulnerabilities can become significant issues, frequently manifested as burdens for the gifted during their growth and development, particularly if support systems are not in place (Roedell, 1984). Such systems could include counselling in career, academic and personal areas of development, supportive adult role models, appropriate educational provisions, and social skills training. A correlation between the discrepancy present in some highly gifted students involving their real self and their ideal aspirations, leading to low self-esteem and a poor self-concept, was established by Powell and Haden (1984). In a study of the research into psychosocial adjustment, Janos and Robinson (1985) found that moderately gifted students compared favourably with their age peers; however, the more highly gifted presented as more vulnerable, due in part to often being, and feeling, well out of step with friends, age peers, and even family. The term 'asynchronous development', introduced by Silverman (2009b), describes the phenomenon where children with high cognitive abilities tend to develop at varying rates across developmental areas. Research drawn from working with

gifted children over 30 years (Silverman, 2009a) found they are emotionally intense, and their emotional resources may not correspond to their high cognitive abilities, as uneven development is a common characteristic of giftedness. Findings showed the higher the IQ, and, therefore, the greater the giftedness, the more asynchronous the individual's development (Silverman, 2009b). Such characteristics as heightened intensity and complexity, atypical awareness, feeling out-of-sync with societal norms, and vulnerability (Silverman, 2009b) were also found to be more evident with highly gifted children.

Later studies, more quantitative in their focus, have disputed Hollingworth's findings that individuals with high IQs tend to have more social adjustment issues. This discrepancy may be explained to some extent by the fact that methodologies in the early research tended to be focussed around case studies, while later research was more quantitative and involved a broader population. Of note is a study on the psychosocial adjustment of fifty-one high-achieving, intellectually gifted young adolescents (Luthar, Zigler, & Goldstein, 1992), that found them to be similar in their psychosocial development to college students who were matched to the subjects by cognitive ability.

Hollingworth's studies were concerned with the educational, social and emotional needs of children with high intelligence, examining the concept of potential, and the factors that contributed to the manifestation of that potential. While Terman remained resolute to the idea of heritability, and did not consider environment as a contributor to giftedness, Hollingworth's research was founded on her belief that heredity was only one factor contributing to giftedness, and that opportunity and education played major roles in the development of giftedness (Hollingworth, 1926).

A shift in the conception of giftedness emerged from Hollingworth's work (Morelock, 1996) that further influenced gifted education. Hollingworth found that early identification of giftedness was essential, and optimal provision for such students needed to occur if they were

to manifest their full potential. These early conceptions gave rise to the first formalised and widely accepted definition of giftedness, documented in what is now known as the Marland Report.

Later Conceptions, Models and Definitions of Giftedness

For a long time, the definition of giftedness defaulted to intelligence, academic aptitude, and academic achievement. The publication of the Marland Report (1972) for the Congress of the United States was highly significant as, for the first time, it set out a definition of gifted and talented children in a federal education document in the United States (Colangelo & Davis, 2003). The report stated:

Gifted and talented children are those identified by professionally qualified persons, who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realise their contribution to self and society. Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas singly or in combination:

- (1) General Intellectual Ability;
- (2) Specific Academic Aptitude;
- (3) Creative or Productive Thinking;
- (4) Leadership Ability;
- (5) Visual and Performing Arts; and
- (6) Psychomotor Ability. (Marland, 1972, par. 1)

The Marland Report definition is regarded as one of the most accepted definitions of giftedness over the last three to four decades (Gagné, 2004b). Importantly, the definition allowed for an expanded conception of giftedness, which included not only high ability in the

intellectual domain but also in the domains of creativity, leadership, the arts and sport. It is important to note that Marland used the terms *gifted* and *talented* synonymously (Gagné, 2004a). While Terman defined gifted learners as those who scored in the top 1% on general intellectual ability, Marland's definition claimed giftedness prevalence as 3% to 5% of the population. Additionally, the Marland definition, in contrast to Terman's restricted view of giftedness, and in recognition of Hollingworth's work, acknowledges the multidimensionality of giftedness in terms of various expressions across different domains.

The Marland definition of giftedness had a significant impact on determining who was considered as being gifted and, conversely, who might be omitted from being identified as gifted. Despite this broadening of conceptions of giftedness, and while the intention of the 1972 definition was to eliminate elitist inclusion practices, Richert (2003) argues that an examination of the context reveals that school districts and states tend to interpret the definition to suit their own circumstances. As an example in support of this claim, Bonner II, Lewis, Bowman-Perrott, Hill-Jackson, and James (2009) point out that people from African-American backgrounds have tended to be underrepresented in gifted programs.

Since the release of the Marland definition, many deviations from the original have emerged, with most supporting broader and more inclusive criteria. One example is the definition put forward by the Columbus Group, under the leadership of Silverman (Columbus Group, 1991). This definition was in response to unease by teachers, parents and counsellors towards the emphasis being placed on giftedness as external expressions of performance and achievement. The group-formulated definition states:

Giftedness is *asynchronous development* in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity. The uniqueness of the gifted renders them particularly vulnerable

and requires modifications in parenting, teaching, and counseling in order for them to develop optimally. (Silverman, 1997)

The definition refers to the uneven rate of development of the gifted, relative to mental age. This uneven development has been documented in a number of research studies (Gross, 2004a; Hollingworth, 1942; Roedell, 1984; Silverman, 2009a), and will be further addressed later. The definition, however, was strongly influenced by the characteristics of exceptionally gifted students ($IQ \geq 160$). Consequently, as a definition, its applicability to the entire gifted population comes into question (Gagné, 1997).

Another broader definition that emerged since the Marland definition was Renzulli's (1978, 2005) three-ring definition of giftedness that focuses on three characteristics; namely, above average ability, creativity, and task commitment (also referred to as motivation), all interacting, and all playing an important role. Renzulli proposed identification by combining assessments or measures in all three areas. Renzulli (1979) criticised the Marland definition because it did not consider motivation as an important variable in gifted behaviour. Renzulli advocated, however, for the inclusion of creativity, previously not considered in models or conceptions of giftedness outside of the Marland definition. This broadening of criteria results in an expansion of the population eligible for inclusion in programs for gifted children (Kaufman, Kaufman, Beghetto, Burgess, & Persson, 2009). In fact, Renzulli (1986, 1990) favoured the inclusion of the top 15-20% of the population, in contrast to Marland, who specified 3-5% prevalence.

Underpinning Renzulli's (1979) conception of giftedness is achievement, either in domain-general or domain-specific areas. For giftedness to be established, all three characteristics—ability, creativity and task commitment—must be observed in high performance, hence Renzulli's preference for the term 'gifted behaviours' (Davis et al., 2011), rather than gifted individuals. Renzulli (2004a, 2005) also introduced the concepts of

academic or schoolhouse giftedness and creative-productive giftedness, defining each as a type of giftedness. Schoolhouse giftedness is defined as high ability and the capacity to adapt this to the learning environment, easily measured by ability tests, and most frequently used in the selection of students for gifted education programs. Creative-productive giftedness, on the other hand, is advanced by the environment and produces original and solution-focussed outcomes usually highly valued by others. Creative-productive giftedness is applied through an inquiry approach addressing real-life problems and having personal relevance for the learner. By his definition, both are valid; however, Renzulli makes the case that the creative and productively gifted receive recognition due to the observable value of their giftedness, as opposed to those schoolhouse gifted who are identified essentially due to their IQ score (Kaufman & Sternberg, 2008). Renzulli tends to avoid defining the concept of talent within his work on giftedness.

Renzulli's (1986) three-ring conception of giftedness, as it has become known, has been criticised for a number of reasons. The apparent failure of the model to account for the high-ability, low-performance gifted underachiever, the inclusion of creativity as an essential characteristic instead of as a factor of influence on exceptional performance in particular domains, and the failure to address above average ability beyond just intellectual ability were three criticisms of the model held by Gagné (1985). Renzulli's failure to draw links between data from his research on the achievements of successful adults, and the traits, characteristics and IQ of children to inform his model of giftedness, also came under criticism (Kaufman et al., 2009; Kaufman & Sternberg, 2008). The definition receives further criticism because it suggests an impermanence to giftedness, implying it may disappear at some point in the lifespan (Coleman, 2004).

Further to Marland, Renzulli suggested that general intelligence represents only part of the conception of giftedness, and that a range of factors, aside from genetic heritance, can

result in the manifestation of giftedness. This was subsequently supported by another advocate of broader conceptions of giftedness, Robert Sternberg.

Sternberg (2003) argued strongly for a more inclusive definition and model of giftedness, beyond what can be measured solely by IQ. As Renzulli's definition includes above average ability, creativity and task commitment/motivation, Sternberg's definition is similarly conceptualised with intelligence—both analytical and practical, creativity and wisdom. Building on the work of Hollingworth (1942), Sternberg integrated the multidimensional nature of giftedness into his model (Kaufman & Sternberg, 2008). From an exploration of giftedness in multiple domains beyond the academic, such as the performance domains of the arts, and leadership, a triarchic model of giftedness emerged that included analytical thinking, creativity and practical thinking (Cianciolo & Sternberg, 2004). Sternberg's triarchic conception of giftedness requires these three abilities to work collectively, within the sociocultural context, for a person's success to be realised.

A further development was a focus on giftedness as culturally bound (Sternberg, 2007). In other words, giftedness is understood differently according to the culture and context (Sternberg & Davidson, 2005). As conceptions of giftedness can be formed by one's own context, a risk emanating from Sternberg's model is the identification of giftedness in another cultural context may be negated, or not recognised, as its manifestations may differ from one's own context (Bonner II et al., 2009; Sternberg, 2007).

The triarchic definition of giftedness was further developed into the WICS (Wisdom, Intelligence, and Creativity synthesized) model (Sternberg, 2003). This model reflects a belief that giftedness is a social construct and requires the synthesis of the three characteristics of wisdom, analytical and practical intelligence, and creativity (Sternberg & Davidson, 2005). Wisdom is defined as empathy and concern for the needs and well-being of others. Such a conception of giftedness is considered to be flexible and inclusive of culture, context and

diverse manifestations (Ford, 2003), and describes a more open, inclusive model of giftedness (Mandelman et al., 2010). However, Miller (2008) points out that such a theory of intelligence is operationally challenging to adopt, due to the difficulty in measuring wisdom and creativity and the difficulty in establishing the validity and reliability of such measures.

While there is broad agreement that general intelligence or IQ only partly explains giftedness, strong criticism (Gottfredson, 2003a) of the theory and research into *practical intelligence* exists. The criticism stems from the argument that the data offered in support of the existence of practical intelligence, as distinct from academic intelligence (g), is weak. There is a claim (Gottfredson, 2003b) that the introduction of practical intelligence is an attempt to explain those characteristics of giftedness still undefined.

Consistent with Renzulli and Sternberg, other contemporary theorists in gifted education (Laine, Kuusisto, & Tirri, 2016; Shavinina, 2009; Stoeger, Steinbach, Obergriesser, & Matthes, 2014) have been favouring a multidimensional approach to the conception of giftedness. A significant figure influencing the field in this regard over the last three decades has been François Gagné. The Differentiated Model of Giftedness and Talent (DMGT) is a model for giftedness and talent developed and refined over almost 10 years by Gagné (1985, 2004b). Coleman (2004) believes Gagné's model (1985, 2004b) has raised awareness of conceptions of giftedness to a new level due to his analysis of the relationship between talents and giftedness. Gagné retrieved the ideas and definitions of scholars in the field of gifted education, integrated these into a developmental model, placed talent within the model, and included a range of external variables that can influence the development of talent.

This model is a significant step towards defining the distinction between gifts and talents, as it clearly distinguishes between potential and performance, and explores the interaction between genetic potential, behaviour, catalysts and environments (Shaughnessy & Persson, 2009). This relationship is detailed in Figure 2, showing the importance of these

catalysts in aiding or hindering the development of potential (giftedness) into talent. It is argued (Kaufman & Sternberg, 2008) that the inclusion of external variables was a response to the emphasis placed on earlier genetic theories of intelligence. Gagné's variables include external factors comprised of intrapersonal catalysts (including the individual's physical characteristics, motivation, volition, self-management and personality), environmental impacts (such as the physical, cultural, social and familial milieu, significant persons, provision of programs, activities, and services, and events such as encounters, awards and accidents), and the element of chance. His variables also include inherent factors, such as natural intellectual, creative, socio-affective or sensori-motor abilities.

Gagné (1998, 2010) defines the top 10% of the population as being gifted. Within this group, Gagné, supported by the subsequent research of Gross (1999b; 2009), goes further and delineates high levels of ability by degrees through the following progressively selective classifications of giftedness: moderately (top 1%), highly (top 1:1,000), exceptionally (top 1:10,000), and extremely or profoundly gifted (top 1:100,000). The transformation of high aptitudes into well-trained and developed skills and knowledge in a particular field, placing an individual in the top 10% of the field relative to age peers, designates talent (Gagné, 2004b).

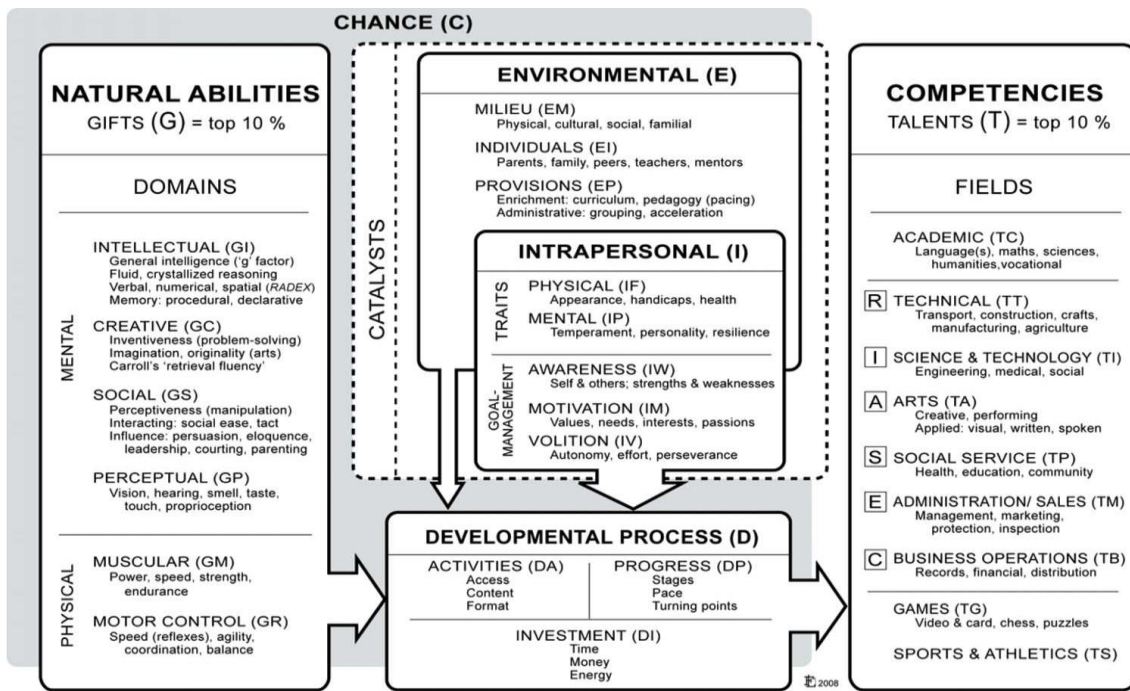


Figure 2. *Gagné's Differentiated Model of Giftedness and Talent: DMGT 2.0; 2008 update* (Gagné, 2010)

The definition provided in Gagné's (2003, 2004b) DMGT model has been deemed credible and acceptable by many researchers (Chessman, 2005; Gross & Sleaf, 2001; Heller, 1991), particularly as it is embedded in research, interpretable by stakeholders, and delineates giftedness and talent. Giftedness is defined as potential or untrained and spontaneous high ability, whereas talent is a manifestation of giftedness after training, i.e., high performance (Gagné, 2003, 2004b). Gagné (2010) purports that talent is the transformation of natural outstanding abilities. Conversely, then, and a key to Gagné's definition, is that giftedness is defined as outstanding potential, regardless of performance (Gross, 2004b), thereby establishing a causal link for giftedness to be a precondition for achievement or talent (Gagné, 2004b).

Gagné's model demonstrates the relationship between ability/potential, and performance/achievement, and the significant role catalysts and chance play, either negatively or positively, in the development of talent from giftedness. As recent studies by Olszewski-

Kubilius and Thomson (2015) and Siegle et al. (2016) found, school environments are catalysts and play an important role in the development of potential into performance. Within his model, Gagné (2007) proposes that a person can possess outstanding potential in one or more of the domains of intellectual, creative, socio-affective and sensori-motor and, therefore, be gifted, without demonstrating extraordinary performance or achievement. While Renzulli (2005) believed motivation was an essential characteristic of giftedness, Gagné's model names it as a crucial catalyst to enable a gift to develop into a talent. Furthermore, unlike Sternberg and Renzulli, where the synthesis of all characteristics were required for giftedness, Gagné's DMGT model draws the distinction between creativity and academic intelligence, and confirms high ability in either of these domains determines giftedness.

Despite considerable support for the model, Hewton (2008) notes that criticism from the field of gifted education centres on confusion with definitional terms used by Gagné, and the distinction made between giftedness and talent. Another criticism (Simonton, 2004) stems from the lack of clarity around the change in factors, catalysts and processes over time, and their impact upon giftedness and talent. The lack of clarity within the model, as to the pathway for gifted underachievers, has also brought the DMGT under further question (Wellisch, 2016). Gagné's DMGT has also been criticised for employing an arbitrary measure of prevalence as 10% of the population (Baer & Kaufman, 2004; Feldhusen, 2004). Concerns raised about the cut-off score of 10% have related to its determination of who should be considered gifted, and who should not. The risk in adhering strictly to 10% is that underperforming gifted students, or gifted students from minority backgrounds may be overlooked (Borland, 2004; Renzulli, 2016). Gagné acknowledges there is no '...magical number that automatically separates those labelled gifted or talented from the rest of the population' (Gagné, 2012), and that an appropriate level of prevalence will be reliant on professionals reaching agreement.

While consensus on a definition of giftedness has yet to be realised, many of the conceptions of giftedness since the Marland Report have been expansive enough to include the various ways giftedness can be understood and expressed. A shift from the traditional use of a score as a determinant of giftedness, towards a broader conception that takes into account the various types, and developmental nature, of giftedness, has occurred (Reis & Renzulli, 2009; Subotnik, Olszewski-Kubilius, & Worrell, 2011; Sulak, 2014). This shift has also been embraced in the National Association for Gifted Children's revised definition:

Gifted individuals are those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include any structured area of activity with its own symbol system (e.g., mathematics, music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports). (NAGC, 2010)

Like Gagné's DMGT, the NAGC definition identifies that outstanding potential, named as aptitude, denotes giftedness. Giftedness is also identified in high levels of performance or achievement, with a suggested prevalence of 10% of the population.

In more recent times, the School-Based Conception of Giftedness has emerged (Cross & Coleman, 2014). Elements of this model are reflective of other contemporary conceptions of giftedness. This conception describes the gifted as those who learn rapidly in a particular field or discipline, and the talented as those who are the most advanced in that field or discipline. The foundation for giftedness is based on high cognitive ability and creativity.

However, according to Cross and Coleman (2014), while *potential* for giftedness is normally distributed, giftedness as advanced development (described by Gagné as talent) is not. This conception holds that giftedness requires a particular context for it to be expressed, along with the individual's driving commitment to move beyond potential to advanced

development. The definition draws a relationship between ability, as potential identified in childhood, and achievement, recognised as accomplishments in adolescence and beyond (Dai, 2009). A school-based conception places the opportunity for advanced development as early as possible—in the school context. Cross and Coleman (2014) advocate that schools have a responsibility to provide opportunities for the *potential for giftedness* to advance to *giftedness* at the highest levels in specialised contexts. Whereas Gagné’s model describes giftedness as the presence of natural abilities regardless of whether they are transformed into talent, Cross and Coleman’s model ascribes to the potential to *become gifted* but giftedness may or may not be realised, dependent upon opportunities for advanced development. They deem the use of ability tests, as an indicator for identification, would only occur when contexts are likely to inhibit the process of identification due to a lack of advanced development.

Definitions for this Research

For the purposes of this study, Gagné’s definitions within his differentiated model for giftedness and talent is used. The rationale is that it has been in use since 1985, is adopted nationally across every state in Australia since the early 1990s (Gross, 2004b), is specifically adopted by NSW state education since 2004 (NSW Department of School Education, 2004), and has been an operational definition and model for the system of schools within this study for the last decade. The Australian Curriculum Assessment and Reporting Authority (ACARA) also endorse the use of Gagné’s definitions as ‘...the most generally accepted definition of both giftedness and talent’ (Australian Curriculum Assessment and Reporting Authority [ACARA], n.d.). It is, therefore, important within the context of this research study.

Summary

Giftedness is defined by Gagné as potential or untrained and spontaneous high ability, regardless of performance (Gross, 2004b), whereas talent is a manifestation of giftedness after training, i.e., high performance (Gagné, 2003, 2004b). Gagné (2010) purports that talent is the

transformation of natural outstanding abilities. Giftedness, therefore, is the precondition for achievement or talent (Gagné, 2004b). Consistent with Gagné's definition of giftedness, the estimate of prevalence of 10%, provided by Gagné, is adopted for the purposes of this study.

It is clear there has been significant tension in defining giftedness (Pfeiffer, 2008), particularly given that identification practices are predicated on the definition of giftedness being used. This suggests that this research should consider the definitions of giftedness educators hold, and the impact of their definition on identification. Closely related to definitions of giftedness are manifestations of giftedness. This is the focus of the following section.

2.2.2 Manifestations of Giftedness

The research literature (Dai, 2010) suggests that debate on the origin of giftedness through either nature or nurture continues, as do deliberations over the degree to which the gifted, and non-gifted, differ. What constitutes the exceptional state of giftedness requires consideration of how, and the degree to which, giftedness manifests itself. The inclusivity or exclusivity of giftedness is dependent on one's conception and definition of giftedness, as well as an understanding of concomitant characteristics.

Teachers' understanding of the manifestations of giftedness through adequate training is important to ensure identification of gifted students (Whitton, 1997). Notably, one qualitative, multiple case study (Valpied, 2005) found the lack of understanding of the range of characteristics of giftedness resulted in gifted students not being identified, or subsequently excluded from appropriate school provisions. A study by Lee (2002) found that many teachers were influenced by the noticeability of giftedness in their conceptions and identification of giftedness. However, research shows that characteristics of giftedness can be misinterpreted (Betts & Neihart, 1988; Gross, 1999a), thereby adversely affecting the identification of, and provision for, giftedness. These findings have also been supported by case study research

(Weber, 1999). This research found that, as a consequence of the misinterpretation of giftedness characteristics by teachers, resulting in the ineligibility of a gifted student to join a gifted program as the student was deemed to not meet criteria for giftedness, significant inappropriate behaviours emerged in this student.

The literature proposes that gifted students differ from one another in their abilities, interests and learning, motivation and personal characteristics, but that recurrent characteristics and traits can usually be observed (Davis et al., 2011; Vialle & Rogers, 2009). While there are multiple manifestations of giftedness (Pfeiffer, 2008), these can be grouped into three broad domains—cognitive, behavioural and affective.

Cognitive Characteristics of the Gifted

Traditionally, intellectual ability has been the defining criterion of giftedness, determined through an IQ score. As the learning needs of intellectually gifted students can be significantly different from the average student (Silverman, 1993a), it is essential that the characteristics of gifted students aligned with cognitive functioning are known and understood to assist in identification.

Research (Hoh, 2008) suggests that the characteristics of high cognitive functioning emerge across domains, regardless of the domain's orientation. The empirical evidence indicates there are particular characteristics that commonly differentiate the cognitive functioning of gifted students from those in the normal range of abilities (Hoh, 2008). Cognitive characteristics of giftedness noted by Hoh (2008), and also identified by other researchers in the field, can be summarised as:

- strength in perception
- intense and sustained attention and concentration also referred to in the literature as task commitment (Renzulli, 1979)
- tenacity (Harrison, 1999)

- perseverance and persistence (Baum et al., 1996)
- strong memory and reasoning skills (Winner, 1996)
- advanced skill in pattern recognition using abstraction and generalisation (Baum et al., 1996)
- ability to multi-task (Sankar-DeLeeuw, 2004)
- high levels of curiosity and intense fascination
- fast pace of learning due to high degree of intuition and requiring minimal instruction (Gross, 2004a)
- flexibility and efficiency in unusual circumstances (Sternberg & Davidson, 2005)
often linked to a strong sense of humour.

Supportive of these findings, a study (Rogers, 1986) of 100 developmental traits in gifted and average students revealed similar differentiating cognitive traits, such as rapid learning ability, and including an early interest in books and ability in puzzles and mazes, extensive vocabulary, good memory, extended attention span, perfectionism, curiosity, perseverance and keen powers of observation.

A study by Rogers and Silverman (1998) explored the characteristics of giftedness among 241 exceptionally gifted children, with IQ scores of 160+. Of all the characteristics listed, 80% or more of the parent respondents named the following cognitive traits: learns rapidly; extensive vocabulary and an avid reader; ability with numbers and with puzzles; excellent memory; reasons well; heightened curiosity; keen observational skills; long attention span; wide range of interests; and perseverance in interests.

Numerous sources and theorists over the past 30 years (Colangelo & Assouline, 2000; Davis et al., 2011; Frasier, Hunsaker, Lee, Mitchell, Cramond, Krisel, García, Martin, Frank, & Finley, 1995b; Harrison, 2004; Hoh, 2008; Janos & Robinson, 1985; Renzulli, 1978; Silverman, 2003; Walberg et al., 1981) have contributed to listings of descriptors and traits

related to the cognitive ability of gifted students. While many of these caution about generalising the way giftedness is manifested, there are characteristics that recur throughout the research literature (Davis et al., 2011). A compilation of these, developed and refined over more than 30 years, have been integrated into a *Characteristics of Giftedness Scale* (Silverman, 2003). Each characteristic is predicated on the understanding that it facilitates the distinction between individuals with an IQ score of 130 and above, and those scoring in the average range on an IQ test. Of the 25 characteristics (Silverman, 2003), high cognitive ability would be identified through the traits of:

- Learns rapidly
- Has extensive vocabulary
- Has an excellent memory
- Has a long attention span (*if interested*)
- Perseverant in their interests
- Has a wide range of interests
- Early or avid reader (*if too young to read, loves being read to*)
- Is a keen observer
- Has facility with numbers
- Good at jigsaw puzzles.

Behavioural Characteristics of the Gifted

The behavioural characteristics of the gifted are difficult to determine for a range of reasons, not the least of which is the constraints of instruments used to identify such behaviours (Gallagher, 2015). Additionally, gifted students appear to be as diverse and different as any other group in the population, including in the asynchronies they exhibit. N. M. Robinson (2008) identifies gender, age, peer and educational dynamics as factors that also influence the behavioural characteristics of the gifted.

Motivation is one of the single most recurrent traits of successful gifted individuals (Davis et al., 2011). However unmotivated individuals, lacking in persistence, can also be gifted, but may not demonstrate the task commitment identified by Renzulli (2005), nor the ability to apply their giftedness in varying circumstances as identified by Sternberg (2003). An important piece of research (Cox, 1926) conducted in conjunction with Terman's studies, on the traits of eminent persons, involved a study of their biographical and personal details. The findings revealed that, while high intelligence was necessary (as measured by IQ), other characteristics, such as motivation, effort, self-confidence, strength and determination were influential factors in achieving eminence.

Walberg et al.'s (1981) studies of childhood behavioural traits of over 200 eminent people concurs with earlier studies, finding perseverance as a key characteristic to their success. Giftedness is also made manifest in a strong curiosity (VanTassel-Baska, 1998a), searching to know and understand the workings of the world and its phenomena. Generally higher levels of internal control and self-confidence are also behavioural characteristics of the gifted. Davis et al. (2011) contend that high levels of self-confidence may evolve naturally owing to ongoing positive feedback, from a range of observers, including peers, parents, teachers and even siblings, on their performance relative to age peers.

An early-onset awareness of moral issues, developing into high moral thinking, and the ability to show advanced moral judgement, is also considered an advantageous behavioural characteristic of the gifted (Dana & Lynch-Brown, 1991). Supporting these findings, studies by Gross (2004a) on highly gifted students also found significantly elevated levels of moral and ethical judgement. These findings are consistent with Walberg et al.'s (1981) earlier study of eminent people where the majority reflected an ethical trait.

Affective Characteristics of the Gifted

There remains disagreement in the literature regarding the social and emotional characteristics of gifted individuals. Terman's studies would contend that giftedness manifests in good mental health and social adjustment, whereas Hollingworth (1942) and Gross (2004a) argue to the contrary that very high intelligence of IQ160+ results in difficulties related to social relations with peers and subsequent lower than average self-esteem.

The research is still unclear as to whether a relationship exists between high ability and high levels of social maladjustment. Some researchers, similar to Hollingworth, believe the greater the giftedness, the greater the propensity for problems in the affective domain. The work of the Columbus Group (1991), a group of American psychologists led by Silverman, supports this contention. This group developed a definition of giftedness inclusive of the emotional development of the gifted, thought to have previously been ignored, or at the least overlooked. The development of gifted individuals is typically uneven and the Columbus Group definition addresses this asynchronous development of giftedness inclusive of the affective domain. High cognitive ability, along with increased intensity, impacts the affective domain of the gifted who are qualitatively different to the norm (Silverman, 2002). In essence, the higher the cognitive ability the greater the impact. Yet, in the first instance, it can be difficult to identify the affective characteristics of the gifted. The asynchronous development works against a uniform profile of characteristics of gifted children due to variance in how, and in what combination, characteristics or traits are displayed (Colangelo & Wood, 2015).

Contrary to the contention that giftedness is associated with problems in the affective domain, a study (Garland & Zigler, 1999) of 191 college students found no evidence of a relationship between higher degrees of giftedness and higher emotional and behavioural problems. This assertion validates the work of Norman, Ramsay, Martray, and Roberts

(1999), and the findings from earlier work by Janos and Robinson (1985). Both studies found that gifted students were no more likely to have social adjustment issues than that of students falling in the average range of ability.

In further support, a study of 140 gifted students found that they are as well-adjusted, and in some cases better, than those within the normal range of ability, and have a higher level of self-actualisation (Pufal-Struzik, 1999). Importantly, the study also established a strong relationship between school achievement and success of gifted students and their self-actualisation process. Identified affective characteristics, generated as a list of traits of giftedness, came from research conducted with parents and teachers in rural populations around the same period (Reyes & Fletcher, 1996) and included: knowing how to get along with others; able to express feelings; and being aware of and sensitive to the feelings of others.

In synthesising research findings (Franks & Dolan, 1982; Gross, 2004a; Parker, 2000; Rogers & Silverman, 1998; Rogers, 1986; Silverman, 2003; Taylor, 1996; Wolf & Chessor, 2011), a summary of affective characteristics of giftedness would include: a strong sense of justice; advanced levels of moral development; unusually mature sense of humour; emotional maturity and intensity; an early concern about moral, ethical or religious issues; evidence of perfectionism, particularly when the gifted student is enthused about an area of study; high levels of energy; preference for the companionship of those chronologically older; strong attachment to one or two friends rather than a more casual relationship with a larger group; early onset of adolescent attitudes and needs; unusual capacity to empathise with other children or adults; perceptive about relationships; and high degrees of empathy with others' grief.

Perceived lack of synchrony of the gifted in the affective domain (Silverman, 1993b), likely due to the uneven rate of development, may manifest in tensions not readily recognised.

One example in findings by Simonton (1985) is the claim that some individuals' giftedness was too high and, therefore, in a sense, may not be appealing to the general population.

Conversely, a close relationship exists between the gifted conceptualising themselves as different, and positive signs of their social and emotional development (Janos et al., 1985).

While the research has established that there is no conclusive correlation between intellectual giftedness and social/emotional maladjustment, it is apparent that affective characteristics of the gifted have substantial influence on the academic achievement of the gifted (VanTassel-Baska, 1998a).

Research Question One

From a review of the literature, it is clear that a plethora of conceptions, models and definitions of giftedness have been emerging for more than 100 years. It is a significant issue, due to the implications for the identification of gifted students. With the renewed focus on gifted education in Catholic schools, Research Question One explores:

1. What are the knowledge, attitudes and experiences of principals and teachers in the Catholic system of primary schools related to giftedness and its identification?

2.3 Identification of Giftedness

Identification is the process of identifying gifted students, with the intent to address their needs, and is a critical part of a school's gifted education program. Unless teachers and leaders know who the gifted students are, and what abilities they possess, it will be near impossible to successfully plan for and implement an appropriate educational program for them (McClain & Pfeiffer, 2012). One of the main purposes of identification is to achieve an optimal match between the educational program and the student's abilities (Worrell & Erwin, 2011), to ensure they are challenged to advance from where they currently lie on the learning continuum. Therefore, identification is an ongoing, but not repetitive, process (Rogers, 2012). Callahan (2018), in research addressing fundamental issues in gifted education, offers

important considerations for schools when shaping a rationale for the process of identification. Specifically, Callahan (2018) advocates for an identification program that addresses the need for a curriculum sufficiently responsive to student characteristics, rather than identification based on the number of places in a gifted education program. The rationale for an appropriate curriculum seems judicious, as Robinson's (2008) research found, as the majority of their time in school, gifted students spend in mainstream classrooms with teachers untrained in gifted education. For an effective identification program to be in place in a school, consideration needs to be given to the timing of the identification, effective identification tools and processes, and the challenges in identifying gifted students.

2.3.1 Timing of Identification

Personalised learning pathways with appropriate expectations can be established for gifted students, as for all students, once their abilities and potential have been identified. Non-identification or misidentification of giftedness can lead to a mismatch between the learning program provided, and the learning needs of the student. Not surprisingly then, there is strong support in the literature for the early identification of gifted students (Callahan, 2005; Pfeiffer & Blei, 2008; Robinson, 1993; Silverman, 2009a). A recent study examined reading as a curriculum-based measure in distinguishing gifted learners and average ability students (McGowan et al., 2016), finding that based on grade level comparisons, identification of gifted students was less difficult in earlier year levels.

As noted earlier, Terman's studies determined the earlier even moderate giftedness was identified, the greater the possibility of achievement later in life (Passow, 2004). The later giftedness is detected, the greater the possibility that entrenched patterns of predictable, average performance may exist. Studies (Silverman, 1995; Weber, 1999) have revealed the 'cost' to gifted students is great when identification occurs late, as gifted students learn to be less than that which they are capable, 'cruise' in their learning rather than be extended, and

even deny their talents. A review of the research by Diezmann, Watters, and Fox (2001) into early entry to school found compelling support for the acceleration strategy for those young, identified gifted students who require a learning environment optimally matched to their needs. While acknowledging the importance of early identification of gifted students, the process is not without its challenges and difficulties.

An Australian study by Hodge and Kemp (2006) explored the factors that influenced the accuracy of Australian teachers in identifying very young gifted students. They found teachers' perceptions of students' strengths and ability, as well as the child's behaviours and attitudes were variables that can considerably influence the teacher's recognition of giftedness, and result in an under-estimation of abilities. In addition, Davis et al. (2011) and Heller and Schofield (2008) also identified the methodological problems and the related diagnostic reliability of intelligence tests for the young child. Other identification tools may also lose reliability due to personality factors associated with very young children, such as shyness, perfectionism or activity levels. These factors raise questions as to the feasibility and effectiveness of early identification.

Administering standardised tests and/or intelligence tests alone to students in the early years may provide a snapshot of ability. However, rich information through non-performance type measures can also provide data not possible through tests, and add valuable insight into students' profiles (Pfeiffer & Blei, 2008). Teachers of the early years have the advantage of being able to observe students consistently over time to capture additional information. It would seem this is significant to identification, particularly for those students who under-perform in testing.

The lack of recent empirical, longitudinal studies makes it difficult to determine the extent of the relationship between early testing and assessment for identification of giftedness, and later superior performance or achievement (Perleth, Schatz, & Mönks, 2000).

Nonetheless, by beginning early and implementing identification processes in an ongoing way throughout chronological development, multiple manifestations of giftedness can be identified. This minimises the mis-identification or non-identification of high ability students (Callahan, Hunsaker, Adams, Moore, & Bland, 1995) in the early years. It is important that this research explores each school's experience in the timing of identification practices, and the influence teachers and leaders bring to that process.

2.3.2 Tools and Processes for Identifying Giftedness

To implement a defensible identification system in a school, the inclusion of both measures of potential and measures of performance help determine just how extensive and intensive the gifted program and talent development program will need to be (Rogers, 2012). There are both objective and subjective measures of potential (giftedness) and objective and subjective measures of performance (talent).

Objective measures of potential include individual and group-administered intelligence tests, aptitude tests, and off-level achievement tests. Objective measures of performance include individual and group-administered achievement tests, group administered standardised achievement tests that are 2-3 years off-level, and ratings or rankings from national or international competitions.

There are formal and informal subjective measures of potential and of performance. Formal measures are usually research-based, and some are standardised and normed, and, therefore, formally validated. Results from formal subjective measures are usually provided quantitatively. Some, however, are not comparatively nationally normed and, therefore, present low reliability and validity.

Informal measures are more likely to be locally developed, and specific to the program being considered, but not formally validated. Subjective measures of potential include academic rating scales for teachers, checklists and nomination forms. Subjective measures of

performance include work samples, auditions, exhibits, nominations, interviews and observations.

Traditional Methods of Identifying Giftedness

It has been more than 100 years since the development of a standardised IQ test. The use of standardised IQ tests to identify giftedness has dominated the literature in gifted education, and they continue to be widely used for this purpose (Newman, 2008). Studies (Kaufman & Harrison, 1986; Machek, 2003) show that standardised tests of intelligence, such as IQ tests, are excellent predictors of academic achievement. Their attraction is also in the specific statistical data that scores present in comparison to subjective measures.

Standardised tests are typically either norm, or criterion-referenced. In norm-referenced tests, individual performance is compared with the performance of all test-takers, and traditional tests of IQ fall into this category. In comparison, criterion-referenced tests compare an individual's knowledge, understandings and skills with the levels expected for their age and stage of learning, for instance a student's knowledge, understandings and skills may be considered in light of expectations outlined in a school curriculum (Sternberg et al., 2010). Norm-referenced tests, such as IQ tests, have been characteristically used for the identification of gifted individuals, more so than criterion-referenced tests.

According to Sternberg et al. (2010) and Gross (2004b), standardised tests typically include tests of intelligence, tests of aptitudes and interests, and tests of achievement.

Tests of Intelligence and Ability

According to Callahan et al. (1995), in their study of instruments used in the identification of gifted students, the individual intelligence test is a recognised tool considered a somewhat objective, reliable and valid measure of general intellectual ability. These tests can provide information on gifted students, to inform high-stake decision-making (Rimm,

Gilman, & Silverman, 2008). Intelligence tests are also known as cognitive ability tests (Ford, 2004).

Intelligence tests can be administered to either individuals or groups, and they result in an IQ, which is calculated by comparing mental age (arrived at by considering how well an individual scores compared to the population averages) to chronological age, and multiplying by 100, i.e., $MA/CA \times 100 = IQ$. The two most widely used tests of intelligence are the Wechsler Intelligence Scale - Fourth Edition (WISC-IV) and the Stanford-Binet Intelligence Scale - Fifth Edition (SB5) (Rimm, 2010). Their prevalence is based on a belief that they are objective, they eliminate the influence of prior instruction, and their reliability has been proven (Machek, 2003). There are, however, concerns throughout the research literature (Newman, 2008) about the value of intelligence tests.

Concerns regarding the use of individual intelligence tests are due in part to their ceiling effects, potential cultural bias or 'loading' (Sattler, 2001), the influence of processing speed on results (Silverman, Gilman, & Falk, 2004), the asynchronous development of abilities (Silverman, 2009b), and the value placed on one correct answer over creative, divergent responses (Fletcher-Janzen & Ortiz, 2006).

The Wechsler Scales are regarded by many researchers (Rimm, 2010) to be the most widely used of the individual IQ tests for identification of giftedness, alongside the Stanford-Binet Intelligence Scale. As all sub-tests are timed tests, the processing speed criteria of the Wechsler Scales is an issue in the administering, and the interpretation, of scores (Newman, 2008). The current version of the Stanford-Binet Intelligence Scale, originating from Binet and Simon (1905/1916), is an untimed test and can be used over a range of ages, from two years to 90 years. Testing 10 subsets of intelligence, it provides an IQ for verbal, non-verbal and overall performance. Both the Wechsler and Stanford-Binet Intelligence tests are administered individually, by qualified psychologists. Both tests are objective, and eliminate

the influence of prior instruction, as it is not a prerequisite. Reliability has been proven as similar, if not the same, results are returned when the test is repeated with significant time in-between (Machek, 2003). Regardless of this, Plucker (1998), among others, called for testing processes to capture an expanded view of intelligence. Newman's (2008) study of the recent revisions of both tests, the WISC-IV and SB-IV found evidence that they reflect the advancements made in psychometrics, and current theoretical understandings of intelligence.

Another instrument, also established on the assumption that intelligence is abstract reasoning, is the Raven's Progressive Matrices. Aligned with *g*, being the mental energy and mental power an individual possesses, Raven (1958) developed tools to measure pure *g*, which have undergone several revisions (Raven, Raven, & Court, 1998; Raven, 1965). The Progressive Matrices are recommended for a range of cultural and educational contexts (Silverman, 2009) as they are not language or culture dependent, can be administered individually or in groups by educators other than psychologists, and are not time constrained.

Even so, the Matrices are criticised (Silverman, 2009) for their low ceiling, and the failure to discriminate between degrees of giftedness beyond 130 IQ. To be effective in identification, teachers need to have an understanding of degrees of giftedness (Jung, Barnett, Gross, & McCormick, 2011), and Silverman (2009) recommends an intelligence test with a higher ceiling once a child tests out at the 97th percentile on the Raven Progressive Matrices, in order to determine full potential.

The Kaufman Assessment Battery for Children – Second Edition (KABC-II) is another form of individual intelligence testing. It is a set for assessing giftedness, developed in response to dissatisfaction with other intelligence tests that utilise cut-off scores in determining IQ in an arbitrary mode (Lichtenberger et al., 2006). Designed by Kaufman and Kaufman, the KABC-II is intended, as an assessment of high cognitive abilities, to be used as part of a multidimensional battery for assessing gifted children (Kaufman & Kaufman, 2004).

The KABC-II (Lichtenberger et al., 2006) claims to demonstrate sensitivity to children from culturally and linguistically diverse backgrounds, in a fair and equitable way. The test is not focussed on processing speed as the Wechsler Scales are, enabling the more reflective participants to complete the test. The KABC-II provides appropriately high ceilings, supporting more accurate identification of potential.

Other tests for the measure of intelligence include group tests. These are viewed favourably by some practitioners because of the advantage of administering to groups, rather than one-by-one, and serve as an initial screening of high ability students for further evaluation (Assouline, 2003; Gross & Sleaf, 2001; Rimm et al., 2008).

In the individual versus group tests debate, individual intelligence tests are considered to have more reliability and validity (VanTassel-Baska, 2008), as group test scores tend to be lower than those for individual intelligence tests (Sattler, 1992). From using intelligence tests within her research, Rimm (2010) asserts the constraint of the time requirement for group tests hampers some children's ability to demonstrate their full potential. Children with attention deficits, disabilities or disorders, or slower processing speeds may not complete the test. Whereas individual intelligence tests enable the psychologist to investigate further into a child's responses, group tests mitigate against such actions.

While there remains strong opposing views on its use and merit, the intelligence test is still regarded as an invaluable identification tool (Felder, 1986), enabling early and effective identification of high ability.

Tests of Aptitudes and Interests

Tests of aptitudes and interests are designed to be a predictor of success, determining the aptitude of the student—the ability to learn—not a test of what has already been learned (as in an achievement test) nor a test of abstract reasoning (as in an intelligence test). Aptitude refers to '... the degree of readiness to learn and to perform well in a particular situation or

domain' (Corno, Cronbach, Kupermintz, Lohman, Mandinach, Porteus, & Talbert, 2002, p. 3).

Aptitude tests assess ability, with no prior knowledge or training. Off-level or above-level tests are tests of aptitude (Assouline, 2012), and are a valid off-level instrument for identifying academically gifted students (Lupkowski-Shoplik, Benbow, Assouline, & Brody, 2003). Pre-tests, or pre-assessments, as tools to determine proficiency in an academic area, can also be useful in identifying advanced achievement beyond grade level (Colangelo, Assouline, Marron, Castellano, Clinkenbeard, Rogers, Calvert, Malek, & Smith, 2010).

Aptitudes tests can be either broad in nature, or more specifically focussed in a particular field, such as music. Aptitude tests focus on how *apt* a person is to learn. Nevertheless, there is tension among some researchers, as noted by Dai (2009) as to whether aptitude can be a predictive factor in determining future achievement in certain domains. Aptitude tests can be used to measure natural abilities, as in Gagné's DMGT. Gagné advocates that, while natural abilities are preconditions for achievement (talent), their transformation is conditional on other factors coming into play, a finding also identified in a study by Stoeger et al. (2014). Therefore, using aptitude tests as the sole measure in the identification of giftedness can be problematic, as a causal relationship between aptitude and achievement cannot be assumed (Sternberg, 1999).

Aptitude tests that give consideration to cultural and linguistic backgrounds very effectively determine giftedness in minority groups (VanTassel-Baska, 1998b), and are considered a valid off-level instrument for identifying academically gifted students (Lupkowski-Shoplik et al., 2003). They are frequently used as part of talent search programs.

Tests of Achievement

Achievement tests are designed to measure achievement in a particular field, and unlike intelligence or aptitude tests, are designed to be administered after the learning has

taken place. They are assessments *of* learning. They are likely to be the more frequently used assessments available to teachers, as they are criterion-referenced tests and, therefore, compare an individual's knowledge, understandings and skills with the levels expected for their age and stage of learning (Sternberg, 2010).

Generally, achievements tests have caused less controversy than intelligence tests, as they are considered less biased, culturally and linguistically, as they are designed in direct relationship with the student's learning. As Ford's (2004) research discovered, poor scores on achievement tests are less likely to be related to hereditary intelligence, and more likely attributed to environmental and social factors, such as motivation and educational experience both at home and school. This is an important consideration when decisions of gifted program placements are based on such results.

Achievement tests are, however, also considered a useful tool for off-level testing, when the 'ceiling' on a lower-level test is reached (Gross & Sleaf, 2001). While off-level tests are designed as ability-appropriate for older, average students, teachers can administer them effectively to younger gifted students to heighten the ceiling and provide an opportunity for them to demonstrate their full abilities. In this way, above-level testing serves as aptitude testing, rather than achievement testing (Lupkowski-Shoplik et al., 2003). The findings from research by Gross and Sleaf (2001) establish that the advantages and the placement of off-level tests are central to their effectiveness. As these tests determine what gifted students already know about content and what skills and competencies they already possess, they help determine how far a student's performance differs from their age peers (Matthews, 2008). This information can then be used by teachers to develop learning programs that enable gifted students to extend their learning rather than covering content they have already mastered.

There exists a range of individual learning differences among gifted learners. Despite the effectiveness of intelligence, achievement and aptitude testing, they may not always

identify the gifted, nor the gifted in domains other than cognitive abilities. This may be due to the asynchronous development of gifted learners discussed earlier. It may also, as Borland (2008) established, be due to these traditional approaches identifying ‘... a traditionally inequitable population of identified gifted students’ (p. 275), resulting in the underrepresentation of minority groups, such as students from low socioeconomic or EAL/D backgrounds. Understandably, concerned educators look to other tools and methods to address this challenge.

Non-standardised Methods of Identifying Giftedness

Standardised measures of intelligence, cognitive abilities and achievement focus on only one aspect of giftedness. A shift in the paradigm of giftedness identification in response to expanded conceptions of giftedness has increasingly yielded the inclusion of non-standardised tools of measurement (Pfeiffer & Blei, 2008; Sternberg, Grigorenko, & Jarvin, 2006). These tools can extend the information received from intelligence tests (Pfeiffer & Blei, 2008) to reveal hidden potential not otherwise identified. Alternative tools can measure other aspects of giftedness, such as strengths in the artistic, musical, dramatic, leadership, athletic and communication domains (Pfeiffer & Blei, 2008).

Non-standardised tools of measurement include: rating scales (usually listing behaviours and characteristics); teacher, parent, and peer nomination (usually questionnaires and checklists); student portfolios; and dynamic assessments. While non-standardised diagnostic instruments such as these have measurement inadequacies (they are not statistically normed or validated), VanTassel-Baska (2005) reported their use by teachers is on the increase due to their ability to capture giftedness not identified by traditional measures.

The use of non-standardised measures have been found to be valuable in the identification of gifted individuals when used in combination with standardised methods. A large study by Hunsaker (1994) explored the effectiveness of alternative practices of

identification of giftedness across 39 school districts. These districts were endeavouring to address the underrepresentation of gifted students, by expanding the net of identification beyond traditional intelligence testing methods. The most used alternative approaches, to expand the assessment criteria, included checklists, rating scales, portfolios, observations of behaviour, and the use of alternative tests. The study revealed that the variables most associated with success of these alternative procedures included school personnel and assessment practices, and hindering factors included the lack of recognition of the manifestations of giftedness in diverse cultures. An understanding of the challenges affecting the identification of gifted students, whether through the use of standardised or non-traditional forms of measurement, warrants further investigation and research.

Another major study (Brown et al., 2005) was undertaken, involving almost 3000 participants, made up of classroom teachers, teachers of the gifted, school leaders and consultants, and drawing from across every region in the USA. The purpose was to explore their assumptions about the process for identifying giftedness. The 20-item survey asked participants to indicate the degree to which they agreed or disagreed with statements about practices for identifying giftedness. The results indicated that most respondents favoured an expanded view of giftedness and the use of multiple criteria in the identification process. There was opposition to limiting identification practices to scores gained solely from achievement and IQ tests.

In a recent study investigating the consistency attained when using performance and non-performance measures for identification (Acar, Sen, & Cayirdag, 2016), higher consistency was established when rating scales were used as one of the non-performance measures. The researchers determined the time and frequency teachers are with students has them well-placed to recognise characteristics of giftedness.

Nominations are subjective tools for identification of giftedness. The two most used are teacher nomination and parent nomination. Self-nomination and peer nomination can also be used, though have limitations (Gagné, 1989), dependent on a range of factors, including the age and abilities, and perceptions and decision-making abilities of the peers. In an extensive study by Schroth and Helfer (2008) of 900 school educators, regarding which identification methods they supported, parent and peer nominations were not considered a valid form of identification. In contrast, another large study involving 2350 primary-aged students, found very significant inter-peer agreement using peer nominations, particularly for identification and selection of gifted peers in the intellectual and physical domains (Gagné, Bégin, & Talbot, 1993). There appears to be, however, considerable agreement for the use of a trait list, developed by qualified gifted researchers and educators, to enhance the reliability and validity of nominations (Borland, 1978; Gross & Slep, 2001; Rogers, 2002).

Teacher nomination, while open to significant bias (Gross & Slep, 2001), is a tool best used in conjunction with other identification criteria. While Gagné (1994) concluded teacher nomination was as valuable as any objective testing tool, Collins (2001) argued that, on its own, it is the least effective identification measure, and without objective measures, is open to cultural, class and gender bias. However, Siegle, Moore, Mann and Wilson (2010) found teacher nomination to be a valuable tool due to teachers' ongoing and frequent access to students. Either way, securing the input of classroom teachers in the identification process is strongly supported in a study by Pierce et al. (2007), due to the insight and understanding teachers can offer about the gifted student that a test cannot reveal.

The effective use of teacher nomination is reliant upon a sound understanding of the traits and characteristics of giftedness (Speirs Neumeister, Adams, Pierce, Cassady, & Dixon, 2007), highlighting the importance of training in gifted education. Research indicates that teachers without training tended to nominate as gifted those students who were conforming,

cooperative, and eager to receive teacher approval, often over-estimating their abilities (Betts & Neihart, 1988; Jacobs, 1971). Similarly, a study by Hunsaker, Finley, and Frank (1997) found that teachers nominated students whom they felt were most likely to succeed in a gifted education program. The implications, therefore, for the professional development of teachers in the identification of giftedness are significant, and are extensively addressed in the research literature (Brown et al., 2005; de Wet & Gubbins, 2011; Galitis, 2009; Gross, 1994; Gross & Sleaf, 2001; Hemphill, 2009; Hodge & Kemp, 2006). Used in isolation, teacher nomination is not an effective tool in identifying the breadth of gifted students in a population (Gross & Sleaf, 2001).

In contrast, a considerable number of research studies establish parent nomination as more effective than teacher nomination, in the identification of giftedness. A review of the literature by Hodge and Kemp (2006) found that parents were very effective in the identification of intellectual giftedness in their young children. One study (Ciha, Harris, Hoffman, & Potter, 1974) found that parents were three times more likely to accurately identify a gifted child, than the teacher, despite the research (Plunkett, 2000) showing that teachers believe parents to overestimate their child's abilities as gifted.

The effectiveness of portfolios as a tool for identification has also been considered in the research, and found to be largely dependent on the teacher's understanding of, and attitude towards, giftedness (Johnsen, Ryser, & Dougherty, 1993). Portfolios as identification tools rely on teacher skill in observation and evaluation of gifted characteristics and, therefore, it is difficult to establish their reliability and validity (Herman & Winters, 1994).

As a measurement of giftedness, the dynamic assessment method is ordinarily used as an assessment of the student's zone of proximal development, as described by Vygotsky (1978). Students may be presenting with potential competence, but are yet to be identified as gifted through other processes (Lidz & Elliott, 2006). When high cognitive abilities are

suspected yet not presenting through more traditional measures, such as psychometric testing and trait-oriented approaches, dynamic assessment of giftedness offers a more process-oriented approach to identification (VanTassel-Baska, 2000). While approaches within the assessment may vary, the two consistent features of dynamic assessment to detecting and measuring giftedness involve intervention and feedback. Intervention is in the form of instruction, and in direct response to the student's ongoing performance. Typically, the 'tester' provides instruction and new information to the student and, subsequently, assesses the student's ability to learn and apply the newly taught skills (Sternberg & Grigorenko, 2002). Giftedness is measured by the amount of change that occurs in the student's learning. A benefit of dynamic assessment is the insight into the type of thinking processes gifted students use, in open, less-structured tasks of assessment (Heller, 2004).

One particular approach to dynamic assessment in Australia is the work of Chaffey (2003). Chaffey's Dynamic Assessment Method utilises the Ravens Matrices through a process of pre-test, intervention, post-test, and far post-test. This method involves intervention that was similar to the original problems, but using different examples, with the teaching of additional behavioural strategies to assist the student. Results showed the identification of Aboriginal students with potential, previously overlooked due to their low performance in academic domains.

Significant differences between student achievement, and what standardised testing or IQ scores predict, require broader measures of identification that elicit a greater level of achievement. The effectiveness, and inclusivity, of non-traditional forms of measurement in identifying the gifted warrants further investigation and research.

Traditional versus Alternative Measurements of Giftedness

As most definitions of giftedness refer in some way or another to intelligence, it is understandable that intelligence testing has been the preferred way to determine giftedness. In

a review of the literature surrounding the identification of gifted students, there remains a solid research base supporting the use of IQ and achievement testing (Gross & Slep, 2001). The use of standardised measures in testing for giftedness suggests such highly researched and well-known tools of measurement imbue confidence in the degree of accountability, and an objective process for identification (Machek, 2003). Importantly, however, there is strong recommendation in the literature (Acar et al., 2016; Baldwin, 2005; Getzels & Jackson, 1962; Gross & Slep, 2001; McClain & Pfeiffer, 2012; Tommis, 2013) that such testing be supported by the implementation of other subjective and objective tools and processes. In a research study of almost 3000 teachers, there was strong agreement for a multi-criterion approach to identification (Brown et al., 2005) supported by expanded conceptions of giftedness. The populations yielded by a multi-criterion approach may be far different to those from a single criteria approach.

2.3.3 Multiple Criteria – Helping or Hindering Measurement

As already established, there is strong support in the literature for the use of multiple criteria in the identification of giftedness (Frasier, 1997; Pfeiffer & Blei, 2008; Roach & Bell, 1986). In particular, an extensive review of the research since the early 1980s (Frasier, 1997) reveals that throughout the research, multiple criteria is provided to help in the identification of giftedness, and is of great assistance to educators in the process of obtaining comprehensive information about a student's abilities. However, as multiple research studies have shown, teachers and their training in gifted education are key to the effective implementation of identification practices (Long, Barnett, & Rogers, 2015; Moon & Brighton, 2008; Pfeiffer & Petscher, 2008; Tirri, 2017). As Rogers (2012) advocates in her research, identification helps teachers come to understand where the school's curriculum falls short in meeting the needs of gifted students.

Increasingly over recent times, an array of research (Ford & Trotman, 2000; Pfeiffer, 2002, 2003; Pfeiffer & Blei, 2008; VanTassel-Baska, Feng, & De Brux, 2007) endorses the value of using multiple measures and multiple sources of evidence, for the identification of giftedness. While informal diagnostic instruments such as checklists, nominations and rating scales may have measurement inadequacies, integrating them with the more traditional standardised measures improves the comprehensiveness of identification.

Debate exists on how wide the identification net should be thrown. One viewpoint (Pfeiffer & Blei, 2008; Tannenbaum, 2003) maintains it should be cast wide through a diversity of diagnostic tools, to have an increased chance of all students with outstanding potential being captured. From a theoretical perspective, intelligence testing is valuable, but even more so when used with multiple sources of information (Pfeiffer, 2002). In practice, however, a study of 90 empirical studies of giftedness (Ziegler & Raul, 2000) reveals the contrary, with only one single criterion being used in most studies.

The findings of a recent study (Borghans, Prevoo, & Schils, 2016) also support the use of multiple measures by schools, to ensure gifted students are identified and not overlooked. The study was conducted over five years, with 6th grade cohorts in almost 200 primary schools in the Netherlands. The research investigated the degree of overlap between: i) teacher's assessment or nomination of a child as gifted; ii) a top score on a high stakes test; and iii) a high score on an IQ test. The high stakes tests are a three-day standardised achievement test administered to students in their final year of primary school. The results indicated little overlap across the three measures. Of those students nominated as gifted by teachers (2.6% of the cohort), more than half did not score in the top 5% of the IQ or high stakes tests. Conversely, a large number of students (16.2%), not nominated by their teacher as gifted, scored in the top decile of the IQ and/or high stakes test. These findings point to

giftedness as multifaceted, and the need to go beyond single criterion in the identification of gifted students.

In addition to standardised testing, multiple criterion identification can involve an array of tools, such as creative ability tests, inventories or checklists, parent feedback, nominations, teacher reports, scales of gifted behavioural characteristics, a review of the child's work through portfolios, and evidence of achievements through awards or via direct observation by appropriately qualified personnel (Frasier, 1997; Sattler, 1992; Ziegler & Raul, 2000). This said, there are a number of challenges that affect the measurement of giftedness.

2.3.4 Challenges in Measuring Giftedness

The literature review has established that a universally accepted model for the identification of giftedness does not exist. However, significant conceptual shifts have occurred particularly due to the research and theories of Renzulli (1978), Tannenbaum (2003) and Gagné (1995b). This shift has led to the conception of giftedness, as Jarvis (2009) observed: '...as a multifaceted construct relevant to multiple fields of endeavour and modes of expression' (p. 235).

Failure to adopt a clear and acceptable theory of giftedness makes the task of competently implementing an effective identification program very difficult. There are, in addition to this problem, related variables affecting the identification of giftedness. In particular, an identification program that gives way to greater congruence in the identification of underrepresented and mainstream gifted students, as well as addresses the issue of non-identification of gifted students.

Underachievement, misidentification and underrepresentation are common themes found in the literature on the identification of the gifted (Bonner II et al., 2009). Findings from a parliamentary inquiry in the state of Victoria, Australia (Parliament of Victoria, 2012) reveal that gifted students failing to be identified include those from cultural or disadvantaged

minority groups, those who camouflage their giftedness for peer acceptance, and those who underachieve due to disengagement with learning.

Understanding the barriers that limit opportunities to identify giftedness in children is important in providing every gifted student the opportunity to demonstrate their exceptionality. One example is the asynchronous development of cognitive, emotional, social and physical characteristics in the gifted. This factor makes identification challenging, and can cause educators to form unrealistic expectations of gifted students (Pfeiffer, 2002; Silverman, 2009b).

A recent Australian case study (Wormald et al., 2015) explored the non-identification of academically gifted students with disabilities (also known as twice exceptional, or with dual exceptionalities). The literature review revealed the absence of a clear and acceptable identification process for twice exceptional students. It found that identification occurred for students requiring learning intervention, or for their giftedness, but rarely for both combined. In the case study mentioned, teacher attitudes also played a role in the identification process. Only two teachers had been significant advocates for the student in his schooling K-12, while many other teachers held a degree of disbelief that a student with disabilities could also be expected to achieve.

Identification procedures that do not acknowledge a student's cultural or linguistic difference can also mitigate against identification of giftedness (Frasier, Martin, Garcia, Finley, Frank, Krisel, & King, 1995c), and especially for those who have English as an additional language (EAL/D), and their first language is not the language of the assessment instrument (Frasier et al., 1995c). In her review of issues surrounding gifted students with English as a second language (ESL, referenced in this study as EAL/D), Elkevizth (2010) found that the gifted EAL/D student shared many of the same traits as English-speaking

peers, but the EAL/D learner's traits were interpreted differently, as language masked the giftedness.

Similarly, when the influence of the student's milieu—home, social or cultural environment—is not supportive of, or does not evoke their giftedness, the lack of motivation or task commitment will affect performance. The presence or absence of resources, for economic reasons, is also a major factor in the identification of giftedness (Gross, 2004b). The failure of a gifted student to demonstrate innate characteristics of giftedness or, conversely, the demonstration of negative behaviours that mask giftedness (Pfeiffer, 2002), may contribute to negative attitudes towards, and motivation for, tests and assessments.

Underachievement results when there is a difference between a student's abilities or potential, and their achievements or performance (Colangelo & Assouline, 2000; Reis & McCoach, 2002). Underachievement has long been considered by educators to be a problem (Pirozzo, 1982; Thorndike, 1963), and has caused a degree of frustration in teachers (Whitmore, 1980) as they attempt to resolve the discrepancy between potential and non- or under-performance in gifted students. A recent review of the research suggests that anywhere between 15% and 50% of gifted students are achieving significantly below their identified potential (Morisano & Shore, 2010).

Underachievement is often assumed when IQ scores are not reflected in performance. It is also possible that a range of factors, rather than one single factor, come into play when underachievement occurs. Reasons for underachievement offered in the literature (Reis & McCoach, 2002; Rimm, 2008) include poor test preparation, inadequate curriculum to meet expected learning, avoidance behaviours to prevent achievement, test anxiety, attention problems, poor health or well-being, and learning disabilities.

In a review of the literature exploring elements that may contribute to underachievement in gifted students, 10 factors were identified (Peters, Grager-Loidl, &

Supplee, 2000). They include considerations, such as geographical-ecological, ethnic, economic, gender, educational deprivation, sub-cultural, physical or psychological problems, family, active disrespect for societal norms, and being highly creative. In addition, factors such as the pressure to succeed and missed or mis-identification are also added (Morisano & Shore, 2010).

Gifted underachievers commonly display personal or behavioural characteristics, such as stubbornness, non-participation, uncooperativeness, cynicism, disorganisation and untidiness, the tendency to question authority, frustration, absentmindedness, and little interest in detail (Davis et al., 2011; Silverman, 2013). In some ways, schools have contributed to this problem, due to under-identification. McCoach and Siegle's (2003) study found that the failure of schools to provide appropriate educational provisions added to the occurrence of behaviours that lead to underachievement. This supports the findings of Neihart's (1999) earlier study that showed having the right 'educational fit' was one factor in achieving positive outcomes for gifted students. Negative characteristics of giftedness, however, can be reversed by the intervention of professionals who can recognise and understand the traits and characteristics of gifted underachievers. Within a study of nearly 400 primary school teachers, Endepohls-Ulpe and Ruf (2006) found teachers with experience and training in giftedness had a more precise conception of giftedness and were able to identify more positive behavioural characteristics in gifted students.

Discriminatory practices in the assessment of giftedness are the main reasons why groups within the population are identified in disproportionately low numbers, while others are over-represented (Pfeiffer, 2002; Riley et al., 2004). Most of these can be attributed to teacher behaviour, including teacher bias, low expectations, selective and low referral rate, lack of expertise in test administration and analysis, limited conceptions of giftedness and negative stereotyping of students. Students from diverse ethnic and cultural backgrounds are

the most affected by these prejudicial practices. A lack of recognition by teachers of giftedness as it is manifested in diverse cultural populations has meant these gifted students are frequently overlooked (Elhoweris, Matua, Alsheikh, & Holloway, 2005; Hunsaker, 1994; Miller, 2005).

There are problems inherent in the traditional methods of testing for giftedness in culturally diverse students, predominantly in the performance differences between them and mainstream students (Fletcher-Janzen & Ortiz, 2006). One study (USDOE, 2006) involving a series of surveys found that minority students were underrepresented in gifted cohorts by 50-70%. This study also reported students with disabilities and students living in economic hardship as also underrepresented.

Underrepresented groups fare better when multiple criteria, inclusive of both traditional standardised tests and non-test measures, are used collectively to assess the traits and behaviours for giftedness (Frasier et al., 1995b). For equity, to ensure no group is favoured over another, and for validity and reliability of results, sensitivity to cultural and linguistic backgrounds, disabilities, disorders and other variables such as processing speed and personality need to be considered when measuring for giftedness in students from underrepresented populations (Kaufman & Harrison, 1986; Lichtenberger et al., 2006; Pfeiffer, 2002).

Research Question Two

The identification of giftedness is an important responsibility of the school. The identification of ability/potential or performance/achievement assists the school in knowing what kinds of educational needs are not being met by the school's general curriculum (Rogers, 2012). This action is a catalyst for recognising and responding to the educational needs of the gifted students.

With so many issues surrounding the identification of giftedness in general, a central issue lies in the role of traditional and non-traditional measures used to identify gifted students. There is strong support in the literature for the use of multiple criteria in the identification of giftedness. This is occurring as narrow conceptions of giftedness are increasingly being replaced by broader, more expanded conceptions of giftedness, as found in a recent study in Finland (Laine et al., 2016) where teachers defined the multidimensional nature of giftedness. Populations yielded by a multi-criterion approach to identification, reflective of a multidimensional view of giftedness, may be far different to those from a single approach to a narrow view of giftedness.

The emergence of gifted education in recent history as a key challenge in system schools demands that teachers and leaders are aware of and accept their responsibility to support the learning needs of gifted learners. The implication of this for system primary schools, therefore, warrants deep exploration.

Consequently, Research Question Two asks:

2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?

2.4 Influence of Educators on Gifted Education

Stephens (2011) found in a study of the United States' federal and state responses to the needs of gifted students, that a lack of policy and direction can result in inconsistent processes for the identification of gifted students and leads to disparity in practices, and this is reflective of the identification of gifted students in schools within the system in the present study (Laughlin, 2011b). The lack of a cohesive and comprehensive framework for the identification of giftedness has created a disparity in practices within and across the system (Laughlin, 2011b).

Furthermore, the impact of teachers' and leaders' knowledge, attitudes and experiences and the effect these variables have on the identification of gifted students has received limited attention in the literature. The literature does, however, include numerous studies on teacher knowledge, attitudes and experiences towards educational provisions for gifted students, and this is reviewed in the section that follows.

The literature suggests an interweaving of the knowledge, attitudes and experiences of teachers and leaders in gifted education. Each of the three variables is frequently referred to in relationship to another. Yet closer examination of the literature suggests that knowledge and experiences of educators with gifted education generate attitudes that then influence the approaches and practice educators engage in with regard to gifted education. The review starts by investigating the impact of educator knowledge on their attitudes to gifted education, followed by a review of the impact of educator experiences on attitudes to gifted education, and finally reviewing literature on the impact of educator attitudes on approaches and practices in gifted education. For the purpose of this review, educators includes teacher and leaders and the literature in relation to teacher and leaders is discussed separately.

2.4.1 Educator Knowledge in Gifted Education and the Impact on Attitudes

Teacher Knowledge

Teachers continue to subscribe to a range of myths and misconceptions about gifted students (Lassig, 2009; McCann, 2007), including beliefs such as all students are gifted, gifted education is elitist and gifted students will achieve regardless of teachers' attitudes or educational provisions. Rotigel's (2003) research identified that attitudes continue to exist suggesting gifted education programs were elitist. The reports generated from the Australian Senate Inquiries into the Education of Gifted and Talented Students (1988; 2001) reported that a lack of training contributes to these myths and misconceptions, inhibits teachers' ability to identify and is one of the major causes of teachers' negative attitudes towards gifted

students. The latter report was a catalyst for a later study by Lassig (2003) of schools in Queensland, Australia, with and without gifted education programs. The findings of this study indicated that increased training in gifted education may support an improvement in these attitudes by reducing misconceptions. This supported earlier work by Gross (1997), who found that attitudinal shifts in teachers towards the gifted and their education can be brought about by well-planned training and professional learning opportunities. Gallagher's small-scale Australian study (2007) also found that, while attitudes by teachers towards gifted students were mostly positive, they continued to hold to some popular myths about gifted education. A low knowledge base was also identified in research by Ford (1998) that raised concerns about teacher reliability in the identification process. Ford's study cautioned that, when teachers had minimal or no training in gifted education, they would appear unqualified to recognise characteristics of giftedness.

Identification can be impeded by teachers' misconceptions about the perceived and actual characteristics of gifted students. McNamara's (1983) review of the characteristics of effective teachers of the gifted concluded that teachers' knowledge of the characteristics of the gifted, along with their ability to identify these learners, seemed to be linked to the success of gifted students' learning. An interest in the implicit theories held by teachers, and the influence these may have on a teacher's view of gifted students, was the catalyst for a recent study (Baudson & Preckel, 2013) involving 321 current and prospective teachers. The research found that giftedness, compared to average ability, is associated with more negative social/emotional characteristics. This has implications, not only for undergraduate teacher training, but also the within-school nomination process for identification. The recommendation for addressing this issue during teacher training is supported by previous research (Gross, 1994) that found teacher training focussed on giftedness, and gifted students, has a positive impact on teachers' attitudes towards this group of learners.

As highlighted in the study previously mentioned by Baudson and Preckel (2013), continuing myths and misconceptions held by teachers are of concern, as they influence student selection and the program options provided. A large-scale study by Archambault et al. (1993), for example, found that teachers made very minimal adjustments to the regular curriculum for gifted students. A later study by Moon and Brighton (2008) found that traditional conceptions of giftedness teachers continued to hold hindered the educational provisions they offered for gifted students.

The relationship between knowledge and attitudes is established by more recent research (Baudson & Preckel, 2016; Plunkett & Kronborg, 2011) indicating that biases and prejudices, intentional or unintentional, can be held by teachers who have not been afforded adequate training on the characteristics and manifestations of giftedness in students. Equally, a study (Ahmed, 2009) of an intervention to improve elementary school teachers' understanding of giftedness had a direct impact on teachers' nominations of students for gifted education programs. This suggests that when teachers develop conceptions of giftedness they subsequently nominate those students who demonstrate or meet the characteristics of these conceptions. This is supported by an earlier study by Plunkett and Harvey (1995) who found teachers to have increased confidence in their own ability to identify characteristics of giftedness when provided with specialised training in gifted education. Heller, Reimann, and Senfter (2005) found that, where teachers lacked knowledge or understanding of giftedness, more subjective rather than objective conceptions of giftedness were held. While this highlights the importance of knowledge acquisition by teachers for their understanding and conceptions of giftedness, research on the role of training and professional development programs in improving the knowledge teachers have of gifted education has produced mixed results.

Some research has found the positive influence of training in gifted education (Gross, 1994). Australian research by Lassig (2009) into the attitudes of 126 primary school teachers supports this contention, revealing a positive correlation between teacher attitudes and formal training in gifted education. Despite these positive findings, a study by McCoach and Siegle (2007) suggests that training in gifted education does not guarantee teachers will hold inclusive conceptions of giftedness. One recent study (Miller, 2009) of 60 primary classroom teachers from across five school districts identified that, even when various hours of training in gifted education had been provided to these teachers, not all defined common characteristics of giftedness in the same way.

Research on the impact of teacher knowledge specifically on identification is very limited. One early study (Gear, 1978) investigated the effects of training on teachers' ability to identify gifted students. The results indicated that teacher training in gifted education leads teachers to be significantly more effective in their identifications than those untrained. Similarly, research by Rubenzer and Thwaite (1979), as well as Silverman (1990), found that teacher training in gifted education led to increased levels of knowledge and skills required to identify gifted students. A more recent study (Hedrick & Tomlinson, 2008) validated the earlier findings and found that a school with a trained gifted education specialist implemented a quality gifted education program and had higher identification rates than similar schools without a fulltime gifted education specialist. This research highlights the importance of teachers possessing a strong knowledge base in gifted education. It supports the view that the greater the knowledge teachers have around giftedness and gifted students, the greater the likelihood of positive teacher attitudes towards these students and their involvement in gifted education programs (Copenhaver & McIntyre, 1992; Nicely, Small, & Furman, 1980). Likewise, leader knowledge of gifted students and gifted education is also important, and its impact on the attitudes of leaders is explored in the following section.

Leader Knowledge

Leaders in schools take responsibility for particular tasks within the school that ultimately impact upon the quality of teaching and learning provided for students. A wide knowledge base in critical areas is required by leaders to ensure school improvement. A review of research (DiPaola, Tschannen-Moran, & Walther-Thomas, 2004) shows that gaps exist in the level of such knowledge in gifted education held by leaders. For school leaders to be effective, they need a general understanding of the foundations of gifted education and characteristics of gifted students (DiPaola et al., 2004; McLaughlin & Nolet, 2004). This is particularly relevant to this research exploring the identification of gifted students. However, there appears a dissonance between what the roles of leaders demand in addressing the needs of gifted students, and what professional learning programs provide, to equip them for such leadership responsibilities (Davidson & Algozzine, 2002; McHatton, Boyer, Shaunessy, & Terry, 2010; Valesky & Hirth, 1992; Wakeman, Browder, Flowers, & Ahlgrim-Dezell, 2006).

In an Australian study by Forster (2010), the leadership of the principal and leadership team members emerged as key to the integration of teachers' professional learning in gifted education with the school's core purpose. The study found the case study school was successful in bringing about increased understanding, in teachers and leaders, in gifted education through its engagement in sustained professional learning and professional development. Likewise, findings from a concurrent study in New Zealand signalled the need for leaders and teachers to be afforded professional learning (Newton, 2010). This was in response to the discovery of a significant gap between theory and practice in gifted education that impacted detrimentally on the identification of gifted students in primary schools. According to Newton's study (2010), identification practices utilising a strong theoretical knowledge base that translates into practice are necessary. A strong knowledge base ensures

that, once effective identification processes are established, schools are better placed to respond with programs for gifted students that are clearly influenced by the level of student giftedness identified (Smith, 2006).

A recent study (Long et al., 2015) investigating the impact of the revised NSW gifted and talented policy (2004) on the quality and scope of gifted programs in 10 NSW secondary schools finds support for both Newton's and Forster's findings on the role of leaders in the professional learning needs of teachers. An implication for building teachers' knowledge of gifted education, through the provision of training and professional development, would be an improvement in their ability to more effectively identify gifted students. One significant finding from the NSW study was that while principals were more likely to make provision for professional learning, teacher planning time and resources when a gifted education policy existed, the majority of the schools offered insufficient teacher professional development in gifted education, and inadequate procedures for effective identification. This also confirms previous research undertaken in NSW by Forster (2005) who found that the application of gifted education policies varied from one school to another, and the impact of policy was, therefore, best evaluated in terms of practice in schools.

These findings suggest the importance of investigating the level of training and professional learning in gifted education for the school leaders as well as teachers, and the relationship between leader knowledge and the implementation of identification programs. This will receive focus within the research.

2.4.2 Educator Experience in Gifted Education and the Impact on Attitudes

Teacher Experience

Contact with gifted students, teaching experience and involvement in programs of the gifted have been found to be key variables affecting teachers' attitudes towards gifted students (Bégin & Gagné, 1994b; Cramond & Martin, 1987) and, as a study by Hall (1995)

found, even change previously held beliefs and poor attitudes. A survey of 1200 Kindergarten to Grade 12 teachers found that the degree of exposure to gifted education in areas such as identification, programming, behavioural characteristics of gifted students and teacher preparation influenced the positive attitudes of teachers (Rubenzer & Twaite, 1979). A study a few years later by Larribee (1981) supported this, finding that teachers developed more positive attitudes towards gifted students the more involvement they had with these learners. Similarly, a study of 24 teachers enrolled in a postgraduate program in gifted education found all had positive attitudes towards gifted learners (House, 1979).

The prior experiences of teachers, regardless of years of service, can influence the assumptions they have about gifted students (Siegle & Powell, 2004b), and also be a determinant as to whether identification is effective, or undertaken at all. The least experienced teachers in the profession are those at the preservice and early career stages of teaching. A recent Australian study investigating preservice teachers' perceptions of teaching gifted learners revealed a lack of confidence, and elevated concerns, in teaching to this diverse group of gifted learners (Hudson, Hudson, Lewis, & Watters, 2010). Cramond and Martin's earlier study (1987) of in-service and preservice teachers found that teachers with more teaching experience rated gifted students more positively overall than their more inexperienced colleagues. The experience of teaching gifted students is also found to impact on the professional growth of the teacher in such areas as increased knowledge and awareness of issues in gifted education and increased levels of self-efficacy in teaching gifted students (Gallagher, 2007).

Personal experiences (a gifted family member or friend, or recognition of self as gifted) are also linked with the knowledge and attitudes the teacher possesses. Galitis (2009), in a case study of gifted education in an Australian primary school, found that a gifted professional development program did not change teachers' deeply entrenched beliefs about

gifted education, but rather it was their personal experience and working knowledge that enabled them to recognise and cater for gifted students. Another example illustrating the impact of personal experience was identified in a study by Mills and Berry (1979). The study found a clear relationship between those who perceive themselves as gifted, and positive attitudes towards gifted education. It is important that the relationship of these experiences with the identification of gifted students is understood and, therefore, merits closer investigation in this study. Despite the comparative findings of Galitis (2009), professional experiences (teaching gifted students, leading colleagues who are teaching gifted students, or involvement in a gifted education program) have been linked to the knowledge and attitudes the teacher possesses.

Years of general teaching experience, as differentiated from formal training, has variable impact on teacher attitudes to gifted students. Smith and Chan (1998) found the more years of teaching experience, the more likelihood of positive attitudes towards provisions for gifted students. Similarly years of teaching experience coupled with experience in a leadership role, has also led to positive attitudes towards provisions in gifted education (Rubenzer & Twaite, 1979). Conversely, Béchervaise (1996) found a positive relationship between minimal classroom teaching experience and positive attitudes towards provision for gifted students, and that extended classroom teaching experience results in a switch of opinion against special provisions. Yet several studies challenge such notions, finding that experience is unlikely to influence attitudes towards provisions for gifted students (Bégin & Gagné, 1994b; Chessman, 2010; Plunkett, 2000).

Leader Experience

While leaders may not engage directly in the identification of gifted students, they can provide teachers with support that may lead to school-wide practices of effective identification, and the development of talent. Hence, the relationship between a principal or

leader's personal or professional experience of identification, and the practice of identification of gifted students is worthy of exploration.

An Australian study (Wormald, 2009) investigating the barriers to identification of gifted students with disabilities found that even if principals lacked experience in identification, the support they could provide teachers in the process was important for those teachers concerned, and for the success of the process. The study also found a link between knowledge and experience, and attitudes formed. The approach of some principals and school leaders to gifted students was with scepticism and disbelief, due to a lack of understanding about, and experience in, gifted education.

The extent of involvement leaders have in the identification of gifted students can influence their approach. While this can potentially lead to effective identification practices, it also has risks, such as dichotomous labelling of students as gifted or non-gifted (Worrell & Erwin, 2011). Leaders with limited or no experience in identification may resort to simplistic strategies, such as the inclusion of students with high IQ scores and the exclusion of those without. This would be in contrast to what the literature review has established as a more comprehensive approach, using multiple indicators assessing a variety of student learning aptitudes across a variety of domains.

Bechtol and Sorenson (1993) contend that effective principals accommodate the variety of student learning aptitudes to give students greater opportunities to achieve. To do this, they collaborate with teachers to trial new approaches and strategies. One study (Westberg & Archambault, 1997) explored the differentiated instructional practices for gifted students, in response to the data collected through the identification process. While not directly influencing the identification processes, the leadership of some school principals did have a strong impact on teachers' instructional practices.

Given the lack of research in this area, the experience of leaders and how these shape and inform the leaders' influence on identification of gifted students, deserves further exploration, and is a focus within this study.

2.4.3 Educator Attitudes Towards Gifted Education and the Impact on Approaches and Practice

Teacher Attitudes

The impact of teacher attitudes towards educational provisions for gifted students has been the focus of a number of studies within the research literature. In Australia, an earlier study by Goldberg (1981), followed by later research by Geake and Gross (2008), revealed teacher attitudes as a significant barrier to educational provisions for gifted students. The lack of educational provision for gifted students as a consequence of poor attitudes from teachers, can result in time wasted in the regular classroom, as found in research by Scot, Callahan, and Urquhart (2009). One large study (Gross et al., 2011) across 49 school sites investigated teachers and leaders' attitudes towards acceleration in Australian schools. Similar studies have investigated teacher and leader attitudes towards program options in gifted education (Jones & Southern, 1992; Smith & Chan, 1998), gifted students and their education (Lassig, 2009; Lewis & Milton, 2005; McCoach & Siegle, 2005), and specific factors that impact teachers' attitudes towards gifted students (Plunkett, 2000). While teacher and leader attitudes have been addressed in the literature with regard to these areas of gifted education, the literature is sparse in the relationship of these attitudes to identification.

Teachers' identification of gifted students is directly related to their attitudes towards, and view of, giftedness (Pfeiffer & Blei, 2008; Weber, 1999). According to research, recognising the benefits of identifying giftedness reflects an understanding of the possibilities for the individual, as well as the value and usefulness of gifted persons to contribute to society (Renzulli, 2005; Tannenbaum, 2000). Indeed, a positive attitude towards giftedness is

considered by some (Haight, 2006; Plunkett, 2000) to be a pre-requisite in the identification of gifted students. This is significant given that many identification models rely heavily on teachers to inform the process (Mandelman et al., 2010). Although evidence-based research in the identification of gifted students is readily available to inform teachers, recent research (Galitis, 2009) has found the effect of personal attitudes towards gifted students can be a greater influence on teachers. Research by Croft (2003) shows the influence of teachers' attitudes are visibly evident within teachers' day-to-day work behaviours, and that gifted students more than any others are affected by teachers' attitudes and actions.

The reluctance of classroom teachers to identify gifted students is of concern. A range of studies have explored the established attitudes of teachers towards gifted provisions (Béchervaise, 1996; Galitis, 2009; Southern et al., 1989). Experienced teachers are ambivalent about the value of gifted education, with one study (Galitis, 2009) finding that some teachers did not regard the notion of giftedness as a 'truth' at all. More broadly, there also exists in teachers widespread negativity towards giftedness, in some cases to the point of apathy for, or opposition to, gifted education (Lassig, 2009; Watters & Diezmann, 2001). Less than favourable attitudes towards the gifted and their education were also identified in a recent Australian study by Taylor (2016), who found that the demands on teachers' time was an issue among others in delivering educational provisions in response to the needs of gifted learners. Some teachers may experience a reluctance to identify due to feelings of inadequacy in knowing how to address these learners' needs. Renzulli's (2004b) research found that gifted students can exceed the competencies of teachers in some areas, placing pressure on teachers to become highly skilled in advanced content and expertise. This research suggests such attitudes affect the views and practices of teachers towards the identification of this group of learners, and warrants further exploration.

While a number of studies have been conducted on teacher attitudes towards gifted learners (Chessman, 2010; Colangelo & Kelly, 1983; Dettmer, 1981; Galitis, 2009; Gross, 1994; Lassig, 2009), there appears a gap in the research on attitudes towards the identification of gifted students. Perhaps complicating the issue is the lack of consensus as to what constitutes giftedness and talent, especially given the broadening of conceptions and measures over the last 25-30 years (Kieffer, Reese, & Vacha-Haase, 2010).

The relationship between teacher and leaders' age and attitudes towards gifted education also remains ambiguous. In a review of the literature of predictors of attitudes towards gifted education, Bégin and Gagné (1994b) found a significant relationship existed in only five out of 12 studies reviewed. Where the results were statistically significant, age groupings were in large 15-year spans (21-35 years, 36-50 years, and so on).

Leader Attitudes

Leader attitudes to gifted education in general, and provisions for gifted learners in particular (Martin, 1982), have received attention in the research, but not so for leader attitudes towards identification of gifted learners. Some studies have involved principals (Smith & Chan, 1998; Southern et al., 1989), not as a discrete group, but as part of the general 'mix' of teachers and leaders. What the research does report is a reserved, ambivalent attitude held by many principals as the needs of gifted learners is viewed as less a priority than other students requiring special provisions (Bégin & Gagné, 1994a; Sternberg, 2010). This is significant in the context of the identification of gifted learners, particularly given the emphasis in the research literature on the importance of leadership and its impact on student achievement (Bush & Jackson, 2002; Clarke, 2008; Dinham, 2008).

In a study of attitudes towards gifted education programs, principals reported feeling sufficiently informed about the criteria for identification of gifted students for the programs (Bransky, 1987). Despite the study's findings about principal knowledge of gifted education

programs, their attitudes towards these programs were not as favourable as teachers closely involved in them. Findings from earlier research (Mills & Berry, 1979) found a relationship between experience and positive attitudes of those closely involved with gifted students.

Leaders' attitudes towards the identification of gifted learners will influence the priority they give to professional learning and the strategic direction taken within the school for these learners. It seems, according to a recent study (Warne & Price, 2016), that the existence of accountability measures can directly influence leaders' attitudes, and subsequent response, towards identification. The study by Warne and Price (2016) established that, when accountability measures such as policies and authority oversight to ensure compliance were absent, fewer students were identified as gifted. Research by Coleman, Gallagher, and Job (2012) had previously advocated for expanding professionalism and accountability in gifted education, to strengthen the field and its infrastructures and yielding the education of gifted students an imperative.

Supported by previous research (Swanson & Lord, 2013), this would suggest that leaders and, indirectly, teachers, are notably influenced when state or local education authorities have effective accountability measures in place for the identification of gifted students. Perhaps when these gifted education policies are in place, there is greater incentive for school leaders to direct their focus, funding and resources more so towards the attainment of policy compliance.

A school with leaders who possess a strategic approach to addressing the needs of gifted students has clear benefits (VanTassel-Baska, 2007). A strategic approach improves support, research and development, as well as policy and pedagogy for this particular group of learners. Such an approach would include, among other things, the creation and embedding of effective systems for the identification of, and provision for, the gifted (VanTassel-Baska, 2007).

Research Question Three

A review of the literature has identified the impact of three variables – the knowledge, attitudes and experiences of teachers and leaders – on gifted education. As most studies showed, these variables account for, in part, the variance in the provisions in gifted education. This suggests that an exploration of these variables may also account for the variance in the identification of gifted students. Such an exploration will also address the gap that currently exists in the research. Therefore, Research Question Three asks:

3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students? (case study research sites)

2.5 The Research Questions – Summary

Three research questions emanating from the literature review will focus the research.

Research Question One

1. What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification? (system survey)

Research Question Two

2. What are the approaches and practices to the identification of gifted students in Catholic primary schools? (system survey)

Research Question Three

3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students? (case study research sites)

Chapter 2 examined the research on giftedness, identification of giftedness, and the influence of leaders and teachers on gifted education. First, the researcher reviewed the body

of research on conceptions, models and definitions of giftedness, and on the manifestations of giftedness in the three broad domains of cognitive, behavioural and affective.

Second, the researcher provided a synthesis of the current research on identification of giftedness, with a particular focus on timing, and tools and processes for identifying giftedness. Challenges in the identification of giftedness were also considered.

Finally, the researcher presented a synthesis of the body of research on leader and teacher knowledge, attitudes and experiences towards giftedness and educational provisions for gifted students.

Having identified these themes, the research design for the analysis of these themes will be explained in Chapter 3.

Chapter 3

Research Design and Methodology

3.1 Introduction

Chapter 1 identified and described the research problem, its context and the purpose of the research. Chapter 2 presented the literature review relating to the key themes of this research: giftedness, identification of giftedness, and the knowledge, attitudes and experience of educators in the context of gifted education. The purpose of this chapter is to detail the research design and methodology beginning with the underpinning theoretical framework.

3.2 Theoretical Framework

The theoretical framework provides the lens through which the research question is investigated and the research designed. It identifies the ways in which the researcher and participants conceptualise the world and, thus, connects the elements that support the research design and inform the examination of the research questions.

Epistemology

The term epistemology is referred to in the research literature as ‘... a way of understanding and explaining how we know what we know’ (Crotty, 1998, p. 3). In essence, epistemology is the study of how knowledge is created and accepted as legitimate.

The major research question under investigation was: **How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?**

As shown in the research questions (RQs) that arose from the literature review, this study focussed on the influence that knowledge, attitudes and experiences of principals and teachers had on the identification of gifted students in primary schools. The researcher, investigating the influence of these factors, sought to explore their impact on the effectiveness

of a school in identification. With a problem-centred research question, the goal of the research was to obtain knowledge and ‘useful points of connection’ (Mertens, 2015, p. 36) between the actions of principals and teachers, and the consequences for the identification process. As this study was seeking to gain knowledge and explore positive and practical solutions for schools endeavouring to implement an effective identification program, the research is framed within pragmatism.

From the pragmatist’s worldview, it is the research question that drives the methodology (Tashakkori & Teddlie, 2010) and, as such, the approach to the research is a pragmatic one. Rather than coming from a philosophical stance, choice of methods was dictated by ‘what works best’ (Creswell & Plano Clark, 2011) for answering the research question. The worldview of pragmatism is typically linked with mixed methods research (Tashakkori & Teddlie, 2010). Contemporary ideas have been introduced to the field of mixed methods research by the works of Rorty (1990), Murphy (1990), Patton (1990) and Cherryholmes (1992). Pragmatism brings to attention characteristics such as an orientation to real-world practice, problem-centred, pluralistic, and a focus on consequences of the research (Creswell & Plano Clark, 2011). Pragmatism is a research worldview that embraces a mixed method approach.

Mertens (2015) identified the historical use of pragmatism from 1860 to 1930 through the writings of John Dewey, William James and Charles Sanders Peirce. Pragmatism is dissimilar to a post-positivism worldview that utilises primarily quantitative data and analysis through the testing and refining of theories from detailed observations and measures of variables. Similarly, pragmatism differs from the qualitative approach of constructivism that directs attention on truth and meaning, as constructed and interpreted by, and between, those individuals who experience it (Gergen, 1999; Gray, 2009). Rather, pragmatists contend that in many studies, both quantitative and qualitative methods are compatible and appropriate, and

may best serve to answer the research problem, despite criticism from advocates of purist methodological stances of their incommensurability (Mertens, 2015; Teddlie & Tashakkori, 2010).

A major tenet of the pragmatist framework, as Greene and Hall (2010) noted, includes a ‘problem-solving, action-focussed inquiry process’ (p. 131). Pragmatism places a focus on the practical elements of research, such as what ‘works’, particularly given the contextual conditions (Nastasi, Hitchcock, & Brown, 2010), and is, therefore, open to both quantitative and qualitative data and analysis. Through an active and iterative process, the pragmatist engages in ongoing action and reflection, employing the knowledge gained from using multiple methods of data gathering to inform practical solutions to the research problem. For the pragmatists, according to Maxcy (2003), effectiveness determined as the ‘workability’ of the results, is an indicator of the value of the research.

From the early work of John Dewey, these solutions or results are assertions that become warranted when their transferability to other contexts can be established as workable (Johnson & Onwuegbuzie, 2004; Mertens, 2015). By using a pragmatic stance in this study, the researcher employed multiple methods to enhance the study to be instrumentally effective to inform the research and ‘contribute to workable solutions’ (Greene & Hall, 2010, p. 139) for improving the identification of giftedness in the primary school. What is useful or workable will be made explicit by the results, findings and recommendations of the research conducted through a mixed methods approach.

3.3 Research methodology

As this study is framed within pragmatism, knowledge will be created using a mixed methods approach. Despite previously being referred to as ‘combined research’ (Creswell & Plano Clark, 2011), and ‘mixed methodology’ (Tashakkori & Teddlie, 1998), the term mixed methods is the current term that has emerged out of the development of the approach over the

last 30 years. Creswell and Plano Clark (2011) track the development of mixed methods from the thinking of such writers as Denzin (1978), who discussed using both quantitative and qualitative methods in a study, through Bryman (1988), who wrote to establish and justify connections between the two approaches. The more recent work of Tashakkori and Teddlie (2010), Creswell (2008) and Morse and Niehaus (2009) drew the attention of Creswell and Plano Clark (2011) by advancing the literature and addressing such questions as the rationale, changes, potential and issues in mixed methods methodology.

A characteristic of mixed methods research is the selection and integration of the most appropriate data-gathering techniques from both quantitative and qualitative methods to engage thoroughly in an investigation of a problem of interest. To understand what influence the knowledge, attitudes and experiences of principals and teachers in the primary school have on the effectiveness of the identification of gifted students, the research used both quantitative and qualitative methods in combination to provide the ‘best’ understanding of the problem than either single method could (Creswell, 2008).

The data collection and analysis was undertaken in two phases and combined the use of two methods to gather data—survey and case study. Phase One collected data from multiple levels in the system of schools. Phase Two gathered data from within six sites of the ‘collective case study’ (Stake, 1995, p. 4), a term used as it involved a single case study approach across six chosen sites. Coming from Creswell and Plano Clark’s (2011) stance of ‘what works best’, the research study made use of data quantitatively through survey, and qualitatively through a combination of survey and interviews, with a limited use of document analysis. The data were gathered sequentially, in Phase One and Phase Two from the same survey source, and in Phase Two from the different sources of documents and interviews. Completion of the analysis of the survey source occurred first, prior to the integration of the analysis of data from documents and interview. Some statistical techniques were used with

the survey data, and interpretative techniques used with elements of the survey data and with data from interviews and documents.

The first methodology used in the present study was survey. Survey research investigating educational systems dates back to the early 1800s (Creswell, 2008) and has continually been developed and refined, particularly in sampling techniques and scales of measurement. Survey research is typically quantitative in design, seeking to collect data by targeted sampling from a population. The current study engaged survey research with a cross-sectional approach, as it sought to examine the knowledge, attitudes, experiences and practices of system principals and teachers in Phase One, and principals and teachers in schools successful and not successful in identification in Phase Two—two groups at a point in time (Mertens, 2015).

The second methodology used in the study was case study. Miles and Huberman (1994) define a ‘case’ as a phenomenon that occurs within a bounded context. The case is researched within a given time frame, employing a combination of appropriate data collection measures (Creswell, 2008), and the boundaries of the case are identified and described within the design of the research. The case within this research is bounded by the diocesan system of schools. To detail the experience of identification from the perspective of principals and teachers in the primary school, fully considering their meanings and actions (Crotty, 1998; Denzin, 1978), required an in-depth examination of their knowledge, attitudes and involvement. Case study is described by Evered and Louis (1981) as an ‘inquiry from the inside’ (p. 388). The inquiry from the inside in the case study specifically involved six sites selected within the system of schools, as three schools successful and three schools not successful in identification.

The case study approach in Phase Two provided the means by which to gather extensive data on each selected site, intensively investigating the variables of the case,

including what hinders and supports identification of giftedness. Shank (2002, p. 11) used a 'lantern' metaphor for the case study approach, helping to 'shed light in dark corners' (p. 11). Following analysis of findings from the system of schools in Phase One, analysis of each individual site, followed by a cross-site analysis from selected sites, explored specific and common threads. Merriam (1998) argues that the use of multi-site case study can serve to strengthen the generalisability of findings. A number of advocates of case study approach (Denzin & Lincoln, 2000b; Herriott & Firestone, 1983; Yin, 2009) support multi-site case study methodology as a means to obtain generalisations pertaining to a population of cases, where behaviour is patterned. Stake (2000) also supports this stance, stating that case studies '....are chosen because it is believed that understanding them will lead to better understanding, perhaps better theorizing, about a still larger collection of cases' (p. 437).

At the analysis stage, the data generated was analysed in ways that were data-appropriate, through a mixing of measurement and interpretation and a process of ongoing action and reflection. Teddlie and Tashakkori (2010) refer to this as 'methodological eclecticism', as the process involves deliberate selection of techniques considered to best answer the research questions, and in so doing dispenses with the duality sometimes assigned to paradigms of post-positivism and constructivism. The use of multiple sources of data using different but complementary methods facilitated the depth of inquiry and served to strengthen the research. Mertens (2015) points out that the value of the pragmatist's research will be not so much based on the finding of some truth or meaning from the world but rather the effectiveness of the results 'working' to resolve the research problem.

The research design for this study reflected what Creswell and Plano Clark (2011) describe as a sequential explanatory mixed methods design (see Figure 4), where quantitative data were collected first at the system level through survey, to investigate the knowledge, attitudes and experiences of principals and teachers, and the degree to which schools in a

system were effective in identification. This phase of data collection was for the purpose of providing a broad overview of the research problem. The analysis and findings from the survey called for additional explanation, and was, therefore, followed by purposeful selection of six outlier sites, and qualitative data collection occurred through documents and interviews to help elaborate on the quantitative results. The sites were selected from survey data as three schools successful in identification and three schools less successful in identification.

Summary

The quantitative approach in Phase One provided the means by which to gather extensive data on the details of the system of schools. This raised issues that required deeper investigation in Phase Two. A cross-site analysis exploring commonalities and inconsistencies then occurred, from qualitative data gathered from the selected sites. Therefore, consistent with sequential explanatory research design, the qualitative approach in Phase Two depended on the quantitative approach in Phase One, thereby contributing multiple perspectives to the investigation of the research problem.

3.4 Phases of the Research Design

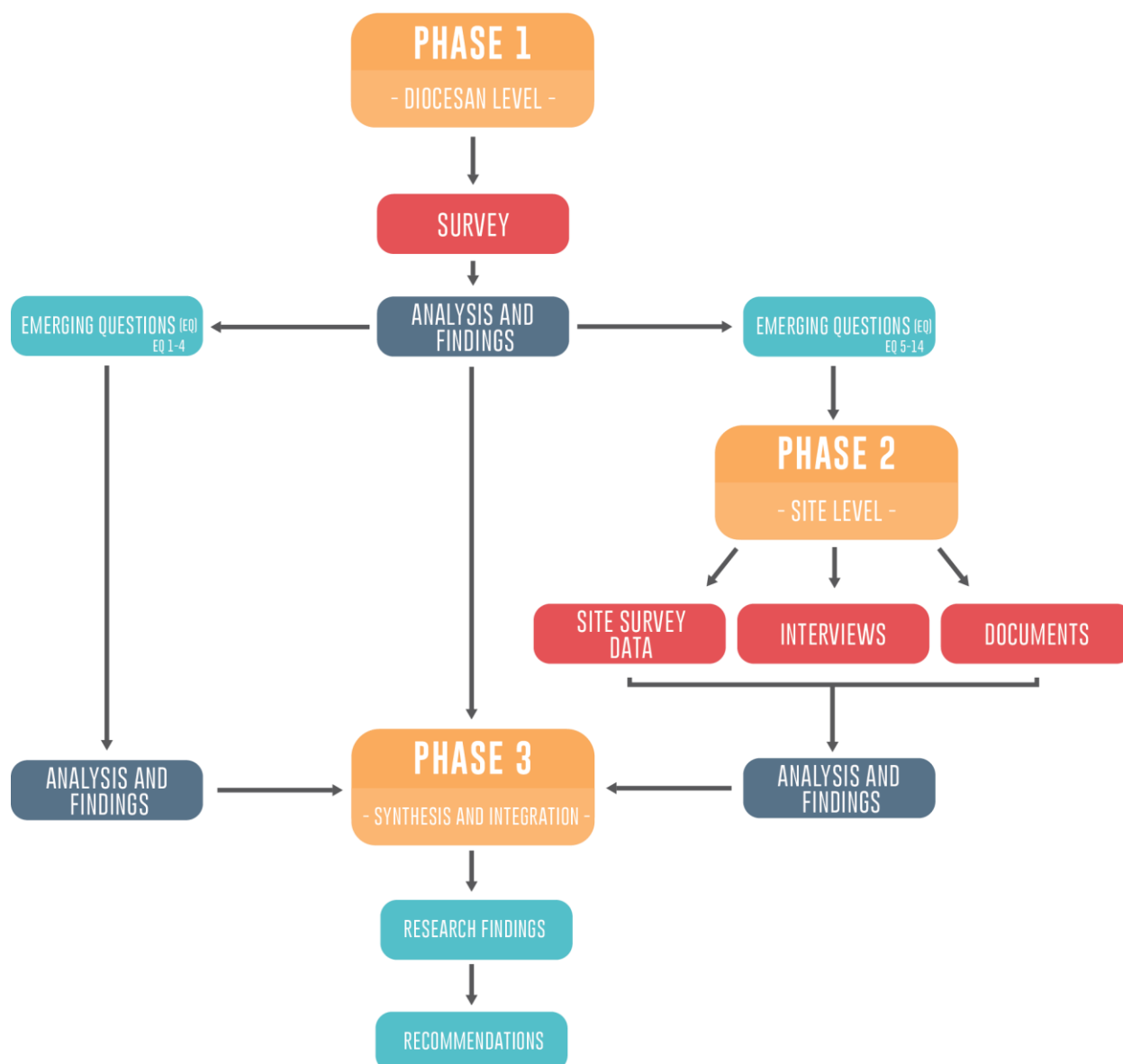


Figure 3. *Phases of the Research Design*

This research involved a three-phase sequential explanatory research design (Mertens, 2015) as shown in Figure 3. As with a sequential explanatory design, the drive behind the present research study was to ‘...identify causes, factors, or correlations and, through this, generate knowledge that can be used to influence the course of future events’ (Tashakkori & Teddlie, 2010, p. 104). Analysis of data from the survey first at system level, then at case study level, prompted the analysis made in the subsequent interview and document data, and

led to the research findings and recommendations in Phase Three. Hence, the sequential research design in three phases (Figure 4). Each phase will be discussed in detail below.

Before approaching potential schools or participants, ethics clearance was obtained from Australian Catholic University (ACU). Informed consent was obtained from the system authority and school principals from the schools. The research adhered to the ACU Research Projects Ethics Committee policies and protocols, as well as system guidelines and protocols for conducting research in schools. Before commencing the research, contact was made with the participating schools' principals to disclose the purpose of the study, and provide an overview of data collection processes. Principals were then provided with an overview to issue to potential participants from the school, inviting expressions of interest to participate in the study. Sites and participants were informed and reminded that involvement in the research was voluntary, and signed consent was obtained for interviews (Appendix A: Interviewee Consent Letter for Interview), to access survey data (Appendix B: Interviewee Consent Letter for Access to Survey Data) and to access school documentation (Appendix C: Consent Letter for Access to Documents) before data collection commenced.

Recognising the researcher's role and relationship to the schools, through her leadership in the school system, care was taken to maximise the benefits of such a relationship while minimising the risk to data collection and analysis. Benefits included the researcher's knowledge of and experience within the school system, involvement in gifted education and the identification of gifted students, and an understanding of the issues requiring research.

3.4.1 Phase One

The purpose of Phase One was to gain a broad understanding from principals and teachers across the diocesan school system of their conceptions of giftedness, identification practices, and their knowledge, attitudes and experiences towards identification. This was achieved through a three-part survey. The survey was designed to provide data about the

knowledge, attitudes and experiences of principals and teachers from across the whole system towards gifted education in general, and identification of gifted students, more specifically. The survey also gathered data on the practices and prevalence of identification throughout the system of schools. This offered a reference point for data from the school sites. The survey results assisted in the identification of six sites for Phase Two. This purposeful selection was possible from data obtained on the prevalence of identified gifted students in schools, and assisted an investigation into what was distinctive about schools successful and not successful in identification, relative to the diocesan system of schools. In essence, the survey facilitated the acquisition of a broad spectrum of data from across the system of schools, and functioned as a purposeful sampling selection tool.

Phase One, involving analysis of the survey data collected at the system level, represented an important platform of the design. The analysis of Phase One data led to initial findings and a range of emerging questions. Four emerging questions (EQ1 – EQ4) were investigated using the Phase One system level survey data. Phase One data analysis is presented in Chapter 4, and the emerging questions EQ1 – EQ4 discussed with findings in Chapter 5.

Research Tool

The survey, comprising of three parts, was conducted in Phase One of the study.

Part A

Part A of the online survey collected demographic information about the respondents. As this study seeks to understand how teachers' and principals' knowledge, attitudes and experiences influence identification practices, the survey included questions such as age, position currently held in the school, years of teaching experience, years directly involved in the identification of gifted students, professional and personal experiences with identifying giftedness, formal qualifications or training in gifted education, school's enrolment number

(principal only); and identified gifted students in the school currently (principal only). These sections can be seen in Appendix D: Online Survey for Principals – Part A General Information, and Appendix E: Online Survey for Teachers – Part A General Information.

Part B (i)

The Gagné and Nadeau Attitude Scale (the Scale), ‘Opinions about the gifted and their education’, was described in a paper by Gagné (1995a), even though the instrument is dated 1991 and at least one Australian study used it in 1994. It was used in Part B (i) of the survey within this study, with permission (F. Gagné, personal communication, April 19, 2012). The Scale was developed in response to an evaluation of numerous questionnaires and sources about attitudes towards the gifted throughout the 1980s. This scale, in the form of a survey, has wide acceptance and has been used extensively in the international field of gifted education over more than two decades since its development (Cross, Cross, & Frazier, 2013; Haight, 2006; McCoach & Siegle, 2007; Portesova et al., 2011; Tirri, Tallent-Runnels, Adams, Yuen, & Lau, 2002; Troxclair, 2013; Watts, 2006). Nationally, Australian research studies have also used the scale as it was designed (Bartley, 2014; Geake & Gross, 2008; Gross, 1994; Gross, 1997; Jung, 2014; Kronborg & Plunkett, 2012; Lassig, 2009; Lewis & Milton, 2005; Parsons, 2008/2009), or in an adapted form (Chessman, 2005; Plunkett, 2000; Smith & Chan, 1998).

The scale measures attitudes of respondents towards gifted students and gifted education. As this has high relevance for this study, it was considered an appropriate tool to include in the survey. The Gagné and Nadeau questionnaire contained 34 items that were categorised into six factors (sections) for scoring:

1. Needs and support (Needs of gifted children and support for special services)
[Items 1, 9, 11, 14, 15, 24, 30, 32]
2. Resistance to objections (Objections based on ideology and priorities)

[Items 3, 4, 5, 12, 16, 18, 23, 26, 27, 28]

3. Social value (Social usefulness of gifted persons in society)

[Items 13, 17, 25, 33]

4. Rejection (Isolation of gifted persons by others in their environment)

[Items 19, 22, 31]

5. Ability grouping (Attitudes toward special homogeneous groups, classes, schools)

[Items 2, 6, 20, 21]

6. School acceleration (Attitudes toward accelerative enrichment options)

[Items 7, 8, 10, 29, 34].

Gagné and Nadeau (Gagné, 1995a) recommend the use of means (as opposed to total scores) that have direct relationship with the Likert scale descriptors provided. To determine the extent of the respondent's agreement or disagreement with each item, the attitude scale was scored as: 1 = totally disagree; 2 = partially disagree; 3 = undecided; 4 = partially agree; and 5 = totally agree. Some scores were inverted on those items, which load negatively on the factor. The descriptors align with the means range from a global positive attitude (high total mean of 5.00) to a global negative attitude (low total mean of 1.00).

Despite its national and international use, Plunkett and Kronborg (2011) reported the initial statistical analysis on the six dimensions of the Attitude Scale showed insufficient internal reliability to be able to use the dimensions statistically. While accepting the fact that the instrument does not meet reliability for statistical purposes, the purpose of this research was to explore the overall attitude of teachers towards gifted education. Given its extensive use over many years, and the ability to provide a global indicator of attitude, the Gagné and Nadeau Attitude Scale was utilised in this study. As with Plunkett and Kronborg's (2011) study, the instrument was seen of value for categorising the sets of items in each dimension,

and then descriptively using the means for individual item analysis, and was not used for any further statistical analysis.

A broad indicator of attitudes of teachers and principals was gained inclusive of all six dimensions from within the instrument; however, it needs to be noted that only the three dimensions of *Needs and Support*, *Resistance to Objections* and *Social Value*, and one item (#22) from the *Rejection* dimension impacting teacher attitudes, were deemed to have direct relevance for the study. Only those 23 items are reported on in this study.

Part B (ii)

Given the increasing focus on, yet inconsistencies in, rates of identification within the system of schools, this study was seeking to investigate educators' attitudes towards identification, to consider their influence on the prevalence of gifted identification, along with other factors that may impact the identification of the gifted learner. For this reason, Part B (ii) of the survey contained 14 items that focussed on the attitudes of respondents towards the identification of gifted students.

The validity of a survey is reflected in the degree to which it measures what it claims to measure. Face validity helped ensure the survey used statements that appeared to enable the opinions of teachers and principals, about identification, to be measured. There were two reasons for constructing an instrument on the opinions about identification. The first is that there was no current instrument available to obtain teachers' opinions about identification. The second reason was based on a key element of the research question: the influence of the attitudes of principals and teachers on the identification of gifted students. The researcher's background and significant experience in gifted education informed the development of the instrument. Acknowledging the benefits of using existing knowledge, the *Opinions about Identification* survey was modelled on the Gagné and Nadeau Attitude Scale in structure, language and the use of a scale in an attempt to build on the foundations laid in that survey,

and ensure consistency in format and style for respondents. As Hardesty and Bearden (2004) advised, the researcher ensured that the items in the initial pool reflected the desired construct, i.e., opinions about identification of gifted students. The survey was composed of several items (n.14). Each item in the survey was developed from within the current gifted education literature.

During the process of constructing the survey, the document was piloted twice. The first pilot involved education officers working specifically in the field of gifted education, and the second pilot involved education officers working in curriculum and diverse learning. As this research was using new and previously unexamined scale items judging by a panel of system leaders in gifted education for face validity was warranted. Initially, three education officers directly working in the field of gifted education were invited to review the survey. These professionals were all familiar with the Gagné and Nadeau Attitude Scale survey, having used it in the course of their work. They were asked to make a subjective judgement regarding whether the items within the *Opinions about Identification* survey (Part B ii), and the survey as a whole, appeared to measure what it intended to measure: opinions about identification. The education officers came to a greater understanding of the measure by studying the items. To determine whether the survey was a valid and reliable instrument, several questions focussed the discussion. These included, but were not limited to: Did you understand the questions? Did the items address the purpose of the survey—to obtain opinions about the identification of gifted students? Did the instrument test opinions about identification? Initial concerns raised about contradictory items (# 5, #7), after discussion among the group were dismissed.

The survey was then shared with an additional six education officers whose roles involve working in partnership with schools in curriculum and diverse learning. These education officers were considered to have an awareness of the subtle nuances experienced by

teachers who work day-to-day with primary-aged students and, therefore, provide helpful insights into dimensions that might otherwise be overlooked by the researcher. They completed the survey as part of the process and were asked to provide feedback indicating where items may have been irrelevant, misleading, lacking clarity, or potentially lead to contradictory results. They were encouraged to use their knowledge, experience and intuition to judge whether or not the survey items had high probability of trustworthiness—measuring what they were meant to measure. The questions used with the gifted education officers were also used with those involved in the second pilot. Two items were changed slightly to reduce ambiguity and one item judged as unrelated was deleted. Examples of other minor editorial changes are given in the section titled Trustworthiness 3.6.

To conclude this section of the survey three additional items were included for the respondents' self-rating. The purpose of these three items was to gain an understanding of how each respondent from across the system of schools assessed their own knowledge about identification, their professional experience in identification and their overall attitudes towards identification. Again, a five-point Likert scale was used (Appendix D and Appendix E: Part B (ii), Items 16-18).

Part C

Part C of the Survey focussed on school-based identification practices. As this was the final section of the survey, these items of identification practices were also included in the pilot undertaken with education officers. Of particular interest in this research study are the factors that influence schools to be effective identifiers of gifted students. Hence, it was deemed useful to consider the identification practices that schools use in the identification process, to determine if these factors affect identification. Part C of the survey was designed by the researcher to focus on timing [Items 1, 2, 3, 4 and 6], measures [Items 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 18] and purpose [Items 8, 19, 20, 21, 22 and 23] of identification

practices (Appendix D: Part C and Appendix E: Part C). These domains were drawn from theme two of the literature review. It consisted of 23 check boxes the respondents could nominate as currently in use in their school. The 23 options included were considered to reflect key identification practices identified in the literature review.

Participants

Purposeful sampling from all primary schools within the diocesan system of schools was undertaken prior to data gathering. Primary schools can have various educators involved in the identification of gifted students. The study was limited to those who take varying levels of responsibility for, and have influence on, the early identification of giftedness in primary schools to keep the scope of the research reasonable. All the participating primary schools had grades from Kindergarten (first year of formal school education) to Year Six. For this study, educators were divided into two groups: (a) principals; and (b) teachers. The first group included primary school principals from across the system of schools ultimately responsible for the education of the gifted. The second group included teachers from three sub-groups:

- those who have a teaching workload and also a leadership role in the school as these were considered to have insight into the school's approach to, and practices in, identification;
- classroom teachers of the first three years of school (Kindergarten, Year 1 and Year 2) (K-2) as these were considered to be strategically positioned in stages where gifted education is at an identification point, or is an issue; and
- gifted education coordinators or the designated reference teacher for gifted education who have a delegated responsibility for the leadership of gifted education in the school.

Data were collected from both principals and teachers meeting the above criteria from within each school. All the participants had an implied role in identification of gifted students

and, therefore, were considered an important inclusion in the study. Within the teachers' group there were 135 participants. Within this group there were 74 (55%) teachers of the early years, i.e. Kindergarten, Year 1 and Year 2. Of this group, 12 also held leadership positions in the school. The matrix (Table 3.1) below summarises the data collection strategies and the participants for Phase 1.

Table 3.1 *Matrix of Data Collection Strategies and Number of Participants*

Categories of participants	Survey diocesan Phase One
Principals	40
Teachers	135
Total	175

Analysis

Analysis commenced at the collection phase of the quantitative and qualitative data gathered from the survey. The Gagné and Nadeau Attitude Scale [Part B(i)] and the Attitude towards Identification [B(ii)] were scored. Demographic data [Part A] and data from Identification Practices [Part C] were collated and organised into categories. Benchmarks about general attitudes towards gifted students, gifted education and the identification of gifted students across the diocese were identified. These results are presented in Chapter 4. The survey provided a 'snapshot' of the system landscape in gifted education and identification of gifted students.

After completing a descriptive analyses of Phase One data, the next step is to follow up with inferential statistical analyses by using a *t*-test to compare responses from principals and teachers, in successful and not so successful schools, to the survey items. To achieve this the case study school participants' (n=51) responses will be isolated from the diocesan Phase One data.

Seven theoretical constructs will be used to assess if a statistically significant difference in perspective exists for principals and teachers from the successful and not so successful schools. The first theoretical constructs are drawn from the Gagné and Nadeau questionnaire which contain 34 items. Twenty-two of these items will be grouped to form three theoretical constructs. To achieve this the mean construct score will be calculated. The constructs and items are:

1. Needs and support: Items 1, 9, 11, 14, 15, 24, 30, 32
2. Resistance to objections: Items 3, 4, 5, 12, 16, 18, 23, 26, 27, 28
3. Social value: Items 13, 17, 25, 33.

A further theoretical construct will be drawn from items on Part B of the survey which has 14 items. A further three constructs will be assessed using the items in Part C of the survey.

These items refer to identification practices, with their constructs and items being:

Time: Items 1, 2, 3, 4 and 6

Measures: Items 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 18

Purpose: Items 8, 19, 20, 21, 22 and 23.

From there, the Cronbach Alpha for each of the constructs will be calculated to test for internal consistency reliability of the each construct prior to undertaking *t*-test analyses on the data. These results will be reported in Chapter 4.

Procedure

Phase One of the research involved an online survey as the initial data gathering method. Once approval from the school system office was confirmed, a notice forecasting the survey was uploaded onto the school system's intranet site (Appendix F: Intranet Advanced

Notice - Principals; Appendix G: Intranet Advanced Notice - Teachers). Following this notice, an email invitation to participate in the survey was distributed directly to all primary school principals in the system of schools. The link to the online survey was provided within the content of the email (Appendix H: Participant Information Letter – Principal – Phase 1). All principals were invited to complete the survey. While system primary principals were first to be invited to participate in the survey, they were also asked to invite members of their leadership team, the person responsible for coordinating gifted education and teachers of the early years, i.e., K-2 teachers, to participate. These selected individuals were placed in contact with the researcher and an invitation to participate in the survey, with the link to the survey, was then provided to these individuals in all primary schools of the system (Appendix I: Participant Information Letter – Teachers – Phase 1). All invitations were sent on the same day, and a reminder email was sent 2-3 weeks out from the due date (Appendix J: Intranet Notice to Participants – Principals – reminder; Appendix K: Intranet Notice to Participants – Teacher - reminder). The Participant Information Letter stated that participation in the study was completely voluntary, and that teachers were not under any obligation to participate. If they did agree to participate, it was made clear in the Letter they could withdraw from the study at any time, without adverse consequences. As participation in the survey was voluntary, completion and submission of the survey was taken as consent to participate.

All principals' survey responses were coded by number and 'P' in order of receipt, (e.g., the eighth principal to respond was coded 08P). Each subsequent teacher response from that school was coded with the same school number, then distinguished by letter (e.g., 08b) and organised into an online database.

Site Selection

In designing this research study, the decision was made to select six sites consisting of three sites successful in identification, and three sites that were not successful in

identification. This was to enable a close examination of the distinguishing variables that may influence identification. Site selection took place using the survey data from Phase One. The sites were chosen by purposeful selection. By discriminating carefully, boundaries were made clear at the point of site selection (Soy, 1997). Being a part of the same system of schools meant each site was subject to, or had access to, the same gifted education policy, support documents, resources and initiatives provided by the school system office. Site selection focussed on those schools that had these similarities:

1. gifted education policy, or at least a statement of procedures or practice for the identification of gifted students; and
2. gifted education coordinator or similar position held within the school at the principal's discretion, responsible for gifted education (as currently no staffing allocation or funding from the system exists for gifted education).

These two sampling criteria above were considered as indicators that gifted education was a focus within the school and receiving at least some attention within the school's educational agenda, and sites meeting these criteria were therefore considered appropriate sites for the problem being investigated. Sites were eliminated if they did not meet these two criteria.

While each remaining site shared the general characteristics pertinent to the research problem there was, nevertheless, particular and unique attributes, experiences and processes for each site (Denzin & Lincoln, 2000a). For this study, a key criterion for site selection focussed on identification rate. Once schools with the above two sampling criteria were established, i.e., policy and position of responsibility, the sampling technique employed for this research was based upon proportional identification of giftedness compared to enrolment. As referenced in the literature review in Chapter 2, according to Gagné's Differentiated Model of Giftedness and Talent (DMGT) (Gagné, 2004b, 2010), the prevalence of giftedness

is determined as 10% of the population. Three schools were selected due to an expected, near to expected, or higher than expected proportion of gifted students identified (i.e., 10% of their enrolment). These three schools met the sampling criteria and had the highest rate of identification of the remaining schools. Three schools meeting the two sampling criteria and with the lowest proportion of gifted students identified, relative to enrolment, within the group of remaining schools were also selected. Swanborn (2010) would refer to these as 'informative cases', as they are expected to be representative of the problem being studied. Lapan, Quartaroli, and Riemer (2012) regard such sites as well placed to strengthen the research because of what can be learned from them. Sites that exhibited outlier degrees of success in implementing an identification program for giftedness better served to clarify factors that influence local efforts (Mabry, 2009; Peck, Mabry, Curley, & Conn-Powers, 1993). Hence, the selection of sites with wide variance in their prevalence of identified gifted was also considered apt criteria for this study of factors, which impact on the identification of gifted students and its generalisability to the research and theory of best practice in identification of gifted students in the primary school context.

Schools with the above criteria were identified through the survey to all school principals, and through follow-up contact for confirmation. The purpose of this study was not to determine how effective the sites were at identifying gifted students but to understand factors related to knowledge, attitudes and experiences of educators and whether those factors impact on the identification of gifted students. The evidence was sought through the teachers' and principals' (individual) responses.

The remaining 10 questions that emerged from Phase One data (EQ5 - EQ14) were subsequently investigated through Phase Two data at the level of the collective case study. This involved probing the data from the survey in more detail specifically within each of the six selected sites, and comprised qualitative data collection and analysis through document

and interviews. Phase Two data analysis is presented in Chapter 6, and the emerging questions EQ5 – EQ14 discussed with findings in Chapter 7.

3.4.2 Phase Two

The purpose of Phase Two was to gain an understanding of school identification practices, and teachers' and principals' knowledge, attitudes and experiences towards identification within each of the six selected sites. As a sequential design, implementation of Phase Two case study involving specific survey data for six sites, along with document analysis and interviews, by design, followed the previous Phase One involving the diocesan system survey data. The relationship between the two phases was dependent: dependency occurred when the decisions made and the questions that emerged within the first phase (diocesan survey data) influenced the decisions and the questions that emerged for the subsequent Phase Two (case study site data).

In the survey administered in Phase One, principals were asked to indicate interest in their school participating further in the study, along with their enrolment numbers and number of formally identified gifted students in the school. Only consenting principals' schools were considered in the site selections. The participants in Phase Two were survey respondents from within the six selected sites. In selecting sites, of particular importance were schools exhibiting outlying degrees of success in identification of gifted students, based on Gagné's (2010) theory of proportion of gifted students relative to the population. Six schools, coded by number in order of receipt of the principal's survey response and fulfilling the criteria listed previously, were determined as meeting criteria for addressing the central research question, and school personnel were subsequently invited to continue their participation in the research.

Research Tool

In Phase Two, three data sources were used. First, the same research tool as Phase One, the survey, was used. However, only data for the respondents from the six selected sites

was accessed. Documentation was also gathered from these six sites in the form of policies and gifted education documents directly related to the research questions, for the purpose of analysis. The purpose of the document analysis was to retrieve contextual demographic data, as well as investigate the degree of alignment between gifted education policies and supporting documents, and school identification practices. Documentation is a valuable method of data collection, and often easily accessible in the school environment. As Yin (2009) points out, however, no single source of evidence has a complete advantage over another. Documents, particularly policies in gifted education written for a specific purpose at a given point in time, provided insight into the status and currency of gifted education. Just as Atkinson and Coffey (2004) suggest, documents were important to the qualitative methodology for factors other than content, such as when they were produced, shared and used within the school. While gifted education documentation was limited in schools, where available the following was collected:

- Gifted education policy and/or practice statement and/or implementation plan;
- school website references to gifted education; and
- the school's *Annual Report to the Community*.

Other documentation requested for consideration included:

- access to the school's tracking system for gifted students;
- enrolment screening processes;
- documented nomination processes and forms—for teachers and parents;
- timetabling of the role of Gifted Education Coordinator;
- release time from class for the Gifted Education Coordinator.

Phase Two of the research design also included interview schedules, designed to address the research questions. Interviews were in the form of semi-structured interviews

using open-ended questions. These were, essentially, guided conversations following a consistent line of inquiry, nevertheless fluid rather than rigid (Yin, 2009).

Semi-structured interviews were considered an appropriate tool as they allowed for flexibility and responsiveness to the emerging issues through probing, thereby gaining meaningful information from the participant. The use of semi-structured interviews provided the opportunity for the participant, rather than the researcher, to direct the flow of the conversation so as to gain the data the research required. Questions were designed and asked in such a way that enabled the participant to reveal information in her/his own way, and to the depth that reflects the rich context of identification of gifted students (Punch, 2005). Prompts for each question on the schedule were provided to inquire more deeply when required. Hence, while wording and order of questions were pre-determined to guide the interview, questions were open-ended and flexible, and more conversational in nature, with the intention of enabling the participant to speak freely and openly. Questions were designed to be invitational and non-threatening, and posed as 'how' rather than 'why' questions to avoid the interviewee becoming defensive. Some minor parts of the interview schedule were more specific to gain explicit information required from the participant. Examples include Question 5 on the teachers' interview schedule: describing the attitudes of teachers in the school on a Likert rating scale, and then the opportunity to explain their rating. Question 14 is another example of a more direct question, asking the participant for the number of identified gifted students in the school. See Appendix L: Interview Questions – Principal, and Appendix M: Interview Questions – Teachers, for the full interview questions.

Merriam's (1998) four major question types were used to assist to stimulate responses from the participants, relevant to the research. These included the examples shown in Table 3.2 below.

Table 3.2 *Question Types and Examples from the Interview Schedule*

Question type	Definition	Example for this research
Hypothetical	A question that asks participants to speculate, on what might be, or what might happen.	<i>'Suppose a new student is enrolled in your class tomorrow, and you have a hunch s/he to be highly gifted. What would you do?'</i> OR <i>'What if a young new teacher to the staff this year came to you for advice about a student in her/his class they suspect is highly gifted. What would you advise them?'</i>
Devil's Advocate	A question that challenges the respondent to consider an opposing view, without antagonising them over the issue if it is sensitive. This would likely reveal the participant's experience of gifted students, and their position on the identification of (and possibly the provision for) gifted students.	<i>'Some people would say that gifted students shouldn't need to be identified and be given consideration, as they learn anyway.'</i> <i>What would you say?'</i>
Ideal Position	A question that asks about an ideal situation to elicit information and opinion. This could reveal what participants like, and don't like, about current approaches and practices, as well as aspects they would like to change or improve.	<i>'What do you think the ideal time to begin the identification of a gifted student would be?'</i> <i>'What do you think the ideal approach to the identification of gifted students would be like?'</i>
Interpretive Question	A question that will enable the researcher to 'check in' with what they believe they are understanding.	<i>How have you found the approach to the identification of gifted students in this school?</i>

Interviews explored the participant's knowledge, attitudes and experience and how these impacted upon the identification of gifted students in their school. The interviews occurred following the survey, and at the same time the analysis of the survey data began.

To address the issues of this research the questions for semi-structured interviews were informed by the literature review and formulated around:

- Attitudes towards gifted students
- Experiences of teaching gifted student(s)
- Experiences of identification of gifted student(s)
- Facilitators and constraints in planning and implementing identification measures
- Form(s) and type(s) of identification used
- Preferences for identification options
- Level of teacher education in gifted education and identification.

Participants

Participants in Phase Two of the research design were a subset of Phase One. There were 51 respondents of the survey, from across the six schools selected as part of the site selection process. These schools were known by numbers 04, 05, 012, 015, 021 and 026, and are tabled below (Table 3.3) according to their prevalence of identified gifted students.

Table 3.3 *Site Selection*

Schools successful in Identification	Schools not successful in Identification
05 012 021	04 015 026

The matrix (Table 3.4) below summarises the data collection strategies and the participants for Phase Two.

Table 3.4 *Matrix of Data Collection Strategies and Number of Participants*

Categories of participants	Survey – multi-sites	Interviews – multi-sites
	Phase Two	
Principals	6	6
Teachers	45	44
Total	51	50

Principals and assistant principals from all six sites participated in the survey. Gifted education coordinators or those holding similar roles from all six sites responded, though two held a dual role. For example, in School 05, the principal also held leadership of gifted education, and the same for the assistant principal in School 015. Participants from the schools successful in identification included three religious education coordinators, three Year 2 teachers, two Year 1 teachers and two Kindergarten teachers. Participants from the schools not strong in identification included one religious education coordinator, five coordinators, six Year 2 teachers, five Year 1 teachers, seven Kindergarten teachers and one teacher librarian. The Phase Two participants for these six sites are shown in Table 3.5.

Phase Two of the research design also involved semi-structured interviews with the respondents from the six sites. From the 51 survey respondents, 50 participated in the interviews. Participants in the interviews in Phase Two were those who, after completion of the survey in Phase One, consented to participate further in the study, and agreed to be interviewed. In accordance with the ACU Human Ethics Committee approval, participation in

the interview was voluntary, as outlined in the Information Letter to Participants (Appendix N). These participants were considered the most appropriate as the researcher required people familiar with the identification of giftedness within the school. From the six sites in Phase Two, all participants, except one coordinator on leave from School 04, consented to be interviewed.

Table 3.5 *Phase Two Participants*

	Successful schools in Identification	Non-successful schools in identification	Total
Principal	3	3	6
Assistant Principal	3	3	6
Religious Education Coordinator	3	1	4
Gifted Education Coordinator or similar role	2 + principal	2 + assistant principal	4
Coordinator	-	5	5
Year Two teacher	3	6	9
Year One Teacher	2	5	7
Kindergarten Teacher	2	7	9
Teacher Librarian	-	1	1
Total	18	33	51

Analysis

Documents

In conducting the content analysis of the documentation in Phase Two, information was organised into the themes of approaches and practices addressing the second research question. Once content analysis was completed, a more focused thematic analysis was undertaken to identify categories within the data. Themes already determined through the literature review assisted the grouping of data emerging from the thematic analysis (Bowen, 2009).

Survey

The survey data for each of the six sites was extracted from the diocesan system data, and this became part of case study data for Phase Two analysis. Analysis of the survey data from all six school sites occurred simultaneously as an iterative process. The process of scoring and categorising data continued as the researcher critically checked and evaluated data for its value to the research. For example, only global measures of attitude obtained from

the Gagné and Nadeau Attitude Scale were determined to be of significance to the research. The analysis process involved bringing together related data in a meaningful and comparative way, conceptually and empirically. Bruner, Goodnow, and Austin (1972) describe categorising as making ‘discriminably different things equivalent, to group the objects and events and people around us into classes, and to respond to them in terms of their class membership rather than their uniqueness’ (p. 16). The categories enabled comparison of data within and across schools. This involved making connections within sites, across sites of successful schools and non-successful schools, and then between schools successful and not so successful in identification.

Interviews

Analysis of the interview data required the researcher to read each interview transcription closely to be immersed in the details of the data, and obtain a general overall sense of the data (Creswell, 2008). Consistent with qualitative methodology, the researcher was attentive to patterns within the data, and for the meanings participants assigned to their experiences (Mabry, 2009). The researcher also listened to the recorded interviews as the primary source, to hear tone, inflections and stresses in the audio recording of the interview. With subsequent readings, the ‘story’ of each single site emerged. Each site’s interview transcriptions were first analysed with manual coding to ensure that the researcher was ‘close’ to the data (Creswell, 2008). The analysis by hand was done by colour-coding combined with marking parts of the texts. Colour and code were assigned to identify broad themes, and sub-codes for layers within themes. Colour coding themes from the literature review, and coding via text-marking coding was helpful for confirming categories, identifying overlaps and the subsequent narrowing of data into themes. An example is provided in Appendix O: Sample of Data Coded from Interview Transcript. From this, interpretative views of the data were developed, informed by the literature review.

Once the researcher was familiar with the qualitative interview data through the above coding process, word files of the interview data were imported into a database using QSR NVivo 11 software. Given the large database of information from 50 interviews, this facilitated the storing, analysing and grouping of the data. A process took place whereby already established themes (known as nodes in NVivo) were utilised for the data, and new nodes were created from the data. NVivo software supported the process of reorganising the data into nodes for texts to be coded, further analysed and re-coded using open, then axial coding (Creswell, 2008). An interactive and iterative process occurred as the researcher continually probed data from within the sites and compared data across sites. This led to further analysis of themes, particularly a deeper exploration of the four factors for analysis identified through the analysis of the survey data.

From this analysis, four factors specific to the success of schools strong in identification and related to the central research question, were identified. These four factors were: attitudes; knowledge; the ‘driver’ of identification; and identification practices. The recognition of these four themes from the survey data gave direction to the analysis of the interview data.

Procedure

In Phase Two of the study, data were gathered from the six sites selected from the survey in Phase One. Three schools were selected due to a higher than expected proportion of gifted students identified (i.e., more than 10% of their enrolment), and for the purposes of this research were named as HIS. Three schools with a very low proportion or no gifted students identified, relative to enrolment, were also selected and named as LIS.

The researcher contacted the principals of each of the six schools to invite them to participate further and explain what the involvement may require. Principals were informed that participation for this Phase involved interviews (Appendix N: Participant Information

Letter – Principal and Teacher – Phase 2) and access to school documentation (see Appendix P: Participant Information Letter – Documents). All principals approached agreed for their schools to continue in the research study. School participants willing to participate in the research study signed an interviewee consent form provided by the researcher, as required by the regulations of the ACU Human Ethics Committee (Appendix A: Interviewee Consent Letter for Interview).

A risk to the data collection of a perceived power hierarchy in the researcher–researched relationship was avoided. As the researcher has a keen interest in the area, and at the time of data collection held the position as leader in gifted education across a system of schools, it was not considered appropriate for her to conduct the interviews. It may have been perceived that the researcher was in a position to manipulate the study, due to an imbalance of power relations (Creswell, 2013). A research assistant was enlisted to undertake the interviews. This was to reduce the possibility, as Gray (2009) points out, of participants known to the researcher not providing information as honestly as they ordinarily would with an ‘outsider’. In order to protect the confidentiality of the participants and reduce the risk of participants being influenced by the principal researcher, who has held positions of leadership in Catholic education, the research assistant was external to Catholic education.

The interviews were conducted in a face-to-face setting. At each site, where available and consent given, the participants interviewed included the principal, assistant principal, other members of the school’s leadership team, gifted education coordinator or the person in a similar role, as well as the teachers of the early years—Kindergarten, Year 1 and Year 2. Fifty interviews were conducted in total. The research assistant ensured each participant understood the purpose of the study, the format of the interview and received consent for the interview to be recorded (See Appendix A: Interviewee Consent Letter for Interview). Although signed consent was received from participants at the time of site selection, participants were provided

with another copy of the consent at the time of interview to remind them of the voluntary nature of the interview, and the option to withdraw at any time.

Interviews ranged from eight minutes to 51 minutes in duration and were held at each school site, in a room where privacy without interruptions could be ensured. The interviews followed a consistent pattern and all participants were asked the same questions in the same sequence. At the conclusion of the interview, each participant was given the opportunity to clarify, add to, or change a response. All interviews were audio recorded and later transcribed. Transcription of interviews was necessary for accuracy and ease of access to data by the researcher. The purpose of Phase Two analysis was to explore the knowledge, attitudes and experiences of principals and teachers from each of these six sites, in relation to the identification of gifted students.

3.4.3 Phase Three

Phase Three of the research was an analytical phase. It involved the integration of the analysis and findings from Phases One and Two, which, in turn, informed the overall findings and recommendations. The integration involved three sets of analysis and findings. Two sets of analysis and findings came from Phase One: directly through the survey and through the four emerging questions (EQ1 – EQ4). The third set of analysis and findings came from Phase Two: through the triangulation of site survey data, interviews and documents and the subsequent 10 emerging questions (EQ5-EQ14) that arose. The researcher sought new understandings through direct interpretation of individual and aggregated findings from survey and case study data, until global findings could be reached (Stake, 1995), and final recommendations made.

Summary

The research design focussed first on features across the system of schools, then within each site for commonalities in HIS, as well as commonalities in LIS. Data collection occurred in three phases, and analysis was a constant process throughout.

In summarising the theoretical framework, the epistemology of pragmatism was the lens through which the mixed methods approach was used. Quantitative data were used in the first phase of the study. Qualitative data were used in the second phase, which involved document analysis, and interviews with participants from within the six multi-sites of the study.

In-depth analysis of qualitative data were central in order to clarify knowledge and investigate meanings offered within the quantitative data. The coding process was a significant part of the analysis of the interviews. The process can be described as follows: coding into broad categories, grouping of like codes and discerning redundant codes, trialling codes with new data, introduction of new codes, coding for consistencies and inconsistencies, overlap and redundancies, and collapsing codes to build into themes. This was followed by a process of aggregating findings across the three individual HIS, and then three LIS. The factors of influence that emerged are reported in the analysis of data in Chapter 4 and Chapter 6, and discussed in Chapter 5 and Chapter 7, were identified in the quantitative data of Phase One, and subsequently further investigated in the qualitative data of Phase Two. Miles and Huberman (1994) call this data reduction.

In addressing the research question, analysis and interpretation of results from the qualitative analysis was favoured. During analysis, most relevant aspects to the research were the main focus, though competing interpretations in the analysis were also included. The literature review and researcher's own knowledge in gifted education also informed the

analysis. Aligning data to the research questions and conceptual framework was an essential part of the analysis.

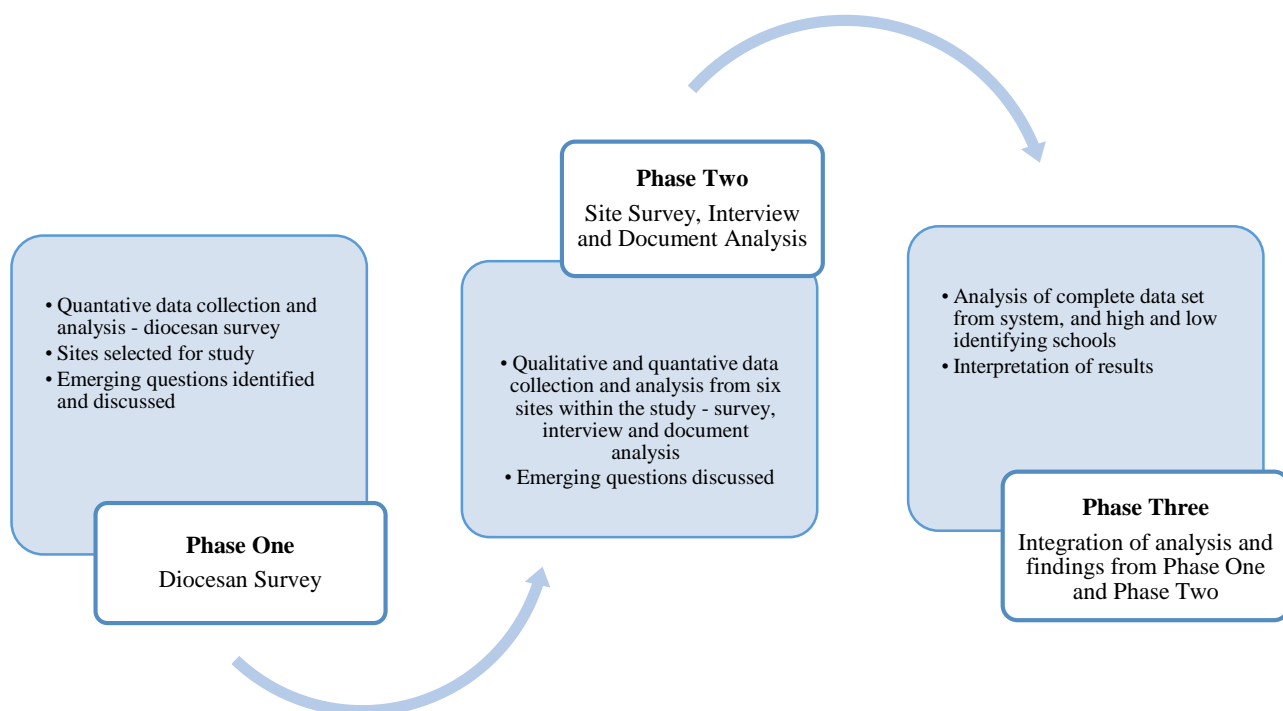


Figure 4. *Sequential Explanatory Research Design*

3.5 Triangulation

As the research sought knowledge about the influences on the identification of gifted students, the data analysis was driven by the investigation into the knowledge, attitudes and experiences that the teachers and principals shared. There was a large amount of data to work through, which is characteristic of a study research using mixed methods (Gable, 1994), in the form of survey, documents and interviews. The researcher's knowledge of the data through categorising, manual coding, coupled with the use of NVivo for coding of emerging factors and characteristics, made for a logical and thorough management of data for the purposes of the research study, and strengthened triangulation, as indicated previously in Phase Two. As Lapan et al. (2012) argue, such processes increase the validity and trustworthiness of the findings in the research.

3.6 Trustworthiness

Phase One

As this research was using new and previously unexamined scale items, assessing for face validity was warranted. As previously indicated, the survey document was piloted twice during the process of development. It was first piloted with education officers working specifically in the field of gifted education, and secondly with education officers working in curriculum and in support of diverse learning needs.

The full survey, inclusive of Part A (demographic and contextual data), Part B (Gagné and Nadeau Attitude Scale ‘Opinions about the gifted and their education’; and ‘Opinions about Identification’) and Part C (Identification Practices), was piloted with education officers. This included those working in gifted education within the system of Catholic schools, to check for clarity and ambiguities, and to seek feedback as to whether the statements provided scope for the data being sought from the three parts.

The pilot implementation provided feedback on the survey questions. Aside from changes mentioned earlier, minor editorial adjustments were made from feedback received, mainly for clarity within items. For example, in Part A of the survey where participants were asked to indicate their qualifications in gifted education, a certificate in gifted education was differentiated into a Certificate in Gifted Education, a university course over 18 months involving five units, and a Mini-Certificate in Gifted Education, typically involving 16 hours on-site professional learning. Another minor change was to include an example of an objective measure and an example of a subjective measure of giftedness in Part C, where participants were asked to check practices of identification currently used in their schools. See Appendix D: Online Survey for Principals, and Appendix E: Online Survey for Teachers, for the full survey.

Phase Two

Prior to implementation, the researcher and research assistant undertook pilot interviews with current teachers and principals. The purpose of the pilot was firstly to test prepared questions to determine which questions may have been confusing, or required re-wording, and to ensure questions elicited the data being sought. The pilot was also used to train the research assistant in the invitational mode of the questions and to develop a rapport with the participant while remaining neutral with the interview content. As Holstein and Gubrium (2003) recommend, 'Interviewers are generally expected to keep their 'selves' out of the interview process. *Neutrality* is the byword' (p. 13). Following the pilot, aside from minimal changes to terminology to ensure consistency throughout the survey questions, no other changes were made. For example, a change to 'students' rather than 'children' occurred. Additional prompts were included to support the research assistant in being clear of the intent of the question.

While acknowledging that methodologically, from an ethics stance, it was appropriate to use the research assistant to conduct the interviews, rather than the researcher take the responsibility herself, this process generated its own challenges. One of the major difficulties of the methodology of using a research assistant was the lack of control of the data gathering process. Despite multiple briefings and practice through piloting the interview, analysis of the audio recordings and evidence in the transcripts indicated that reliance on the research assistant as the primary collector of data resulted in several missed opportunities. From the researcher's perspective, some important questions were missed and lack of probing in a few instances meant some points were left unclarified. The fact that the researcher was not in control of the data-gathering generated an element of frustration for the researcher as these omissions were unable to be rectified.

Trustworthiness in Phase Two incorporated the process of triangulation. Triangulation endeavours to establish whether each interpretation can be confirmed or supported by data gathered from other sources (Stake, 2006). Triangulation occurred within this study throughout the process of data collection and analysis, to help determine the consistency of new data with what was already known. As suggested by Creswell (2008), the researcher sought to corroborate data between individuals within a school, across schools successful and not so successful in identification, and between the survey data, school documentation and the interview data. The strongest sense of triangulation was evidenced between the sites themselves. The multiple sources of data collected from the survey, the documentation and the interviews when triangulated assisted in finding similarities in the data, as well as where discrepancies occurred (Moore, Lapan, & Quartaroli, 2012; Yin, 2009). It was possible to understand the occurrence of successful identification of gifted students in schools by drawing all pieces of the research data together. The combination of multiple methods in this study is a strategy that adds ‘...rigor, breadth, complexity, richness, and depth to any inquiry’ (Denzin & Lincoln, 2011, p. 5).

General Overview

To determine trustworthiness, the research literature (Lincoln & Guba, 1994; O'Donoghue, 2007) recommend reference to four criteria:

- i.) credibility
- ii.) transferability
- iii.) dependability
- iv.) confirmability.

This study, using mixed methods research, was reinforced by indicators of credibility. Credibility, consistent with the research literature (Stake, 2006), requires that the study reflects as clear and accurate a picture as possible of the context under study; in this study, the

system of schools and sites, free of bias and misrepresentations. The use of multiple methods of data collection and analysis supported this objective, assisting in determining accuracy between the findings and the reality. Specialists and professionals in the education field contributed to the face validity of the survey and interview schedule. Competent participants who voluntarily responded to the invitation to participate, and contributed time and knowledge, also contributed to the credibility to the research study. Going further afield and checking in with external personnel and supervisors to critically read and re-read the data and the reporting to look for inconsistency or fault was another element that strengthened trustworthiness.

Transferability is the degree to which the research can be transferred, applied or generalised to other settings. In this research, purposeful selection, and knowledge and descriptions from detailed analysis of the semi-structured individual interviews, assisted in determining the possibility of the findings being generalised across other similar contexts (Gray, 2009; O'Donoghue, 2007). Caution needs to be exercised, however, as Dey (1993) suggests that generalisations from qualitative findings are more likely to be suggestive than conclusive.

Dependability was achieved through the tracking of data from beginning to end, with a high degree of rigour applied to the study to arrive at trustworthy findings (O'Donoghue, 2007). A thorough and comprehensive audit trail ensured this. The researcher conducted purposeful selection and was involved in the collection and analysis of data, enhancing dependability.

Confirmability is the extent to which the findings are grounded in data collected from the participants' knowledge, attitudes and experiences of the identification of giftedness. Again, a clear and transparent audit trail, being thorough with documentation and processes, verifies confirmability. As Soy (1997) maintains, within-site examination and cross-site

examination, as well as alignment with the literature review, supports the validity. Reliability within this research was enhanced through the use of multiple sources of evidence, the development of a formal, presentable database for the review of evidence, and the maintenance of a chain of evidence to clearly illustrate the link from research questions to the study conclusions, and the intervening steps (Yin, 2009).

3.7 Ethical Issues

As this study involved human participants and a multiplicity of data collected from across the system of schools, and then specifically from six sites, care was taken to ensure the ethical conduct of this research. This process was undertaken with the full approval and endorsement of the Australian Catholic University (ACU) Human Ethics Committee.

Phase One

Ethical issues were anticipated and planned for in order to lessen the chance of the researcher's predispositions and biases emerging throughout the study. For example, in Phase One of the research study, each school was immediately de-identified and coded with a number in order of receipt, and each respondent from within that school was coded with a letter; for example, the principal from school 03 was coded 03P. The first teacher respondent from school 03 was coded 03a, the second teacher respondent 03b, and so on. Anonymity was thus addressed at two levels: the individual sites within the research, as well as the individual participants within each site.

Phase Two

As with Phase One, ethical issues were also addressed in Phase Two. Anonymity was addressed at two levels: the individual sites within the case study, as well as the individual participants within each site. The interview transcripts were attributed to the survey respondent using the same code. Disclosure of identities at both levels was not important to an

understanding of the research. School documentation was de-identified by the research assistant, and coded according to the school code used for the survey data.

General Overview

In addition to the ethical issues addressed specifically at each phase, particular consideration was given to the selection and informed voluntary consent of sites and participants, the collection of data, stating and honouring confidentiality and anonymity, and care and honesty in reporting of findings. The establishment of trusting relationships with the school sites, and applying the principles of beneficence, respect and justice (Lapan et al., 2012), provided an ethical framework for the researcher to fully investigate the experiences, knowledge and attitudes of educators within schools.

The researcher was responsible for the collation, examination and analysis of the data from the interviews, and was able to triangulate this with an analysis of the survey data and school documentation. This, again, ensured dependability. The researcher undertook two pilot tests of the complete survey. A pilot was also undertaken of the research questions for interviews, from a site separate to the study sites, to ensure questions were appropriate and targeted to the data the researcher sought to obtain. The research assistant participated in the pilot of the interview questions. All data were de-identified to ensure contexts and participants could not be recognised, and data were stored on password-protected technology.

3.8 Overview of Research Design

The rationale for this research design is embedded in the purpose of the study. This study examines the nature of the identification of gifted students within six school sites. The research design is reflective of a pragmatic approach, using the best available methods to gain an understanding of the educators' knowledge, attitudes and experiences influencing the identification program within these schools. In the first instance, survey provided the broader landscape regarding the identification of giftedness. This was followed by document analysis

and interview that served to draw down and enable a deeper understanding of the practices and issues surrounding the identification of gifted students in primary schools.

An understanding of the factors that hinder and support identification was sought. Three sets of analysis and findings (two sets from Phase One and one set from Phase Two) were synthesised to inform the overall research findings and recommendations. Mixed methods was the selected methodology, considered most likely to enable the collection of data to address and find ‘workable’ solutions to the research problem.

Throughout the research process, three research questions (Table 3.6) were the focus of the exploration.

Table 3.6 *Research Questions*

Questions	Methods
What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification? (diocesan)	Online survey
What are the approaches and practices to the identification of gifted students in Catholic primary schools? (diocesan)	Online survey
How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students? (case study research sites)	Online survey Semi-structured interviews Document analysis

Table 3.7 (below) provides a summary of the research questions and research methods.

Table 3.7 *Summary of the Research Design*

Research Phases		Participants	Stages for Data Collection and Its Analysis	Timeline
Phase One	Survey	135 teachers	Developed 3-part survey based on exemplar models in the field, along with themes from the literature review that informed the RQs. Purposeful sampling of participants - varying levels of responsibility for, and influence on, the early identification of giftedness Piloted survey twice	October 2012 – June 2013
	Site selection	40 principals	Distributed survey to all primary school principals within diocese, along with teachers within sampling Organised, read and manually analysed the survey data: demographics (experience), attitudes, knowledge and practices; presenting data via grouping patterns, overlaps, consistencies and inconsistencies; Purposeful selection of six sites according to predetermined criteria	
Phase Two	Survey	45 teachers	Extricating site survey data from diocesan survey data Categorising segments of data from each site; comparison within and across sites to investigate relationships	June 2013 – December 2014
	Document analysis	6 principals	Content analysis, followed by theme analysis of school documentation for patterns consistent with themes from literature review Analysed data and established consistent themes	
	Individual semi-structured interviews	44 teachers 6 principals	Developed interview questions based on themes from the literature review that informed the RQs. Conducted pilot semi-structured interviews; reviewed questions in light of pilot interviews Administered interviews for participants at each site	April - Nov 2013

Phase Three	Interpretation of analysis and findings	Constant comparative analysis (CCA) method, using open coding and axial coding Cross-site analysis of successful / non-successful schools sites Emerging questions identified	Dec 2014 – June 2016
		Analysis of complete data set from successful / non-successful schools Emerging questions addressed interpretation of results <ul style="list-style-type: none"> • Phase One and Phase Two findings • Global research findings 	July 2016 –April 2018

Chapter 4

Presentation of Results from Phase 1:

Diocesan System Survey Analysis

4.1 Introduction

The purpose of this study was to explore the influence of knowledge, attitudes and experiences of principals and teachers on the identification of gifted students. Previous chapters examined the context of gifted education and the current literature relevant to understanding the nature of identification of gifted students. The purpose of this chapter is to present and analyse the survey data from Phase One.

The following central question guided the analysis and the findings: **How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?**

Three research questions emerged from the literature review, which focussed the conduct of the research.

1. What are the knowledge, attitudes and experiences of principals and teachers in a Catholic system of primary schools related to giftedness and its identification?
2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?
3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

The data analysis has been presented in this chapter (Chapter 4) and Chapter 6, using two data sets: (1) survey data – diocesan system of schools, and (2) survey data, document analysis and interview data – case studies. As an organisational strategy, these are identified and presented as Data Phases One and Two, reflecting the sequence above.

Phase One data is reported in this chapter, and reports on the data from respondents across a system of schools within a diocese. Key to the central research question above, Phase One data has been analysed according to the knowledge, attitudes and experiences of teachers and principals to (RQ1), and the approaches and practices for (RQ2), the identification of gifted students within this diocesan system of schools.

Phase Two data has been organised as six school sites, grouped as three schools successful in identification and three schools not successful in identification. The data of the six schools has been extracted from the broad survey data in Phase One. Key to the central research question above, Phase Two data has been analysed according to the knowledge, attitudes and experiences of teachers and principals to, and the approaches and practices for, the identification of gifted students in these six primary schools (RQ3).

The purpose of the survey was to identify benchmarks about general knowledge, attitudes and experiences towards gifted education, gifted students and their identification across 111 systemic Catholic primary schools within the diocese (at the time of data collection). The survey was administered online and made available to principals, assistant principals (APs), religious education coordinators (RECs), coordinators and (Kindergarten, Year 1 and Year 2) (K-2). For the purposes of this research, *principals* included the principal respondents as the key leader of the schools, and *teachers* applied to teachers of the early years and teachers with leadership responsibilities including APs, RECs and coordinators.

The online survey consisted of three parts. Part A collected information about each respondent's demographic information, involvement in identification, and formal qualifications in gifted education. Part B of the survey focussed on the attitudes of respondents towards gifted students and their education and, second, attitudes of respondents towards the identification of gifted students. Part C focussed on identification practices currently in use in the respondent's school.

4.1.1 Participants

The survey was administered to 111 principals, and made available to APs, RECs, coordinators and teachers of the early years in those 111 schools. The survey yielded 175 responses: 40 principals and 135 teachers. The teachers were from 46 schools, representing 41% of the 111 primary schools in the diocese under study.

Teachers of the early years represented 55% of all respondents. Of the 175 survey respondents, 89% were female and 11% were male. Principals were made up of 75% female and 25% male. Teacher respondents consisted of 93% female and 7% male. While 41% of all respondents were under the age of 40, the highest percentage of respondents (31%) fell within the 50-59 year age range. Appendix Q shows the demographic data on all respondents, including gender, age range, position held, years of teaching experience, years at current school, and years directly involved in identification. Table 4.1 presents a break-down of the survey respondents according to age, gender and position.

Table 4.1 *Survey Respondents by Position, Gender and Age*

	Principals		Assistant Principals		Coordinators		Gifted Ed Coordinators		Teachers K-2	
Number of participants	40		23		29		21		62	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
	30	10	18	5	26	3	21	0	60	2
Age Range	Years	#	Years	#	Years	#	Years	#	Years	#
	20-29	-	20-29	-	20-29	1	20-29	2	20-29	28
	30-39	1	30-39	4	30-39	13	30-39	9	30-39	14
	40-49	11	40-49	7	40-49	7	40-49	6	40-49	10
	50-59	20	50-59	12	50-59	8	50-59	4	50-59	10
	60+	8	60+	-	60+	-	60+	-	60+	-

4.1.2 Prevalence of Identified Gifted Students

Principals provided data on the current number of identified gifted students in their school. Across the 40 schools, with enrolments ranging from 130 to 823 students, the number of identified students extended from zero to 23 students. The table below (Table 4.2) shows the percentage of identified gifted students relative to the student enrolment at the school. The prevalence rate of identified gifted students in the majority of schools (60%) was 4% or less. According to Gagné's DMGT, the prevalence of giftedness is determined as 10% of the population. Five of the 40 schools (12.5%) had an expected, or more than expected, proportion of gifted students identified (i.e., 10% of their enrolment), leaving 87.5% of schools with lower than expected rates of identified gifted.

Table 4.2 *Percentage of Students Identified as Gifted*

Percentage identified students relative to enrolment	/40 schools	% of schools
Less than 1% identified	10	25%
1% - 4% identified	14	35%
5% - 7% identified	11	27.5%
8% - 9% identified	0	0%
At or more than 10%	5	12.5%
Total	40	100%

4.2 Knowledge of Principals and Teachers Related to Giftedness and its Identification

4.2.1 Qualifications/Training in Gifted Education

As part of the demographic, data information was sought on qualifications and training in gifted educationError! Reference source not found. (see Appendix R: Qualifications and/or Training in Gifted Education), critical to the research question: How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers? Respondents were asked to check the highest qualifications they held from a seven-step scale in order from none to postgraduate studies.

Of all the respondents, eight principals and 21 teachers had completed formal training in gifted education at either postgraduate or certificate level (certificate level equated to 75 contact hours and five assignments marked at Master's Degree level; Gross, 1997). One half, 86 out of 175 (49%), of all respondents had engaged in professional learning through an in-school program or mini-course, involving a range from two to 16 hours. One-third, 59 out of 175 (34%), of all respondents have either no training or a single session of professional learning in gifted education.

The majority of principals, 37 out of 40 (92.5%) had some training in gifted education. Of the principal respondents, eight (20%) held formal qualifications in gifted education and one was currently undertaking such studies. Of the teacher respondents, 21 (15.5%) have formal qualifications in gifted education. From all respondents, 29 out of 175 (16%) had formal qualifications in gifted education.

4.2.2 Knowledge About the Identification of Gifted Students

At the conclusion of Part B of the online survey, respondents were asked to self-rate their knowledge about the identification of gifted students using a five-point scale (see Appendix D, Part B, item 16). Percentages for responses from principals and teachers are reported in Table 4.3 below. Ten percent of principals rated their knowledge as comprehensive/extensive, and just over half (52.5%) stated their knowledge was adequate. Ambivalence was evident in just over half the principal respondents as 37.5% described their knowledge as sometimes adequate/sometimes inadequate. No principal respondents described their knowledge as somewhat inadequate or minimal/very limited.

Resembling the principals, 15 (11%) teacher respondents rated their knowledge about the identification of gifted students as comprehensive/extensive. Adequate knowledge was rated by 42 (31%) teachers, and 47 (35%) said it was sometimes adequate/sometimes inadequate. However, teachers' responses did differ markedly from principals in that 31 from 135 (23%) teacher respondents described their knowledge as either somewhat inadequate or minimal/very limited.

Table 4.3 *Comparative Presentation of the Data: Self-rated Knowledge of Principals and Teachers about the Identification of Gifted Students*

Responses from Principals (P. # 40) and Teachers (T. # 135)									
comprehensive/ extensive		adequate		sometimes adequate/ sometimes inadequate		somewhat inadequate		minimal/very limited	
P	T	P	T	P	T	P	T	P	T
4	15	21	42	15	47	-	23	-	8
10%	11%	52.5%	31%	37.5%	35%	-	17%	-	6%

4.3 Attitudes of Principals and Teachers Related to Giftedness and its Identification

In Part B of the survey, the focus was on attitudes of respondents towards gifted students and their education, and attitudes of respondents towards the identification of gifted students. The Gagné and Nadeau Attitude Scale and responses are reported in Appendix S: Diocesan Principal Responses and Appendix T: Diocesan Teacher Responses. The purpose of survey Part B was to provide broad data for RQ1 and RQ2, as well as benchmarks to inform the analysis of the six school sites for RQ4. Respondents were also asked to rate themselves in their overall attitude towards identification. The results of each section are addressed in turn and separately for the two groups: principals (n. 40) and teachers (n. 135).

The following section presented the overall responses, as descriptors, from reported means in light of the Gagné and Nadeau Attitude Scale's global descriptors for means (Gagné, 1995a).

As Table 4.4 below shows, diocesan principal respondents were generally positive towards the gifted and their education. Their individual overall means on the Attitude Scale placed 70% in the positive/very positive range. Ambivalent attitudes were held by 30% of the principals and no negative attitudes were reported. The means for the majority of teachers

(47%) clustered around the midpoint of the scale, indicating that in general these teachers held an ambivalent or neutral attitude towards the gifted and gifted education. Positive/very positive attitudes were held by 38% of teachers, and opposing negative views were held by 15% of teachers indicating disagreement with the gifted and their education.

Table 4.4 *Gagné & Nadeau's Attitude Scale: Principals and Teachers Means and**Descriptors*

Global Descriptors	Very positive	Positive	Ambivalent	Negative	Very negative
Global Means	4.01 – 5.00	3.26 – 4.00	2.75 – 3.25	2.00 – 2.74	Below 2.00
Principals (n.40)	4 70%	24	12 30%	-	-
Teachers (n.135)	5 38%	46	64 47%	19 15%	1

Gagné and Nadeau's Attitude Scale addressed six factors influencing teachers'

opinions about the gifted and their education. All factors were included in the survey to participants for the purposes of obtaining overall attitudinal means and descriptors for principals and teachers (see Table 4.4). The section following presents principal (n. 40) and teacher (n. 135) responses as means and descriptors. However, only those factors directly relevant to the research study were included for analysis. These factors are: needs and support; resistance to objections; and social value. Items within these three dimensions of particular relevance to this study receive attention.

4.3.1 Needs and Support

The eight items within the survey addressing the dimension of *Needs and Support*, along with diocesan principal and teacher responses, are listed in Appendix U: Gagné and Nadeau Attitudes Scale – Principal Responses and Appendix V: Gagné and Nadeau Attitudes Scale – Teacher Responses. Six of the eight items (1, 9, 11, 14, 15 and 32) were of particular importance to the study and led to an understanding of the teachers' and principals' positions in terms of the needs of, and support for, gifted students. High levels of agreement from principals and teachers were obtained on issues about offering educational services for the gifted (#1), the gifted requiring special attention (#15), are often bored (#9) and their needs

are often ignored (#14). Even given their position on these issues, principals were divided, as were teachers, on whether the gifted waste their time (#11) and have their intellectual curiosity stifled (#32) in regular classes.

Table 4.5 *Means and Descriptors: Diocesan Principals and Teachers*

Gagné and Nadeau's Attitude Scale: Global means range and descriptors				
Very positive	Positive	Ambivalent	Negative	Very negative
4.01 – 5.00	3.26 – 4.00	2.75 – 3.25	2.00 – 2.74	Below 2.00
Means from survey responses: Principals and Teachers				
Factors influencing opinions	Principal (n. 40)		Teachers (n. 135)	
	Mean	Descriptor	Mean	Descriptor
Needs and Support	3.96	Positive	3.74	Positive
Resistance to Objections	4.05	Very positive	3.76	Positive
Social Value	3.60	Positive	3.36	Positive

The overall mean of principals for the items addressing the 'Needs and Support' factor was $\bar{X} = 3.96$ (Table 4.3), and teachers recorded an overall mean $\bar{X} = 3.74$ (Table 4.3). On the global scale, these means are indicative of a positive attitude towards the needs of gifted students.

4.3.2 Resistance to Objections

Of the 10 items included in this dimension, three items (3, 4 and 16) were of particular relevance to this study (see Appendix W and Appendix X). There were split views among principals, as there were among teachers, on two items: whether students with difficulties warrant special educational services more than gifted students (#3), and whether special programs for the gifted lead to elitism (#4). Also of note was the level of agreement from principals and teachers that schools do not adequately cater for the needs of gifted students (#16).

Resistance to objections recorded the highest mean overall (Table 4.5) for both groups: $\bar{X} = 4.05$ from principals, and $\bar{X} = 3.76$ from teachers. This result suggests that

principals and teachers agree that gifted students have a right to appropriate educational services to meet their needs and resisted common objections given to gifted education.

4.3.3 Social Value

Of the four items within the survey, two items (13 and 33) were of specific interest in gaining a greater understanding of the respondents' attitudes towards the social value of gifted people (see Appendix Y: Gagné and Nadeau Attitudes Scale – Principal and Teacher Responses). Gifted persons were regarded of great value to society (#13) by all principals and most teachers. However, principals, as well as teachers, were divided on whether leaders will emerge from today's gifted (#33).

The factor of *Social Value* reported a mean of $\bar{X} = 3.60$ from principals, a mean of $\bar{X} = 3.36$ from teachers as shown in Table 4.3. These results suggest a positive view, held by both principals and teachers, of the social value of gifted people in society.

Outside of these three dimensions, but still of relevance to this study, was an item (#22) in the dimension of *Rejection*, identifying teachers as feeling their authority threatened by gifted students. Though the majority of principals (72.5%) agreed, teachers were divided on the issue.

4.3.4 Summary

Though the system principals held slightly more positive attitudes than system teachers in all three dimensions of the Gagné and Nadeau Attitude Scale included in this study, there is clearly a degree of alignment between the system principals' and teachers' attitudes. The needs of and support for gifted students, the resistance to objections about such students, and their education and the social value of gifted persons were all factors supported by the positive attitudes of both groups.

4.4 Attitudes of Principals and Teachers – Towards the Identification of Gifted Students

Part B of the survey also included a 14-item survey of principal and teacher attitudes towards the identification of gifted students. The data is presented in Appendix Z:

Comparative Presentation of the Data – Attitudes of Principals and Teachers towards the Identification of Gifted Students, shown in numbers and percentages. The results are reported in the section that follows.

There was strong consensus from principal (100%) and teacher (91%) respondents that most system schools have gifted students, and that identification leads to a better match of program options for gifted learners (principals 90%, teachers 95%). There was also strong consensus (principals 97.5%, teachers 98%) in their disagreement with the claim that gifted students do not need to be identified because they learn anyway. High levels of agreement were reached about the need for an identification program (principals 95%, teachers 90%), the many benefits of identification (principals and teachers 95%) and the need to use multiple criteria in identifying gifted students (principals 90%, teachers 95%). Similarly, there were high levels of agreement that identification is the responsibility of the schools rather than the parents (principals 87.5%, teachers 89%). Strong consensus was achieved among principals, and to a lesser degree teachers, of the need for more funding for identification (principals 92.5%, teachers 82%) and that identification does not lead to elitism (principals 90%, teachers 78%). Three-quarters of all respondents (principals 72.5%, teachers 75%) did not agree that it was more important to identify children with learning difficulties than it is to identify gifted students. Conversely, 20% of principals and 17% of teachers disagree, and believe it is more important to identify children with learning difficulties.

There were lower levels of consensus on the issue of the adequacy of the identification with 21 out of 40 (52.5%) principal respondents perceiving that the system

schools do not adequately identify gifted students. The 135 teacher respondents were divided on this issue, with 51 (38%) believing they do, 50 (37%) believing they do not adequately identify, and 34 (25%) teacher respondents undecided. Varied opinions also emerged from, and within, the two groups as to the view that some teachers prefer gifted students not be identified. More than half of the system's principal respondents (57.5%) and one-third of teachers (34%) were of the view that teachers prefer gifted students not be identified. Disagreement with this assertion came from 15 out of 40 principals (37.5%) and 61 out of 135 teachers (45%). A group of 28 teachers (21%) were undecided.

4.4.1 Overall Attitudes About the Identification of Gifted Students

At the conclusion of Part B of the online survey, respondents were asked to rate themselves on their overall attitudes towards identification. As presented in Table 4.6, all principals consider their attitudes towards the identification of gifted students as either positive or very positive. Likewise, almost all teachers believe they have a positive attitude about the identification of gifted students (96%).

Table 4.6 *Comparative Presentation of the Data: Self-rated Attitudes about the Identification of Gifted Students*

Responses from Principals # 40 and Teachers # 135									
Very Positive		Positive / Supportive		Ambivalent / indifferent		Negative		Very negative	
P	T	P	T	P	T	P	T	P	T
24	64	16	66	-	3	-	2	-	-
60%	47%	40%	49%	-	2%	-	1.5%	-	-

4.5 Experiences of Principals and Teachers

4.5.1 Current School Tenure

The greater majority of respondents have been teaching more than 10 years with almost half (48%) teaching for more than 20 years. Of those teachers who responded, 63% have been teaching for more than 10 years, 38% have been teaching 10 years or less, and 19% for five years or less.

The majority of principals, 36 out of 40 respondents (90%), had been at their school for less than seven years and 65% have taken up their appointment in the last two years. The majority of teachers of the early years, 47 out of 62 respondents (66%), had been in their current schools for six years or less. Of all the respondents to the survey 75 out of 175 (43%) have been at their current school for less than three years.

4.5.2 Direct Involvement in Identification

Principals' involvement in the identification of gifted students was reported earlier and shown in Table 4.7. The results showed that 22 of the 40 principals (55%) had five years or less experience, with four of those principals (10%) having no involvement at all. Importantly, almost half of all teacher respondents, 65 out of 135 (48%), have had no involvement in identifying gifted students. Within the teacher group, 71% of teachers of the early years (K-2) reported no direct involvement in identification, despite being well-placed

to begin the process. Of all respondents (n. 175), 39% have had no direct involvement in the identification of gifted students.

Table 4.7 *Survey Respondents: Direct Involvement in Identification*

	Principals		Assistant Principals		Coordinators		Gifted Ed Coordinators		Teachers K-2	
Number of participants	40		23		29		21		62	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
# years directly involved in identification of gifted students	30	10	18	5	26	3	21	0	60	2
	0	4	0	6	0	11	0	4	0	44
	1	0	1	-	1	4	1	1	1	2
	2	2	2	2	2	-	2	3	2	4
	3-5	16	3-5	6	3-5	10	3-5	7	3-5	10
	6-10	10	6-10	5	6-10	2	6-10	6	6-10	-
	11+	8	11+	4	11+	2	11+	-	11+	2

4.5.3 Frequency of Involvement in the Identification of a Gifted Student

At the conclusion of Part B of the online survey, respondents were asked to indicate the frequency of their direct involvement in the identification of gifted students. Percentages for responses from principals and teachers are reported in Table 4.8.

While the majority of both principals and teachers reported specific involvement in the identification of gifted students, principals are more often involved than teachers. More than half the principals (57%) were directly involved more than 20 times. Even so, more than a quarter of principals (27.5%) and a large number of teachers (58%) had minimal if any specific involvement.

Table 4.8 *Comparative Presentation of the Data: Frequency of Involvement of Principals and Teachers in the Identification of a Gifted Student*

Responses from Principals # 40 and Teachers # 135									
More than 40 times		31-40 times		21-30 times		11-20 times		0-10 times	
P	T	P	T	P	T	P	T	P	T
12	13	1	5	10	9	6	30	11	78
30%	10%	2.5%	4%	25%	7%	15%	22%	27.5%	58%

4.6 Identification Approaches and Practices Currently in Use in Schools

4.6.1 Introduction

Arising from the literature review emerged Research Question Two, which focussed the conduct of the research:

2. What are the approaches and practices to the identification of gifted students in Catholic primary schools? (diocesan)

The online survey consisted of three parts. Part C focussed on identification practices currently in use in the respondent's school. In Part C of the survey, teachers and principals were asked to indicate the identification approaches and practices existing currently in their school. As defined in Chapter 1, in this study, approaches are broader ways the school considers or manages identification, including the policy it has in place to reflect the school's broader position or stance about identification. Practices are defined in this study as the measures and tools used, the timing of identification and other specific methods of identification the school applies to assess academic giftedness.

These 23 items identifying approaches and practices appeared following the Gagné and Nadeau Attitude Scale survey, and the Attitudes Towards Identification survey, which focussed specifically on attitudes towards identification. There were 23 statements on identification practices available, drawn from the literature (see Chapter 2: Theme 2). They

addressed three areas of identification practices: timing – the ‘when’; measures – the ‘what’; and purpose – the ‘why’. Respondents were free to check as many as were applicable to their school context. The results are presented under the three categories mentioned above, in Appendix AA: Identification Approaches and Practices in Schools.

4.6.2 Timing

The data suggests there is inconsistency across the system of schools as to when identification occurs within the school year. Most principals (85%) and teachers (80%) indicate that identification occurs throughout the year as an ongoing process (ID6). Just over half the principals report that identification is part of the enrolment process (57.5%) (ID2), but teachers were less aware of this (26%). There was a strong sense across both groups that identification is not designated to specific times of the year (ID4). There was also a strong view from principals (85%) and teachers (82%) that student learning experiences are an opportunity for identification (ID3).

4.6.3 Measures

About two-thirds of respondents reported that their schools have documented identification practices and procedures (ID7). There was strong consensus from both principals (92.5%) and teachers (91%) on the use of teacher nomination (ID10) and objective measures (ID15) (principals 87.5%, teachers 79%) in the identification process. There was also a reliance on more formal tools, such as IQ testing and psychometric assessments (ID17) (principals 82.5%, teachers 72%).

Overall, principals (80%), more so than teachers (66%), reported a greater use of previous reports and records (ID14), as well as using both objective and subjective measures (ID18) (principals 77.5%, teachers 60%), and off-level testing (ID16) (principals 67.5%, teachers 44%).

4.6.4 Purpose

Most principals and teachers are in agreement that the purpose of identification is to ensure educational programs are responsive to the needs of students (ID22). Interestingly, however, gathering evidence of a student's potential regardless of their achievements (ID19), was less of a priority for both principals (60%) and teachers (50%). Teachers' responses did differ from principals in that more than half the principals found value in identification for diagnostic purposes (ID8) (principals 60%, teachers 42%), and acknowledged the challenge of identifying underachieving gifted learners (ID23) (principals 75%, teachers 57%). Many teachers seemed less aware of these issues.

4.7 Statistical Properties of the Survey

The survey contained three parts. Part A was the Gagné and Nadeau questionnaire which contained 22 items that were significant for this study and these made up three theoretical constructs. Items 1, 9, 11, 14, 15, 24, 30, 32 formed the Needs and Support construct, items 3, 4, 5, 12, 16, 18, 23, 26, 27, 28 formed the Resistance to Objections construct, and items 3, 17, 25, 33 formed the Social Value construct. When analysis for reliability was undertaken the Cronbach alphas were low except for Resistance to Objectives with .77; Attitudes of Respondents with .78 and Measures with .75. Further statistical analyses were conducted with these three constructs using inferential statistics i.e., independent sample *t*-tests however no statistically significant differences were found. No further inferential statistical analyses were undertaken in this study.

Conclusion

In this chapter, the data from the diocesan survey from Phase One has been presented and analysed. With the understandings of the description data, the data presented in this

chapter has provided a broad view of the system context, which has informed the selection of schools for the case study in Phase Two. The following chapter provides a discussion of the survey data presented in Phase One of the data collection, and analysis of the research findings in the context of Research Questions One and Two.

Chapter 5

Discussion of the Research Findings and Emerging Questions from Phase One

5.1 Introduction

The aim of this study was to investigate the identification of gifted students; in particular, the relationship between teacher and principal knowledge, attitudes and experiences and their influence on identification. To this end, the following research question was developed and explored through a mixed methods approach:

How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?

This chapter provides discussion of the data presented in Phase One of the data collection (diocesan survey data), and analysis of the research findings in the context of RQs 1 and 2 as follows:

1. What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification?
2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?

The RQs were designed to explore the themes identified in the review of the literature, as discussed in Chapter 2. Discussion follows the framework of the research questions and, therefore, the findings are discussed within the context of each research sub-question.

Questions that emerged from Phase One findings were identified for further investigation. These are denoted as Emerging Questions (EQ). Revisiting Phase One data enabled responses to four of these emerging questions and required further investigation

through the integration of components (knowledge, attitudes, experiences, practices and prevalence) within the data. An additional 10 emerging questions raised from Phase One data were investigated through the case study.

Discussion of the four Emerging Questions (EQ1 – EQ4) constituted part of the analysis of Phase One data, and occur within this chapter. The remaining 10 emerging questions generated from the Phase One findings (EQ5 – EQ14) are addressed in the analysis of Phase Two data in the case study. This analysis was to gain further understanding of the factors of influence on identification of giftedness that emerged as questions from Phase One. The analysis involved a deeper exploration of three sites with high rates of identification of giftedness, and three sites with low rates of identification. As with a sequential design, analysis of data within Phase One (diocesan data) prompted the analysis made in the subsequent Phase Two (case study data from six sites), hence the sequential research design in two phases. The following section refers to Research Question One (RQ1), and the discussion of the findings reference the analysis of the survey data gathered from across the system of schools.

Research Question One

What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification?

5.2 Knowledge about Giftedness and its Identification

Training and professional learning in gifted education for system teachers and principals in the study comprised postgraduate courses, including certificate courses, mini-certificate courses, and within-school professional learning programs. Examining the training pathways of teachers and principals was important as the research literature, including a number of Australian studies, has emphasised the importance, and the impact of training on

attitudes and effectiveness in identification. This finding was supported by a study by Plunkett (2002) who reported the positive difference in teacher attitudes, as they engage with gifted students, when those teachers undertook study in giftedness. This finding is noteworthy, and is supported by Bransky's (1987) study of the attitudes of administrators, gifted education teachers and regular primary classroom teachers, and Copenhaver and McIntyre's (1992) study of primary and secondary teachers, who found a correlation between teachers' knowledge of gifted education in the school, and their attitudes towards gifted education. The issue of training was significant for this study as one-third of all respondents (see Appendix R) indicated either one-off single-session professional learning or no training at all, in theory making them unqualified or, at the very least, ill-informed of the conceptions of giftedness, and ill-equipped to recognise characteristics of giftedness in students. The lack of training by system teachers within this study is important, particularly considering a study by Smith and Chan (1998), which found that effective identification of, and educational provision for, gifted students depends largely on the attitudes and knowledge of teachers. The majority of teachers in the present study (64%), and 40% of principals are untrained or have minimal professional learning within-school, and there was no system expectation for teachers to have gifted education training. Ford (1998) was concerned by the deficiencies in the training of teachers in identification, as teachers may lack both an understanding of conceptions of, and expertise in, giftedness and its manifestations, meaning they were unreliable identifiers of giftedness. Consistent with the studies reported in the literature review (Baudson & Preckel, 2013; Senate Employment, Workplace Relations, Small Business and Education References Committee, 2001), insufficient training and professional development in gifted education may be inhibiting effective identification and contributing to the low prevalence rates across the system of schools. As discussed in the literature review,

the effect that a lack of knowledge by teachers has on the identification of giftedness is problematic.

Studies by Gross (1994; 1997), however, emphasise that planned and well-designed training and professional development programs can have a significant effect on positive attitudinal shifts in teachers towards gifted students. Equally, as Rubenzer and Thwaite (1979) found, those teachers with training were more likely to identify gifted students compared to those teachers without training. This finding is also supported by Silverman (1990), who asserts the benefits of teacher training for the knowledge and skills required for appropriate identification and educational provision.

No measure of the quality or effectiveness of the diverse models of training and professional learning in this study was acquired and, therefore, it was not possible to ascertain the degree to which teacher capacity to identify was enhanced. Even so, as McCoach and Siegle (2007) caution in their study, training does not guarantee that teachers will necessarily hold broad conceptions of giftedness, nor sufficient expertise in identification. Interestingly, though, despite the relatively low levels of training across the system respondents, many of the principals in this study, and to a slightly lesser degree teachers, rated themselves as having at least adequate knowledge about the identification of gifted students. This suggests a discrepancy between what principals and teachers believe they know about identification, and what they actually know. This may be due to the provision of professional learning or training in gifted education impacting teachers' perceptions of their own knowledge base and competency in gifted education.

If teachers in the study felt adequate about their knowledge in identification, they may well feel confident in their nomination of gifted students. However, the results of this study do not align with this premise, as evidenced in low rates of identification across the system. This is consistent with a study by Weber (1999), which found that teachers were actually

uneasy about their adequacy in identification, specifically evidenced in their apprehension about over-identifying. In the context of low identification rates within the system of schools, there appears a discrepancy between teachers' perceptions of their levels of knowledge and its application in identification (see Table 4.3, Chapter 4). One explanation for the variance between teachers' perceived knowledge and prevalence of identified gifted may lie in a study by Plunkett (2000), which established that teachers need to go beyond professional development in order to maximise their skills and understandings, avoid misconceptions, and effectively implement strategies for identification: 'Some PD simply fills the knowledge gap without providing any opportunity for application or synthesis...' (p. 40).

5.2.1 Summary of Findings

- F1.1 Inadequate training levels of teachers in gifted education may be an explanation for low rates of identification.
- F1.2 Ineffective identification in those schools where principals and teachers have low levels of training but perceive their knowledge of giftedness as adequate, indicates that further professional learning in conceptions and characteristics of giftedness is required.
- F1.3 There appears to be a link between principals' attitudes towards identification and the types of training in giftedness they have received.

5.2.2 Emerging Questions

The following emerging question constitutes part of the analysis of the diocesan survey within this chapter:

EQ1 Does the self-perception of adequacy levels of knowledge to identify giftedness influence the practice of identification?

The following questions constitute part of the analysis in the case study in Chapter 7 to discuss the practice of identification within schools:

:

EQ5 What are the knowledge characteristics of principals and teachers who are effective in supporting the identification of giftedness in students?

EQ6 Do conceptions of giftedness held by teachers and principals in schools with high prevalence of identified giftedness differ to those in schools with low prevalence of identified giftedness?

5.2.3 Emerging Question 1: Self-Rated Knowledge and the Identification of Giftedness

EQ1 Does the self-perception of adequacy levels of knowledge to identify giftedness influence the practice of identification?

As this study has already reported, principals and teachers were asked to rate the adequacy of their knowledge in identification (see Chapter 4, Table 4.3). Many of the principals in this study (see Appendix BB: Principal Self-assessment of Knowledge Adequacy), and to a slightly lesser degree teachers, rated themselves as having at least adequate knowledge about the identification of gifted students (see Table 4.3, Chapter 4). However, only 5% of schools, where principals claimed comprehensive or adequate levels of knowledge, attained expected prevalence of gifted students. The percentage of schools with expected rates of identification were slightly better with those principals who believed their knowledge in identification to be sometimes adequate/sometimes inadequate. The analysis of the data in this study showed that a direct link cannot be drawn between principals' self-assessment of their knowledge of identification and the translation of that knowledge into reasonable rates of identification of giftedness. It may suggest that a gap exists in principals' professional learning in gifted education, specifically in identification. This is consistent with a study by DiPaola et al. (2004), which found a knowledge gap in gifted education existed with leaders. That principals in this study perceive they hold an understanding of

identification greater than what they actually do may be explained, as studies by McHatton et al. (2010) and Wakeman et al. (2006) found, by the inadequacies of professional learning programs to equip principals to fulfil their leadership roles in responding to the needs of gifted learners. This underscores the importance of training and professional learning for principals in gifted education to prepare them to actively and effectively contribute to the process of identifying giftedness in the students within their schools.

5.2.4 Summary of Findings

FEQ1.1 In schools ineffective in identification, the self-assessment by principals of their knowledge in identification as adequate does not appear to influence the practice of identification in their schools.

5.3 Attitudes towards Giftedness and Gifted Education

The results from the Gagné and Nadeau Attitude Scale indicate principals within the diocese have more favourable attitudes than teachers towards gifted students and their education. Principals' attitudes ranged from an ambivalent minority through to very positive attitudes, with the majority holding positive attitudes. The system teachers, on the other hand, reported greater variability, encompassing the full range of attitudes from very negative to ambivalent, through to very positive, though the majority were in the negative to ambivalent range. The ambivalence of the teachers in the study (47%), and the negative attitudes of a subgroup of 15% teachers is important in understanding the influence of these neutral to negative attitudes on the identification of the gifted. Consistent with the teachers in this current study, a range of attitudes was also reported in a study by Copenhaver and McIntyre (1992), which described both positive and negative attitudes towards the gifted and their education.

Measuring teachers' attitudes towards the gifted and their education has had varied results. Nicely et al. (1980) and, later, Cramond and Martin (1987) and Bransky (1987) identified negative attitudes by teachers towards gifted students, whereas Gross (1994) and Lewis and Milton (2005) reported the positive attitudes of various groups of teachers and administrators towards the gifted. Consistent with the findings in this study, teachers' ambivalence and lack of support for gifted education been found in previous studies (Béchervaise, 1996; Bégin & Gagné, 1994b; McCoach & Siegle, 2007), as well as in more recent Australian studies by Bartley (2014) and Lassig (2009). The indifference by teachers reported in this study is consistent with the 'apathy and opposition to gifted education within the [Australian teaching] profession', disclosed by Watters and Dietzmann (2001, p. 29) more than 15 years ago.

Ascertaining the reasons for a lack of consensus in overall attitudes from system teachers about the need for gifted education is difficult given the limitations of the survey. However, items within the three dimensions of focus for the study: needs and support, resistance to objections and social value, may offer some explanation.

Needs and Support

Within the survey, Gagné and Nadeau included eight items (see Appendix U and Appendix V) specifically to determine respondents' attitudes towards the needs of, and support services for, gifted students. As outlined in Chapter 4, within the dimension of *Needs and Support*, six items of response (1, 9, 11, 14, 15 and 32) were of interest to the study and provided an understanding of teachers' and principals' position on the issue.

The results indicate that system teachers and principals were positive towards the needs and support of gifted students, believing these learners need particular attention if they are to fully develop their talents (#15). These results are consistent with other Australian studies (Gross, 1994; Smith & Chan, 1998). This augurs well for identification, as Croft

(2003) argued the impact of teachers' attitudes on gifted students was greater than for other students. Interestingly, while seeming to be in contradiction with teachers' predominantly ambivalent attitudes towards the gifted, principals and teachers concurred that schools should provide educational programs for these learners (#1). Although this could suggest that teachers' behaviour towards this group of learners would be responsive to their needs, the current study found that the majority of teachers and principals were of the opinion that schools regularly ignored the needs of gifted students (#14). While teachers espouse support for the needs of these students, they also acknowledge that these students are often overlooked. This suggests that teachers, though supportive of providing educational services when confronted with the needs of these high ability learners, may not know how to respond within the regular classroom context.

Related, and worth consideration, was an item outside the three dimensions included in this study, and it lay within the dimension of *Rejection: Some teachers feel their authority threatened by gifted children* (#22) (see Appendix S – Principals, and Appendix T – Teachers). This was of relevance to the study, for the influence this may have on teacher attitudes towards identification of gifted students. The apparent vulnerability experienced by half the system teachers, and three-quarters of principals, is expressed in the belief that teachers feel their authority is threatened by students who, as Marland described, 'are capable of high performance' (1972, p. 4). Teachers may feel threatened due to a lack of experience or expertise, leaving them with a reduced confidence or sense of adequacy in addressing the needs of gifted students, and thus affecting their attitude towards the gifted. This concern may be well-founded, and is supported by Renzulli's (2004b) findings that gifted students can quickly outdo their teachers in some areas of competencies, requiring teachers to become skilled experts in advanced level work. This may explain gifted students being overlooked or ignored, with the indifference manifesting itself in a homogeneous approach to students

within the regular classroom. This highlights the role that attitude plays in changing teacher's behaviour towards the gifted and gifted education.

The majority of respondents also recognised that gifted students often experienced boredom in school (#9), and half the principals and teachers acknowledged that the intellectual curiosity of gifted students is stifled in the regular classroom (#32). This is not a surprising result if the needs of gifted students are being ignored. It is consistent with the Senate Report (2001) which observed that boredom results when educational provision for gifted students is not achieved. These observations of 'boredom' and being stifled by the regular curriculum appeared, at first, contradictory given that both groups, though teachers more so than principals, did not agree that the gifted students' time is wasted in regular classrooms (#11). One possible explanation is that while teachers may have considered boredom was the student's perception, wasted time in classrooms, recognised in a study by Scot et al. (2009), was less palatable as it exposed a lack of provision by the teacher. This raises the issue of the teacher's role, as Gagné's (2012) DMGT asserts and Lassig's (2009) research also established, the teacher has a significant responsibility in the education of gifted students, and is in a position to impede or develop the potential of the gifted learner (Senate Employment, Workplace Relations, Small Business and Education References Committee, 2001). In a literature review on characteristics of teachers of the gifted, McNamara (1983) found that teachers were a significant variable in a gifted student's learning. However, if teachers in this study have felt uncomfortable by the prospect of the integration of gifted students within their classroom, it is plausible that this vulnerability may account for their attitudes of ambivalence and negativity. Such attitudes may be deterring them from designing appropriate educational programs to meet the instructional needs of gifted learners, resulting in boredom experienced by students. This explanation is reasonable when considering the findings of a large scale study by Archambault, Westberg, Brown, Hallmark, Emmons, and

Zhang (1993), reporting insufficient curriculum differentiation, in that teachers made only minor adjustments to the regular curriculum for gifted students. In a later multi-site research study by Westberg and Archambault (1997), supportive attitudes towards the gifted learner, among other factors, was a characteristic in schools demonstrating successful classroom practices for gifted students. What emerges in the findings of this study is an attitudinal disparity between ideological support of and educational provision for the gifted, potentially influencing teachers' propensity to identify.

Resistance to Objections

Ten items within the Gagné and Nadeau Attitude Scale (see Appendix W and Appendix X) specifically addressed respondents' resistance to objections given to the education of gifted students. As outlined in Chapter 4, three items of response (3, 4 and 16) were of particular interest to the study and provided an understanding of teachers' and principals' views on the right of gifted students to appropriate educational services.

The study found that, overall, principals and teachers held positive attitudes within this dimension, resisting the objections put forward by others to the education of gifted students (see Table 4.5). However, one item stood as an anomaly to this position: *children with difficulties have the most need of special educational services* (#3). This study found principals and teachers were conflicted as to who 'most' deserved educational provisions, and they were divided in opinion, with half of each group unable to consider educational services for the gifted when they viewed students with learning difficulties as the priority. This finding is consistent with previous studies (Bégin & Gagné, 1994a; Sternberg, 2010) that have also found a reserved, ambivalent attitude held by principals as the needs of gifted students was considered less of a priority than students requiring special provisions for learning difficulties. Historically, students with special needs have been prioritised in the diocese and this, coupled with insufficient training for teachers in gifted education, may

explain the choice made by teachers to prioritise provision for students with learning difficulties over provisions for gifted students. The results of the current study indicate that less than half the system respondents accepted that students with high potential have as much right to appropriate educational provisions as do students who are experiencing learning difficulties.

Interestingly, the current study also found that principals and teachers judged current provisions in the system as inadequate in meeting the needs of gifted students (#16), aligning with the earlier observation of the needs of the gifted being overlooked. One explanation for the gap in attitudes towards educational provision for the gifted may be found in the related notion of elitism. A third of principals and teachers proffered that special programs for the gifted are elitist (#4). This is consistent with a study by Rotigel (2003), which found similar attitudes existed expressed in terms of gifted students already having advantageous standing. This attitude may explain the disparity in attitudes concerning educational provision found in this study.

Results showing positive attitudes as being indicative of a resistance to objections by system teachers and principals is inconsistent with previous Australian research. An early study by Goldberg (1981) had identified one of the major obstacles to educational provisions for gifted students was the attitudes of teachers. More recent research by Geake and Gross (2008) also reported schools' resistance to embracing educational provisions for gifted students, some to the point of open hostility. The present study found teachers and principals, overall, resisted objections offered to the education of the gifted, but nevertheless showed polarised views regarding whether special education should take precedence when it comes to educational services. An established system focus on special education for students with learning difficulties may be a factor influencing these views.

Social Value

Within the survey, Gagné and Nadeau included four items (see Appendix Y) specifically to determine respondents' attitudes towards the social usefulness of the gifted to society. As outlined in Chapter 4, within the dimension of *Social Value*, two items in particular (13 and 33) were of interest to the study and provided an understanding of the views of teachers and principals.

Positive attitudes were reported in the dimension of social value (see Table 4.5), indicating that teachers and principals were almost unanimous in the value and usefulness of gifted persons for society (#13) (see Appendix Y). Consistent with research by Renzulli (2005) and Tannenbaum (2000), such attitudes are based on the assumptions that giftedness benefits the individual in creating greater possibilities in life and that gifted people have the potential to contribute in a significant way to society. Notably, however, half of the principals and teachers in the study did not acknowledge the idea that gifted students would become the significant leaders of the future (#33).

There are numerous studies reporting teacher attitudes as a key determining influence on behaviour, and how teachers and principals think about and approach gifted education can be shaped by their attitudes (Gross et al., 2011; Jones & Southern, 1992; Lassig, 2009; Smith & Chan, 1998). Therefore, consistent with recommendations in McCoach and Siegle's (2007) study, system teacher attitudes would need to be gauged on an individual, or even school, basis to arrive at a more precise reading of attitudes towards the gifted, and the flow-on effect on identification.

5.3.1 Summary of Findings

F1.4 Unless leadership and policy at the school level ensures that teachers are adequately supported and resourced, a discrepancy between beliefs and practice in identification can exist.

F1.5 Collaborative shared understanding of where resources for educational services are to be directed within systems needs to be established, to ensure the diverse range of learning needs among students are addressed.

5.3.2 Emerging Questions

The following emerging questions constitute part of the analysis of the diocesan survey within this chapter:

EQ2 Does the type of training in gifted education link with attitudes held in giftedness?

EQ3 What is the influence of the principals' attitudes and level of training on the prevalence of identified gifted in their schools?

The following questions constitute part of the analysis in the case study in Chapter 7 to discuss the practice of identification within schools:

EQ7 Are teacher and principal attitudes towards the gifted, and the flow-on effect on identification, different in schools successful and not successful in high giftedness recognition?

5.3.3 Emerging Question 2: Principal and Teacher Attitudes and Training/Qualifications

EQ2: Does the type of training in gifted education link with attitudes held in giftedness?

As already indicated, the research is clear on the benefits of training in gifted education on principals' and teachers' knowledge and attitudes towards the gifted. A lack of training implies deficits in knowledge and understanding, and results in lowered expertise of principals and teachers as identifiers of giftedness, as found in a study by Ford (1998). Training has also been reported to have a positive influence on teacher attitudes towards the gifted (Plunkett, 2002). Accordingly, an issue of interest in the analysis of diocesan system

data is whether there is a connection between principals', and teachers' attitudes, and their level of training.

The levels of training, the corresponding number of principals and teachers and the overall percentage of participants within the study within each level are shown in Appendix R: *Qualifications and/or Training in Gifted Education*. By cross-referencing data on training/qualifications with attitudes, as shown in Table 5.1 and Table 5.2 below, the discussion that follows investigates whether there was any association between qualifications and training of principals and teachers, and their attitudes towards gifted students and their education.

The principals and teachers who held postgraduate qualifications in gifted education all recorded positive attitudes towards the gifted and their education, as did all principals with a certificate qualification in gifted education. Except for those with formal qualifications, the majority of teachers held attitudes of ambivalence. Ambivalence was higher among principals who had minimal or no training compared to those with training. Ambivalent and negative attitudes were lower among those teachers who had obtained formal training in gifted education. Prevalence of ambivalence was greatest with those teachers who had no training. Of the third of all respondents who had experienced a single session or no training at all in gifted education, the greater majority held ambivalent attitudes. Combined, this group held the least positive attitudes of all the respondents, and high frequency of negative attitudes. The importance of training when influencing more positive attitudes towards the gifted and their education was a finding also highlighted in studies by Bransky (1987) Copenhaver and McIntyre (1992), who found a link between teachers' knowledge of gifted education, and their attitudes towards gifted education.

Table 5.1 *Teacher Qualifications/Training and Attitudes Towards Gifted Education*

Teacher Qualifications/Training	Attitudes		
	Very positive / Positive	Ambivalent	Negative / very negative
Formal qualifications (n.21)	76%	19%	5%
Mini-certificate (n.27)	44%	52%	4%
Within-school professional learning (n.33)	35%	44%	21%
Single In-service (n.31) / No training (n.23)	20%	59%	20%

Table 5.2 *Principal Qualifications/Training and Attitudes Towards Gifted Education*

Principal Qualifications/Training	Attitudes		
	Very positive / Positive	Ambivalent	Negative / very negative
Formal qualifications (n.8)	100%	-	-
Mini-certificate (n.16)	73%	27%	-
Within-school professional learning (n.11)	64%	36%	-
Single In-service (n.2) / No training (n.3)	-	80%	20%

5.3.4 Summary of Findings

FEQ2.1 The higher the level of training in gifted education, the more positive the attitudes of principals and teachers towards the gifted and their education.

5.3.5 Emerging Question 3: Principal Attitudes, Qualifications and the Prevalence of Identified Gifted

EQ3 What is the influence of the principals' attitudes and level of training on the prevalence of identified gifted in their schools?

As part of the principal survey, principals were asked to indicate the number of formally identified gifted students in their school relative to enrolment (Appendix CC: Comparative Data: Principals' Qualifications, Attitudes and Prevalence of Identified Gifted). The alignment of these three factors provided important observations.

Of the schools where principals had completed formal qualifications in gifted education, and presented with positive attitudes towards the gifted and their education, only 25% had an expected rate of identified gifted students relative to enrolment. Importantly, despite formal training and positive attitudes some schools had extremely low rates of gifted students identified. A result of this study is the notable difference between the appropriate training and attitudes of some principals, and the practice of identification in their schools. This finding is consistent with a New Zealand study by Newton (2010), who discovered a significant gap between theory and practice in gifted education in schools, which subsequently had a detrimental effect on the identification of gifted students in their primary schools. Even schools in the current study with principals who had completed a mini-certificate in gifted education, the majority of whom held positive attitudes, 80% had a very low rate of identification of the gifted. Yet, surprisingly, one school with a rate of identification at or above the expected rate of prevalence of gifted students was led by a principal who held ambivalent attitudes towards the gifted and their education. There were very similar results for those principals who had undertaken a within-school program of professional learning.

Formal training in gifted education by principals, coupled with positive attitudes towards the gifted and their education, did not necessarily result in expected rates of identification of gifted students in schools. The combination of training and positive attitudes of principals translated into expected rates of identification in only 25% of the schools. As Table 5.3 shows, the five schools with expected, or as is the case more than expected,

prevalence of identified gifted, a diverse range of training and attitudes are evident. This suggests other factors may be at play, facilitating or hindering the identification processes in schools.

Table 5.3 *Diocesan Schools with Expected Prevalence of Identified Giftedness: Principal Training and Attitudes*

Current school enrolment	Formal qualifications and/or training in gifted education	Attitude Description based on Gagné & Nadeau Scale	Number of students formally identified as gifted	% of enrolment identified gifted
167	Certificate in gifted ed.	very positive	25	15
193	Certificate in gifted ed.	positive	33	17
203	Mini-certificate in gifted ed.	ambivalent	40	20
228	Program of in-school PL	positive	30	13
175	Program of in-school PL	ambivalent	40	23

5.3.6 Summary of Findings

FEQ3.1 Principals' formal training in gifted education and positive attitudes towards the gifted do not of their own lead to expected rates of identified gifted students in their schools.

5.4 Attitudes Towards the Identification of Gifted Students

Despite the ambivalence by almost half the system teachers towards gifted students and their education, the prevailing attitudes from the majority of both teachers and principals in this study towards the identification of gifted students was positive. The positive attitudes towards the need for identification of gifted students is relevant and supports the findings of previous studies that found positive attitudes are a pre-requisite in the effective identification of the gifted (Haight, 2006; Plunkett, 2000). The current study showed that almost all principals and teachers recognised there were numerous benefits in identifying gifted students, and yet only 37% of the system respondents were confident identification was being adequately implemented. Results of the study show that, while principals and teachers

signalled the responsibility for identification rested with the school, the majority of principals and teachers reported the inadequacy of the identification program within schools. An underlying anomaly that has emerged from the study appears to be principals' and teachers' recognition of the importance and value of identification for the goal of promoting growth in gifted students, but a deficiency in the identification processes being carried out. This finding is an issue, for without identification, as McClain and Pfeiffer (2012) found in their study of a national survey on gifted education policies, it is almost impossible to successfully plan an educational program to meet the needs of these high ability learners.

It is usual practice for classroom teachers in the primary school to teach across a range of subjects, generally within one class or year level, ensuring that they are well situated for opportunities to recognise characteristics of the gifted that distinguish them from age peers. This is consistent with Tirri's (2017) description of teachers as key agents in the identification of the gifted. The position that teachers are at the forefront, and, therefore, important when it comes to identification, is reinforced in research by Mandelman et al. (2010), which found many identification programs in schools rely on teachers to directly inform the process. Again, this is likely owing to the opportunities presented to them in their day-to-day engagement with students.

The current study found an important difference between the ambivalence of respondents as to who has the greater need of educational services versus the high level of importance placed on identifying the needs of gifted students. The ambivalent middle ground appears to stem from an issue of equity, with emphasis on the one hand of the teachers' aspirations to provide for all students equally, and on the other, the desire to identify and help students achieve their potential (Béchervaise, 1996). The issue of who merits priority when it comes to identifying needs and provision of educational programs seemed to be an underlying issue within the study.

As previously stated, in the responses to the Gagné and Nadeau survey there was some uncertainty as to whether children with difficulties have the greater need as teachers and principals were evenly divided on the issue. Interestingly, though, when it came to identification, three-quarters of the same respondents did not accept that it was more important to identify students with learning difficulties over gifted students. From this, the majority of principals and teachers appeared unwilling to accommodate the position of either/or when it comes to identifying the diverse needs of students, perhaps suggesting the identification of the needs of all students was a priority. This view seemed to be supported by the disagreement of 72.5% system principals, alongside 64% of teachers, that a greater moral responsibility was owed to students with learning difficulties over gifted students.

The current study also identified, however, that the majority of principals and about one-third of teachers are of the opinion that some teachers actually prefer that gifted students not be identified. The reasons for this are not clear from the survey. Robinson (2008) observed that most gifted students spend the majority of their time in regular mainstream classrooms, not taught by gifted education specialist teachers but rather regular teachers untrained in gifted education. It is possible that some teachers are unsure of the purpose of specifically identifying gifted students. Worrell and Erwin (2011) reported the main purpose of identification was to achieve an optimal match between ability and the educational program. For a number of teachers who recognise the intention, evading identification may be due to the implications for program provision. Another reason teachers prefer not to identify gifted students may be found in a study by Galitis (2009), where the personal attitudes of teachers were reported to be a significant influence, with some teachers going so far as to not consider giftedness as a 'truth'.

5.4.1 Summary of Findings

F1.6 Holding positive attitudes towards identification and accepting responsibility for the identification of gifted students will not of themselves guarantee the successful implementation of identification processes within a school.

F1.7 The attitudes of principals and teachers towards gifted students and their education cannot be assumed to be consistent with their attitudes towards the identification of giftedness.

5.4.2 Emerging Questions

The following questions constitute part of the analysis in the case study in Chapter 7 to discuss the practice of identification within schools:

EQ8 What are the reasons for ambivalent/negative attitudes of teachers and principals towards the gifted and their education, yet positive attitudes towards the identification of the gifted?

5.5 Experiences of Giftedness and its Identification

Overall, principals and teachers in the study reported varying levels of experience in identification, from very limited experiences, both in years and direct involvement, to a minority with considerable involvement, with almost half the system teachers reporting no involvement at all. For the majority of those principals and teachers in the study who reported involvement in identification, it was at best limited, with principals reporting more frequent involvement than teachers. This may be due to the years of teaching experience of principals, providing greater opportunity and time to engage in the process: 85% of principals had more than 20 years' teaching experience as opposed to just 37% of teachers.

A result of the present study was the absence of direct involvement in identification by almost three-quarters of teachers of the early years (K-2). One explanation may be that

39% of these K-2 teachers had limited exposure in their first five years of teaching to, and training in, gifted education. Perhaps these two factors of inexperience and limited training filter teachers' views, and render them not sufficiently proficient to engage in the process. If schools recognised the value of experience in developing the knowledge base of teachers (Coleman et al., 2012), they may be more encouraged to structure opportunities to engage teachers more directly in identification. Despite being considered well placed for early identification of gifted students, teachers' lack of engagement in identification may also be a reflection of poor attitudes or level of understanding and expertise, consistent with a finding reported by Smith and Chan (1998), low school expectations or systems of accountability within gifted education (Coleman et al., 2012) or reduced teacher confidence (Gallagher, 2007).

The role of involvement in the formation of teachers' attitudes towards gifted students needs to be considered, as the inexperience of teachers in identifying gifted students may be contributing to the high levels of ambivalence noted previously. This would be consistent with a study by Nicely et al. (1980), which reported the more positive the attitudes of teachers, the closer they are to gifted students on a day-to-day basis. This also reflects the findings of a study by Larribee (1981), which found the more experience teachers had with gifted students, the more positive their attitudes towards them. Gallagher's (2007) Australian study of primary school teachers' experience of gifted education found that teachers new to gifted students and their education experienced fear and misunderstandings in the first instance. However, these feelings were transformed into greater self-confidence and an increased knowledge and awareness through their direct involvement of teaching gifted students. This is also consistent with a study by Hall (1995), which found that teachers can alter their understandings and beliefs when subjected to experiences in gifted education that challenge their attitudes. The present study found a lack of involvement by system teachers.

The studies in the research cited above would suggest that the more involvement teachers and principals have in working with gifted students, supported by training and professional learning, the more developed their confidence, knowledge and skills in identification are likely to be.

5.5.1 Summary of Findings

F1.8 Positive attitudes towards the identification of gifted students are possible even when there exists little training in gifted education, predominantly ambivalent/negative attitudes towards the gifted, and limited involvement in identification.

F1.9 Identification of giftedness is less effective without the involvement of teachers of the early years.

5.5.2 Emerging Questions

The following emerging question constitutes part of the analysis of the diocesan system survey within this chapter:

EQ4 Is there a link between teacher attitudes, training, and experience in identification?

The following questions constitute part of the analysis in the case study in Chapter 7 to discuss the practice of identification within schools::

EQ9 What are the reasons identification is such an unfamiliar phenomenon for K-2 teachers?

EQ10 Is there a link between teacher attitudes, training, and experiences in identification and rates of identification of giftedness?

5.5.3 Emerging Question 4: Teacher Attitudes, Training and Experience in Identification

EQ4 Is there a link between teacher attitudes, training, and experience in identification?

Teachers are at the forefront when it comes to identification by the very nature of their day-to-day contact with students. Given low rates of identification of gifted students within the system, it would be important to investigate further whether there were any links emerging between teacher attitudes, training, personal experiences and their direct involvement in identification (see Table 5.4 below).

Table 5.4 *Teachers' Qualification/Training, Personal Experiences, Attitudes and Direct Involvement in Identification*

Qualifications /training	% of teachers	% with personal experience identifying giftedness	Attitudes			% with direct involvement in identification
			Very positive/ Positive	Ambivalent	Negative/ very negative	
Formal qualifications	16%	48%	76%	19%	5%	81%
Mini-certificate	20%	56%	44%	52%	4%	78%
Within-school professional learning	25%	47%	35%	44%	21%	56%
Single in- service	21%	43%	23%	53%	23%	33%
No training	17%	13%	17%	65%	17%	13%

In this study, of all the types of training, teachers with formal training in gifted education rendered the highest frequency of positive attitudes and the highest percentage with direct involvement in identification. It would seem that through training, awareness is raised and teachers become more willing to be involved with the gifted, utilising their knowledge to observe characteristics of giftedness, far more so than those teachers who have no or very little training. This is also consistent with a study by Gallagher (2007), which found teachers' direct experiences of gifted students led to increased teacher knowledge and increased efficacy in teaching these learners. Conversely, those within the study with limited professional learning in gifted education were less likely to hold positive attitudes, more likely to hold ambivalent or negative attitudes, and far more unlikely to be directly involved in identification.

The frequency of teachers with positive attitudes towards the gifted progressively decreases as the level of qualifications and training decreases. Results from this study suggest the less training in gifted education the greater the frequency of ambivalent and negative attitudes. Inversely, the more training in gifted education, the more positive attitudes towards gifted. The percentage of teachers with experience of direct involvement in identification decreases as the level of training decreases. Conversely, the more training in gifted education, the greater the likelihood of direct involvement in identification.

It seems that occurrence of personal experiences of the identification of giftedness among teachers did not vary, regardless of their level of training. An exception was for teachers with no training in gifted education, their personal experiences or direct involvement in identification were rare.

5.5.4 Summary of Findings

FEQ4.1 Formal training and positive attitudes by teachers towards the gifted and their education are associated with an increased direct involvement by teachers in the identification of giftedness.

FEQ4.2 Personal experiences of the identification of giftedness does not influence teachers' attitudes or their direct professional involvement in identification.

The following section refers to the second research sub-question, and the discussion of the findings reference the analysis of the survey data gathered from across the system of schools.

Research Question Two

This discussion follows the framework of the research questions. The more recent emergence of gifted education as a key challenge in system primary schools demands that principals and teachers are aware of and accept their responsibility to support and embrace

the needs of gifted learners. The implication of this for schools within a diocesan system of schools within this study, therefore, warrants deep exploration.

Consequently, the second question addresses the following:

2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?

Discussion follows the framework of the research questions, and findings are discussed within the context of each research sub-question. Diocesan principals and teachers in the study were able to provide data about their practices and approaches to identification through the online survey. In Part C of the online survey, teachers and principals were asked to indicate the current identification approaches and practices in their school (see Appendix AA). These 23 items identifying approaches and practices, drawn from the literature (see Chapter 2: Theme 2) followed the Gagné and Nadeau Attitude Scale survey, and the Attitudes Towards Identification survey, which focussed specifically on attitudes towards identification. The statements addressed three areas of identification practices: timing – the ‘when’; measures – the ‘what’; and purpose – the ‘why’. Respondents were free to check as many as were applicable to their school context. The results are presented under the three categories mentioned above, in Chapter 4.

5.6 Diocesan Approach to Identification

5.6.1 Towards an Optimal Match

The identification of gifted students within this diocesan system of schools is a vexed issue. The analysis of the data in this study clearly revealed identification is seen by most principals and teachers to be highly desirable and the suggestion of a system-wide identification program received widespread support. The greater majority of principals and teachers place the identification of gifted students as much a priority as students with learning

difficulties. This is a significant and positive outcome given that the latter have historically received greater focus within the system, attracting both funding and staffing allocation. According to Worrell and Erwin (2011), one of the purposes of identification is to achieve an optimal match between a gifted student's abilities and the provision of an educational program. Participants in the current study acknowledged that equity is achieved through identification by enabling schools to closely align the needs of gifted students to appropriate educational programs. Research by Rogers (2012) found that the identification of ability and achievement assists the school in knowing the educational needs not being met by the school's general curriculum. Consistent with Rogers' findings, the principals and teachers in the current study also considered the educational needs of gifted students by indicating they were unwilling to leave the learning needs of gifted students to chance. The relevance of identification in influencing the school's response to the educational needs of the gifted learner was an important element identified by the majority of principals and teachers.

On the other hand, however, the results from this study suggest that, notwithstanding the literature supporting the necessity of identification (VanTassel-Baska, 2000), there was an inconsistent and somewhat unreliable approach to the identification of gifted students across the system of schools. System-based documents such as a gifted education position paper and standards framework provide broad guidelines for gifted education in schools, including identification (2007, 2009). The results of the study, however, indicated variations and inconsistencies in practices of identification prevailed within the system. The absence of a system-wide identification program meant decisions about the identification of gifted students were made by individual schools. According to the participants in this study, the presence of gifted students in all schools was not in question and yet more than half (52.5%) of principals reported concern as to the adequacy of identification throughout the system of schools.

5.6.2 Prevalence of Gifted Students

As identification practices are predicated on the definition of giftedness being used, the prevalence of giftedness according to Gagné's DMGT (2004b), the model adopted by the system of schools within this study, is determined as 10% of the population. As the literature review showed, within this group of 10%, high levels of ability by degrees can also be determined through progressively selective classifications of giftedness (Gagné, 2010). In the current study, principals reported the number of formally identified gifted students in their schools. However, there was no evidence within the system of schools of processes of accountability for ensuring schools reach reasonable rates of identified gifted in their schools.

The results in this study revealed lower than expected prevalence of identified gifted students within the system as a concerning issue. Giftedness is a precondition for outstanding achievement and Gagné's model (2004b) demonstrates a clear link between outstanding ability/potential and extraordinary performance/achievement. The process of identification, as Callahan (2018) reports, is critically important as it contributes to the decisions to determine the students that require program alternatives for appropriate challenge in their learning. A result of the present study was that only 12.5% of system schools had an expected or near-to-expected percentage of gifted students identified. Based on this result, gifted identification was either not occurring or in the very least ineffective in 25% of schools ($\leq 1\%$ identified), and under-identification was occurring in more than 60% of schools ($\leq 4\%$ identified). This result is consistent with the opinion of principals (52.5%) and teachers (37%) in the current study that system schools do not adequately identify gifted students.

There appears a disconnect between the expected prevalence of giftedness (according to Gagné's definition), and system principals' and teachers' convictions that identification should be in place, with the actual number of identified gifted students in system schools. The

results in the present study highlight the importance of system accountability for ensuring appropriate rates of identification of gifted students are achieved.

5.6.3 Responsibility

Just as principals and teachers accepted it was the school's responsibility to support gifted students transform their giftedness into talents, system principals (87.5%) and teachers (89%) reported the responsibility of identification also lies with the school. However, principals indicated that the absence of system funding for schools specifically for gifted education makes the school-based funding decisions difficult, given competing agendas and priorities. It was not surprising, then, the current study found a significant number of principals and teachers (39%) had never been involved in, or had only minimal exposure to, the identification of gifted students. This was consistent with the findings within Laughlin's (2011a) report that found the disparity in practices across schools was due to the lack of a cohesive and comprehensive framework for identification. The overall percentage of teachers with no experience in identification (48%) was much higher than the 10% of principals. An issue arising from this result in the study is that, despite accepting the school's responsibility for the identification of gifted students, almost half the teacher respondents have not engaged in the process. As previously mentioned, the current study also found 71% of teachers of the early years (K-2) lacked any experience in identification, despite being ideally placed to begin the process of identification of gifted students.

5.6.4 Summary of Findings

F2.1 An understanding of identification as the means to align the needs of gifted students with appropriate and planned educational programs does not of its own result in effective identification.

F2.2 System position statements or guidelines in gifted education, of themselves, do not result in effective approaches in identification or reasonable rates of identified gifted students in schools.

F2.3 Ineffectiveness in identification can occur due to a lack of teacher knowledge and insufficient resourcing when teachers' belief in, and responsibility for, identification is not matched with actual school practice.

5.6.5 Emerging Questions

The following questions constitute part of the analysis in the case study in Chapter 7 to discuss the practice of identification within schools:

EQ11 What are the links, if any, between the schools' approach to identification and range of practices in use, and effective identification?

EQ12 Where identification is effectively occurring, who takes responsibility for identification in the school, and what are some processes that make it successful?

5.7 System Practices in Identification

5.7.1 Timing

Although not made explicit in system policy documents (Catholic Education Office Sydney, 2007, 2009), the results of the study show the approach to identification within most schools appeared to be an ongoing process, not necessarily accentuated at particular times of the year. Rogers (2012) endorses an ongoing, as opposed to repetitive, nature of identification. Consistent with this principle, system principals (85%) and teachers (82%) in the current study reported using student learning experiences throughout each school year as opportunities for identification.

Findings by Callahan (2005) and Pfeiffer and Blei (2008) provided strong support for identification in the early years, to reduce the possibility of non-identification or mis-

identification of giftedness. Callahan (2005) found that by identifying early signs of exceptionality, performance can be nurtured and diminished performance over time can be averted. Despite the research highlighting the value of early identification, only about half the system's principal respondents (57.5%) used enrolment as a time to employ identification strategies. One explanation for this may be that many principals in the current study were not aware of the potential for early identification of giftedness as part of the usual student profiling at enrolment. It may also be possible that principals do not know of, or have available to them, suitable tools for identification of the very young child. Where identification was a part of the enrolment process, teachers seemed largely unaware or uninformed about it. As it is customary for the primary school principal to be involved in student enrolment, the results from the current study highlight the role of the principal in establishing opportunities within enrolment processes for identification, as well as ensuring teachers are informed and involved in the early identification of gifted students, beginning with enrolment processes.

Of importance to these results is a recent study by McGowan et al. (2016), who found that, based on grade level comparisons, opportunities for the identification of gifted students were more favourable in the earlier year levels. Early identification is also reinforced by the studies of Silverman (1995) and Weber (1999) to avoid entrenched patterns of average performance developing. Of concern in this study is that the majority of teachers of the early years (71%) have not been directly involved in identifying gifted learners. One explanation could be that time-pressured, busy teachers over-look or eliminate the identification of gifted students, unless they are held accountable through system and school expectations. The lack of teacher involvement in early identification of giftedness presents as inconsistent with system policy. This suggests that teachers either do not know the policy, or are not held accountable for the identification of giftedness in the early years.

5.7.2 Processes

In the last 10 years, the system of schools in this study has released a position paper and standards framework for gifted education (2007, 2009). In this current study, it was found that documentation of identification in school policies is not a widely-held practice, with only two-thirds of schools documenting identification processes. Without policy documentation, the implementation of identification practices is probably reliant on the motivation and expertise of principals and teachers. Even with documented policy and processes, accountability measures would need to be in place to confirm the effectiveness of their implementation. Research by Forster (2005) confirms this as the Australian study found that interpretation of gifted education policy for practice varies from school to school. Without a system-wide policy on identification, system schools in the current study were likely placed in a challenging position, trying to discern appropriate processes for identification. As if adding complexity to the issue, a recent Australian study by Long et al. (2015) found the majority of schools within their study offered insufficient professional learning and inadequate procedures for effective identification.

As Forster's (2005) study indicated, the importance and influence of policies are best appraised in their relationship to practice. For the schools within the current study, a system policy for identification could provide guidelines and direction, and offer an avenue for accountability through monitoring and reviewing processes. School policies ideally interpret system policy to document a clear and transparent process for gifted education, including identification. The impact on processes when accountability measures are in place was also reported in a recent study by Warne and Price (2016). They found that when accountability, albeit legislation, was activated an increase in the prevalence of identified gifted students was experienced, and the number of school sites recording minimal or no gifted students lowered.

This suggests that measures of accountability could positively impact the identification practices of schools within the system.

Principals may be unclear of the system's expectations regarding identification, and, therefore, disinclined to accept responsibility for establishing and documenting school-based policies and practices. This also suggests that teachers may not be cognisant of processes available to support them, nor feel there is an expectation to identify.

5.7.3 Measures

The selection of identification tools and measures is a crucial decision as they vary in purpose and design. To be effective they need to be inclusive of, and in keeping with, the conception of giftedness they are attempting to measure (Tannenbaum, 2003).

Teacher Nomination

Results from this study show teacher nomination was the most common and widely-used practice in identification across the system, with more than 90% of both principals and teachers reporting nomination as a practice. This result is supported in a study by Pierce et al. (2007), reporting on the development of an identification process, who found securing input by the teacher was important as they can offer understandings and make recommendations about the gifted student offering '... a window into the classroom performance of the child which a test does not illustrate' (p. 117). Whether nominations used by teachers and principals in this study were structured (involving checklists, rating scales) or unstructured (observation and note-taking) is not known, but it is evident that nomination is a preferred tool in identification used by system teachers. This is consistent with a study by Siegle (2001), finding that teacher nomination was a frequently used practice due to teachers' ongoing access to, and observations of, students in a variety of experiences and situations for long periods each day.

The disparity in rates of identification across the system would suggest that teacher nomination was not, of itself, sufficient. The design and effectiveness of teacher nomination processes presupposes teachers have a knowledge of giftedness and its characteristics. However, this study found teachers overall had minimal training in gifted education, presumably making the process of nomination challenging. This is particularly the case given evidence within the scholarly literature (Hollingworth, 1939; Kaufman & Sternberg, 2008; Laine et al., 2016; Marland, 1972) that giftedness is multidimensional and manifests in numerous and diverse ways. The challenge of teacher nomination is consistent with a study by Callahan (2005), which found that sole reliance on teacher nomination for identification is flawed as classroom instruction does not always provide opportunities for giftedness to manifest in alternative ways. This observation within the current study is also supported by Speirs Neumeister et al. (2007), who found that a pre-requisite for a successful nomination was a sound understanding of the multiple manifestations of giftedness.

As no one form of nomination is advocated by the system of schools involved in this study, it is reasonable to suggest that a diverse range is used, likely to differ in reliability dependent upon the design and the conceptions of giftedness that underpin these. One explanation for the mismatch between teacher nominations being selected by almost all teachers and principals, yet low prevalence of identified gifted students within this study, could suggest that teacher nominations are infrequently used. Another explanation could be that nominations are erroneous, reflecting narrow conceptions of giftedness, and its manifestations, and thereby working against rather than for identification of giftedness. For those teachers in this study who reported minimal involvement in identification, minimal training in gifted education and/or inadequate knowledge about the identification of gifted students this latter explanation is reasonable. Hunsaker et al. (1997) found, in their study of teacher nominations and student performance in gifted education programs, that teachers also

nominated on the basis of which students they thought would be successful in a gifted education program. In the absence of the provision of a systemic nomination form with traits, aptitudes and behaviours of giftedness, it is likely teachers would rely on their own conceptions of giftedness and recommend according to students who matched their conceptions, and were a 'best fit' for their definition of gifted. In his study, Borland (1978) found that the accuracy of teacher nomination increased when teachers were invited to recommend against a set of specific characteristics of giftedness. The use of teacher nomination in the schools within the current study is reinforced by both Borland's (1978) and Gagné's (1994) research, which found teacher nomination as useful a tool as testing for the identification of gifted students. An issue arising from the use of nominations is the implied prerequisite for teachers to be attentive to the multiplicity of profiles gifted students may have, and to avoid a bias towards easily observable characteristics.

Objective Measures

Aside from the use of teacher nomination, the distinct preference of teachers was for the use of objective measures such as standardised tests (79%), IQ tests and other psychometric tests (72%) compared to the use of subjective measures (36%). This is consistent with the scholarly review of the literature by Gross and Slep (2001), who identified a strong research base supporting the use of objective measures. Teachers in the study may have been more inclined to use objective measures due to a lack of trust in their own ability and judgement in identification. The tendency of teachers in the study towards tests that are standardised and quantitative may not be so much an informed decision based on a perception that they are more reliable and free of bias than the use of other measures requiring teacher judgement. These observations are consistent with Machek (2003), who found objective measures imbued greater confidence as they have been researched and standardised, adding a level of accountability to the process for identification.

Psychometric and IQ tests are undertaken by professionals external to the schools in this system, and provide comprehensive information on the student's potential. Research by Callahan et al. (1995), on instruments used in the identification of gifted students, found these tests were considered to be somewhat objective, reliable and valid in their measurement of general intellectual ability. While typically costly and time-consuming and, therefore, potentially prohibitive for some schools, IQ and psychometric testing were nominated by the majority of principals (82.5%) and three-quarters of the teacher respondents (72%). Although not an indication of the frequency of use, this result does indicate high levels of support for the use of psychometric testing despite potential barriers that limit opportunities to identify giftedness in students. Consistent with other studies in the literature (Baldwin, 2005; Fletcher-Janzen & Ortiz, 2006; Plucker, 1998), more inclusive, multidimensional conceptions of giftedness are not necessarily embraced by psychometric and IQ testing. A consideration for the study is the extent to which IQ and psychometric testing is actually utilised in system schools, owing to the cost factor and the potential to prejudice some minorities. Research studies show this potential for prejudice, including diverse cultural or disadvantaged minority groups (Frasier et al., 1995c) and students with disabilities (Wormald, 2009; Wormald et al., 2015).

By contrast, above-level (also known as off-level) testing was not nominated as a widely used practice by teachers within the system (44%), despite being recognised in the field of gifted education as an effective assessment for identification, when 'age appropriate' level tests pose a ceiling for gifted students. The use of above-level testing for identification of giftedness was found useful in a study by Diezmann et al. (2001) for early school entry, as well as for talent search programs (Pfeiffer & Blei, 2008) and to assess curriculum performance at a more advanced grade to determine programming options for the student (Worrell & Erwin, 2011). Used in this way, these tests help determine how far a student's

performance varies from their age peers (Matthews, 2008). The result from the study suggests that despite standardised tests being a desirable tool for above level testing, teachers are not using them for this purpose, but as an assessment of achievement. Although these type of tests are readily available in most schools within the system, not all teachers are accessing them, and even fewer are using them for above-level testing. Gross and Slep (2001) and Lupkowski-Shoplik et al. (2003) support this view, reporting above-level testing as a particularly valuable measure of assessment of both potential and achievement. The current study found principals (67.5%) of the system perceived this practice of identification was used more than teachers indicated, yet usage levels were still moderate. Teachers are best placed to administer above-level tests to their students, so it is reasonable to accept their reporting of the limitation these tests have for identification.

Research in gifted education (Colangelo, Assouline, & Gross, 2004; Parliament of Victoria, 2012) has also found the value of pre-testing as a tool for identification. Pre-tests, as the name suggests, are administered prior to the teaching/learning, for the purpose of determining grade level proficiency, and the curriculum is often compacted to facilitate learning at a more advanced level (Colangelo et al., 2010). For this reason, pre-testing is an effective assessment of student achievement prior to the teaching, and can serve as another form of identification. The current study found pre-testing by teachers (64%) did not have widespread use as an identification practice within the system. The limited use of above-level and pre-testing may be explained by a lack of knowledge of, or exposure to, the advantages of such measures for the identification of the gifted.

In conclusion, an exploration of the identification practices used within the system of schools found principals favoured far greater use of multiple measures of identification, than teachers. The study found reduced frequency of use of identification processes by teachers occurred with those measures that were reliant on teacher judgement.

5.7.4 Summary of Findings

F2.4 Students' learning experiences are readily accessible opportunities for principals and teachers to undertake identification practices.

F2.5 Rates of identified gifted students are lower when early identification practices, such as enrolment processes and the engagement of teachers of the early years, are not utilised.

F2.6 The achievement of clarity and consistency of practice in identification by teachers is increased by clear documentation of school practices in identification.

F2.7 The effectiveness of teacher nomination as an identification practice requires the adequate training and positive attitudes of teachers.

F2.8 Unlike principals, teachers are inclined to nominate the use of a smaller range of identification measures that reflect their practice through ongoing and direct involvement with students.

F2.9 Training in the use of both subjective and objective measures of identification is important for developing teachers' confidence in their administration and avoid a possible bias or preference of one form over another.

F2.10 Teachers' understanding the benefits of using standardised testing to assess aptitude/potential as well as achievement supports an expanded conception of giftedness and the likelihood of increased rates of identified giftedness.

5.7.5 Emerging Questions

The following questions constitute part of the analysis in the case study in Chapter 7 to discuss the practice of identification within schools:

EQ13 What underpins and supports early identification in schools?

EQ14 What tools and measures are being utilised by schools effective in identification, and what differentiates these from assessments used by those schools with low rates of identification?

Conclusion

This chapter provided discussion of the data presented in Phase One of the data collection (diocesan survey data), and analysis of the research findings in the context of RQs 1 and 2 as follows:

1. What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification?
2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?

The RQs were designed to explore the themes identified in the review of the literature, as discussed in Chapter 2. Discussion in this chapter followed the framework of the research questions, and findings were discussed within the context of each research sub-question. Questions that emerged from Phase One findings, identified for further investigation, were denoted as Emerging Questions (EQ). Revisiting Phase One data enabled responses to four of these emerging questions. Discussion of the four emerging questions (EQ1 – EQ4) constituted part of the analysis of Phase One data, and occurred within this chapter. The purpose of the following chapter is to present and analyse the case study data from Phase Two.

Chapter 6

Presentation of Results from Phase 2:

Case Study Data and Analysis

6.1 Introduction

In order to gain a deeper understanding of the factors that influence identification of giftedness, a case study involving six school sites was undertaken in Phase Two. These multi-sites were organised into two groups of three schools, selected on the basis of their success in identifying giftedness. Three schools were identified as being successful in identification due to a higher than expected prevalence of identified gifted students. This is based on the school system's adoption of Gagné's Differentiated Model of Giftedness and Talent (DMGT) (Gagné, 2004b, 2010), where the prevalence of giftedness is determined as 10% of the population. Likewise, three schools were identified as having very low rates of identified gifted, relative to Gagné's measure of 10% of the population. These sites were investigated to establish whether the findings identified in Phase One were evident in these schools and to investigate the emerging questions from Phase One. This was undertaken using data derived from interviews with principals and teachers in the case study schools. Where relevant to the emerging questions (denoted as EQ) the survey data from Phase One was re-analysed to investigate the two data sets of the case study schools.

As previously outlined, the purpose of the interview, as explained to participants, was to explore the influence of leader and teacher knowledge, attitudes and experiences on the identification of gifted students in the primary school. Six principals and 44 teachers were interviewed. For the purposes of the study, *teachers* applied to teachers of the early years and teachers with leadership responsibilities including APs, RECs and coordinators. Interviews ranged from eight minutes to 51 minutes in duration. Participants were asked open-ended

questions designed to cover a variety of issues related to identification. The full list of questions asked can be found in Appendix L and Appendix M.

The 10 emerging questions (EQ5 – EQ14) derived from Phase One findings are summarised in Appendix DD and constitute part of the analysis of Phase Two data. Using survey data as context and variable description, the interview data is the focus of the analysis in response to the third research question:

3. **How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?**

6.2 Contextual Features and Demographic Data

Demographic data from the six case study school sites, drawn from the diocesan survey data, is tabled in Appendix EE: Contextual and Demographic Features: Six Sites within the Case Study. All schools were co-educational Kindergarten to Year 6 within a diocesan system of primary schools. The data presented in the table reflects each school's:

- current student enrolment
- percentage of enrolled students identified as gifted
- Index of Community Socio-Educational Advantage (ICSEA), indicating the school's educational advantage index against all Australian schools
- percentage of students with language backgrounds other than English (LBOTE)
- student attendance rates
- number of full-time (f/t) and part-time (p/t) teachers on staff
- publication date of the Gifted Education Policy or similar policy
- title of the person with leadership responsibilities for gifted education.

The schools within the case study range from single-stream (one class per year level) small schools of around 200 students, to School 026, which is three-stream. All lower

identifying schools in the sample are larger in enrolment numbers than any of the HIS, and have slightly higher percentage of LBOTE students. ICSEA values were consistent between both sets of schools in this data set, with the exception of School 04 (well below average) and School 012 (well above average).

As per the selection criteria, all six schools had a school policy or statement in gifted education. All three schools non-successful in identification indicated the previous policy was either inactive, or out-of-date, resulting in a recent review. The policies in the schools successful in identification had not undergone any recent review, and were considered active. Policies are subsequently explored in more detail in relation to approaches to identification in EQ11, and the nature of the staff position responsible for gifted education in each school are explored in more detail in EQ12.

6.3 EQ5 Knowledge of Principals and Teachers

EQ5: What are the knowledge characteristics of principals and teachers who are effective in supporting the identification of giftedness in students?

Qualifications/Training in Gifted Education

Table 6.1 shows the respondents from the case study schools, and their corresponding levels of training. Of the principals in the case study schools five of the six principals have completed a certificate or mini-certificate course in gifted education, with one principal from without training in gifted education. For those staff responsible for leading gifted education in each of the six schools, four had completed training in gifted education. Those with very limited professional learning in gifted education were in two of the schools least effective in identification.

Table 6.1 *Training in Gifted Education/Self-rated Knowledge about Identification*

School code	Formal qualifications and/or training in gifted education	Knowledge (self-rated) about identification
Schools successful in identification		
5P	Certificate in gifted education	Adequate
5e	Mini-certificate in gifted education	sometimes adequate / sometimes inadequate
5b	In-school professional learning	minimal / very limited
5d	In-school professional learning	sometimes adequate / sometimes inadequate
5a	Single in-service	somewhat inadequate
5c	No training	somewhat inadequate
12P	Mini-certificate in gifted education	sometimes adequate / sometimes inadequate
12a	Certificate in gifted education	comprehensive / extensive
12d	Mini-certificate in gifted education	Adequate
12c	In-school professional learning	somewhat inadequate
12e	Single in-service	sometimes adequate / sometimes inadequate
12b	No training	somewhat inadequate
12f	No training	somewhat inadequate
21P	Certificate in gifted education	sometimes adequate / sometimes inadequate
21d	In-school professional learning	Adequate
21a	Single in-service	sometimes adequate / sometimes inadequate
21c	Single in-service	sometimes adequate / sometimes inadequate
21b	No training	sometimes adequate / sometimes inadequate
Schools not successful in identification		
4P	Certificate in gifted education	Adequate
4a	Mini-certificate in gifted education	Adequate
4g	Mini-certificate in gifted education	sometimes adequate / sometimes inadequate
4d	In-school professional learning	sometimes adequate / sometimes inadequate
4e	Single in-service	Adequate
4f	Single in-service	minimal / very limited
4h	Single in-service	minimal / very limited
4b	No training	minimal / very limited
4c	No training	somewhat inadequate

15P	In-school professional learning	Adequate
15c	Certificate in gifted education	Adequate
15e	Mini-certificate in gifted education	Adequate
15a	In-school professional learning	Adequate
15b	In-school professional learning	comprehensive / extensive
15d	In-school professional learning	sometimes adequate / sometimes inadequate
15f	In-school professional learning	Adequate
15g	In-school professional learning	Adequate
15h	In-school professional learning	Adequate
26P	Mini-certificate in gifted education	Adequate
26b	Mini-certificate in gifted education	sometimes adequate / sometimes inadequate
26l	In-school professional learning	sometimes adequate / sometimes inadequate
26a	Single in-service	comprehensive / extensive
26c	Single in-service	somewhat inadequate
26d	Single in-service	minimal / very limited
26f	Single in-service	sometimes adequate / sometimes inadequate
26g	Single in-service	sometimes adequate / sometimes inadequate
26i	Single in-service	somewhat inadequate
26h	No training	somewhat inadequate
26j	No training	Adequate
26k	No training	sometimes adequate / sometimes inadequate
26e	No training	somewhat inadequate
26m	No training	sometimes adequate / sometimes inadequate
26n	No training	somewhat inadequate

Knowledge about the Identification of Gifted Students

Table 6.1 also shows principals' and teachers' self-assessment of their knowledge in identification. Comparative data on principals and teachers from each case study school and their self-assessed knowledge is itemised in Appendix FF: Self-assessment of Knowledge Adequacy.

Overall, the majority of respondents rated their own knowledge in identification as less than adequate. These results suggest the majority do not feel sufficiently confident in their own understanding of identification. Less than half of all respondents rated their own knowledge of identification as adequate or above. Within that group were four principals. The remaining two principals rated their knowledge as sometimes adequate/sometimes inadequate, and were leading schools effective in identification. Of those respondents who rated their knowledge about identification as at least adequate the majority were in schools least effective in identification. This suggests that they may be over-estimating their knowledge about identification, or are unable to transfer that knowledge in the practice of identification. Interestingly, five of the six respondents responsible for leading gifted education all rated their knowledge as adequate or above.

Knowledge about the School Identification Program

Interview data revealed that respondents recognised that identification required a process. It was apparent that when a range of processes and measures were available to teachers for the identification of gifted students, schools were more successful in identification. While not all teachers were confident they knew all aspects of identification, in those schools where identification was effective, the school's identification processes were usually communicated through policy and procedural documents, or staff meetings. Knowing the identification program, including an understanding of the purpose and value of various tests, was identified as important. Some teachers and principals acknowledged the limitations of using only one tool, and the importance of access to multiple measures to provide opportunity for giftedness to be demonstrated, and to reduce the risk of non-identification: 'I think that you can't really just go on one particular test or one particular piece of evidence, that you really do have to look at many different forms of data' (012d).

In addition to recognising the importance of using a range of measures, teachers were also able to detail the scope of these different measures. In the following quote, this teacher identified the importance of both objective and subjective measures.

They have to be subjective and objective; they have to be sort of school-based and then - I just think you have to have a variety of different things because a lot of children do not perform well in one-off tests so if we're just going to say okay well they didn't do well in that test but the teacher still has the hunch, you need to try and get as much information. (012a)

Data searched and retrieved through NVivo software (see Appendix GG: Sample of Data Coded for School Identification Practices) showed, aside from some minor differences, when identification included objective measures, such as standardised tests of ability and achievement, and subjective measures such as checklists, observations, class assessments, work samples and teacher nomination, the school was more effective in identification. In addition to these measures, a team approach through a learning support team was viewed as an effective practice to support the process of identification.

A lack of confidence in, or knowledge of, the approach the school adopted for identification was seen as an inhibitor to identification, as identified by this comment: 'I think it needs to include - before you start identifying, you need the knowledge of how to do that. You really need a good idea of what it means to be gifted, how you would identify it...' (026h). A number of teachers recognised the limitations of their own knowledge of identification, as the comments from two teachers show: 'I think it [identification program] needs work, because I'm not very familiar with a program' (04b).

I think the entire staff should have just training on that one concept of identification, and even - I know I've said previous to this that I didn't even know what the tests are called that they use to identify gifted children, so to know what they are, know how

they work, know how they're scored, and just to give us an idea of what these children go through in that process to be identified would be valuable I think to everybody, because then that way you can make a really informed decision as to whether you put a child forward for that kind of testing. So I think knowledge is good [needed] about the entire process. (026g)

Two principals echoed the concern for the lack of knowledge by teachers of the school's identification program. They held the view that their teachers would not know what to look for in a gifted student, nor the processes of identification available to them, as illustrated by the following quote: 'My concern would probably be that teachers aren't aware of how to identify a gifted child, what to actually look for or how to probe to find more information about [identification] - being a high ESL school' (04P).

Possessing a clear understanding of the purpose and key elements of the identification program in the school was a characteristic of schools effective in identification. As this teacher noted: 'Having a clear plan for identification that's articulated - which it is - in our school policy is important' (012d). The same teacher went further to outline the identification program in the school:

Well, I think you'd have to gather a range of data informally and formally. So you'd have some screening done, obviously with our learning support teachers - our gifted teacher would probably interview that child. We would probably talk to the parents and we would also do a lot of observation on that child. Then looking at the data that we've got from our particular screening tests, then we would - we have learning support meetings here every term - one for K-2 and one to 3-6 and at that meeting, teachers work through systematically children and we, as a team, decide what sorts of things need to be put in place at both ends of the spectrum. (012d)

Professional Learning and Training

The interview data indicated that engagement in ongoing professional learning was a distinct feature of schools effective in identification. These sessions were mainly within the context of staff meetings to support teachers to maintain currency, and ranged from one-off sessions each year to a session each term. Some teachers had also accessed one to three-day mini courses through the diocesan school system office. Three principals indicated they had been able to apply their learnings from their completion of either a certificate or mini-certificate course in gifted education. For example:

You can't rely on one assessment... One test. You need to consult with the teachers, the parents, really to get the full picture of the student. It's also - it's not just what they produce on paper, it's the whole person, like who they are. (021P)

A number of teachers had very limited involvement in training or professional learning opportunities in gifted education in recent times as these comments from two different schools show: 'I can, I can't remember. Yeah, it was probably a long time ago, if I did anything' (04f); [training] 'No never. That would probably be something that I'd really like to do' (015h). For others, access to more significant professional learning had occurred many years prior and, while it may have been applied at the time, very little was being applied now. Some of these teachers did recall that 'it changed my views of what giftedness could be and things to look out for' (04g). Training and professional learning highlighted both the negative and positive characteristics of giftedness, as this comment illustrates:

I think the thing that I remember most was that it's not usually what you expect. As I said before, it can often be the child who misbehaves. It can often be the child who writes half a sentence when everyone else has written a paragraph and it's filthy and untidy and not very well put together. Those children can actually be the children who

are later on identified as gifted and talented. I think that's what really stuck out for me that I learnt from it. Not to just assume. (015a)

Somewhat limited professional learning opportunities, usually in the form of a staff meeting led by a school colleague or facilitator, were not seen as sufficiently supportive of teachers in implementing an identification program. For example, one teacher commented 'I've just had staff meetings, where someone's just run it' (04d), and another with a similar response, 'He's - so he's run a few little in-services. They were staff meeting things, but that was - that's the extent of it' (04e).

A lack of training or professional learning was a barrier to successful identification as it resulted in teachers lacking confidence and not feeling equipped, as this teacher surmised: 'I just don't think they're educated enough about it to be able to identify it. I think if we had probably a better understanding then there would be a lot more proactive in identifying' (026d).

Some teachers stated they had not previously engaged in any professional learning in gifted education, as found in the survey data, and evidenced in comments, for example: 'Personally, I had not been on any previous gifted education training ... But I haven't gone to a formal in-service for gifted and talented or anything' (026f).

The response from some teachers signalled a focus on differentiation for, rather than identification of, gifted students. 'We've been doing a lot of professional development in how we can differentiate across the classroom on different topics' (026c). Some teachers also appeared to confuse this professional learning in differentiation as addressing identification, as this response to a question about training in identification: '... so we're doing a lot of it through the differentiation process and looking at not just meeting the kids at the bottom or in the middle' (026c).

A lack of knowledge was identified as the contributor to teachers' lack of confidence in identification, as the following three examples demonstrate: 'Never, no... - so I don't feel confident in identifying gifted students, no.' (026i). From another teacher:

No, because I'm not confident in how the process works. That's why I'd like to learn a bit more about it, so I know exactly what to do and how we can identify them. How you move forward on from that. (04b)

A similar view was also expressed by another teacher:

Personally, I'd like to do a little bit more. I haven't really been exposed to it [identification] that much, so maybe being exposed to it more would help... I think, well, in-services we could go to or someone coming out and speaking to all the staff. I haven't done one of the tests before, so even just to be trained in the test. (015g)

Conclusion

Overall, the interview data indicated that recognising the need for, and engaging in, professional learning and training was a facilitating factor for effective identification.

Teachers who felt equipped with knowledge of the processes and had access to the necessary tools and measures were characteristics of schools successful in identification.

6.4 EQ6 Conceptions of Giftedness

EQ6: Do conceptions of giftedness held by teachers and principals in schools with high prevalence of identified giftedness differ to those in schools with low prevalence of identified giftedness?

Defining Giftedness

Principals and teachers expressed conceptions of giftedness in terms of definitions and characteristics. A multidimensional conception of giftedness was a characteristic of teachers and principals in schools where identification was most successful. As respondents in these schools described their understanding of giftedness, there were consistent comments made about giftedness occurring across one or more domains, and not limited to the academic domain. This conception of giftedness as occurring across domains is evident in the following comments from a principal and a teacher: ‘So a gifted student could be in the arts, it could be academic, it could be mathematical, it could be spatial - so giftedness is in a variety of ways’ (012P), and:

...a gifted student could be particularly gifted in an area. It could be academic, at one of the academic areas, it could be musical, it could be emotional, they could be very good at organisational skills; they could be gifted in many areas. (021d)

It was apparent that giftedness as multidimensional was not a consistently held view within schools less successful in identification. In these schools, giftedness was defined as either capacity limited to one specific area, across a range of areas or occurring throughout all areas of the curriculum. The following quotes demonstrate the diversity of views: ‘In my experience, I guess, a gifted student, generally, presents themselves with specific knowledge in a particular area’ (015g). A teacher from another school offered a differing understanding: ‘I would say a gifted student is someone that has demonstrated throughout all subject areas a higher understanding of certain things’ (026f).

An understanding of gifted children having potential outside and beyond the expectation for their age was widely held among teachers and principals in schools effective in identification. *Potential* and *ability* were frequently used interchangeably by these 18 respondents (potential n. 59; ability n. 44), indicating that there was little distinction seen

between the two concepts. This interchange of the concepts of *potential* and *ability* suggests that these respondents believe giftedness can be present regardless of whether it is evident in achievement.

I would describe them as somebody that's showing signs of achieving beyond an expectation in a wide range of ways. So whether it would be writing or more creative or mathematical or kinaesthetic. Yeah, just showing their ability in a different sort of way to expectation. (012c)

Definitions of giftedness from respondents in schools less successful in identifying gifted students were varied. A few respondents expressed giftedness as potential or ability to excel. Others expressed it as the ability to work well above other students and achieve outcomes or standards above what is expected for their age. The majority described giftedness in descriptive, imprecise and sometimes ambiguous terms such as students who 'stand out' (021d), who 'might be really good at something' (04d), and who have 'intelligence, knowledge, skills above other students' (015b). One teacher, unable to define giftedness, expressed her definition of giftedness as dependent upon the parent referral, as the following response indicates:

... it's also someone maybe who has been requested to me, like maybe the parent said to me look, my child [unclear] can you give me a bit more information or can you add something else to homework? Or give a bit of extra work in a certain area? Then that's pretty much how I would look - would define a gifted child... (015d)

Consistency in the use of well-defined, specific terms reflective of terms in the literature to describe giftedness was a practice of principals and teachers in schools effective in identification. Giftedness was expressed as 'the aptitude to work at a high level, in one or more domains' (012a), those who are 'able to really demonstrate beyond stage level' (012d)

and those ‘showing signs of achieving beyond an expectation in a wide range of ways’ (012c).

A number of teachers commented on how difficult it was to define giftedness. They believe the range of giftedness and the diversity of characteristics, makes the task of defining giftedness even more challenging. This can be attributed to their understanding of giftedness as diverse and multi-faceted, and as potential, whether it is realised in achievement or not, as this comment shows: ‘So sometimes they're actually quite tricky to identify. That's pretty much my one line definition; the exceptional kids but they're not necessarily the most easily identified ones, or the ones that stand out’ (021c). The complex, sometimes paradoxical characteristics were also included in definitions by teachers, as this observation illustrates:

In my class this year I've got a gifted student who's very studious and very conscientious, whereas in the past I've had - well, sometimes it's not always obvious that they are gifted, because they might have learning disabilities, or difficulties, or behavioural problems. (012b)

A potential barrier for schools when developing good practices in identification may be the limited and somewhat vague conceptions of giftedness held by teachers. A focus solely on performance and achievement rather than ability or potential suggests a limited conception of giftedness.

The consistent use of specific terms, an understanding of giftedness as a broad concept inclusive of a range of abilities across a range of domains and an emphasis on high ability and potential, were practices attributable to schools effective in identification.

Characteristics of Giftedness

Whilst most respondents recognised that giftedness can manifest in different ways, some were better able to describe behavioural characteristics than specific characteristics of

the cognitive and social domains, and were less likely to offer explanations for the behavioural characteristics.

So sometimes it might be that quirkiness, that they're a little bit quirky. It might be that they have a fixation on a particular aspect or knowledge of history or something where they seem to have great knowledge. It might be that they are the ones that are wanting more than just doing what, the basics and the classroom stuff. They want to do more. They want to find out more. They often go off on a tangent. It might be as simple as that. But then you start to think I notice this kid isn't just bright. (015b)

Other respondents were able to offer multiple examples of academic, behavioural and social characteristics of giftedness. Both positive and negative characteristics were acknowledged as being exhibited, along with explanations as to the reasons for such characteristics. Knowledge of the characteristics of giftedness was a key factor characterising schools effective in identification, as this teacher reinforced in her interview:

Yeah, so probably noticing things that they're - maybe they're very quick at - you know, with answers. They might finish work quickly so they might finish their work really, really quickly, or they might be at the other end where they say they're really bored, or they're very distracted and they might not be doing anything. It's actually really hard to tell, but they're - maybe also they might even have behavioural difficulties because they're just maybe not really interested in what they're doing.....maybe they don't really have many friends in their classroom just because they want to be with like-minded children maybe. (05a)

Reference to a difference between ability and achievement in gifted students leading to underachievement was noted as a concern by some respondents. A few principals particularly emphasised that giftedness was present, regardless of whether it was seen in achievement. While they recognised giftedness translates into high achievement it also raised

for them the issue of underachievement where potential is not realised. This is demonstrated in the following quotes from two principals:

A gifted student is a child with a potential to achieve above the ordinary. It's usually defined at about the top 10 per cent in terms of potential. The problem with those kids is that they don't achieve their potential. I mean you wouldn't need a gifted program if these bright kids did as well as they should. (05P)

Okay, a gifted student is a student that through standardised tests would demonstrate that they have particular strengths, which are above their classmates, in a variety of areas. So a gifted student may be achieving very well and a gifted student may also be underachieving and not tapped into their potential at all. (012P)

A challenge expressed by some teachers was differentiating whether students were bright, high achievers or gifted. This suggests they were unable to clearly define giftedness and identify manifestations of giftedness, potentially hindering the identification process.

The challenges and the difficulties are similar to what I was saying before in that is this child potentially gifted in an area or are they just performing beyond the children in the class. I think that is a challenge for teachers to really understand the difference between potentially gifted and just a high achiever. (026c)

6.5 EQ7 Attitudes of Teachers and Principals towards the Gifted

EQ7: Are teacher and principal attitudes towards the gifted, and the flow-on effect on identification, different in schools of low and high giftedness recognition?

The data from the Gagné and Nadeau Attitude Scale - 'Opinions About the Gifted and Their Education' (Gagné, 19 April 2012) showing overall attitudes of case study respondents comparative to their diocesan colleagues, clustered as teachers of the early years,

coordinators, assistant principals and principals are represented in Appendix HH and Appendix II.

An ambivalent attitude existed in just over half of the teachers of the early years, with the remaining teachers almost equally divided between positive and negative attitudes. Their ambivalence was consistent with the overall attitude of teachers of the early years from within the diocesan data. Coordinators and APs in the case study schools held predominantly positive or ambivalent attitudes, with very few registering negative attitudes. This was also consistent with the attitudes of the diocesan coordinators and APs. The case study principals were divided between ambivalent and positive attitudes, whilst the overall data on their colleagues in the diocese indicated positive attitudes.

Coding undertaken on interview data from principals and teachers from the six case study schools revealed attitudinal similarities and differences. These comparative attitudinal characteristics are best labelled as the need for identification, prioritising identification, consequences of non-identification, level of confidence in understanding, and teacher beliefs.

Need for Identification

Interview data suggested that teachers and principals recognised the need for the identification of gifted students to determine their learning needs, just as they did for all students. A comment from one teacher in a school where identification rates were low explains: ‘I think everyone needs to be identified, whether they're special needs or gifted. I think that everyone should be given the chance to excel in what they do’ (04b). While comments were expressed in various ways, eight teachers were united in the belief that identification provided valuable information that informed teachers’ planning and supported students to reach their potential. This was evident amongst teachers in schools successful in identification. A teacher in such a school stated: ‘Absolutely. Absolutely. You need to know

all your children's abilities, whether it's for support, core or in terms of giftedness, so that you can cater for their learning needs' (012c). Another commented: 'If you don't know that a child is gifted then obviously you're not going to be aware of how to go about assisting that child to realise their potential. So, that [identification] would be really important' (05b). The belief that teachers and principals hold, of the importance of knowing and responding to the needs of all learners, appears to steer them to the identification of gifted students. The following comment made by another teacher from a successful identifying school also points to identification as necessary to meeting the needs of students: 'To actually meet the needs of the students, we're here to meet the needs of our students. If we're not identifying them correctly then we're not meeting their needs. So basically we're failing in our jobs if we don't' (05e).

There appears, however, competing agendas within this recognition of the need for identification. One is the priority placed on the identification of all students' needs set against the priority on English as an additional language or dialect (EAL/D) (also referred to as English as a second language in interview data) students, and students with special needs. The second is the degree to which the consequences of not identifying gifted students is recognised. Each will be addressed in turn.

Prioritising Identification

The practice of identifying and addressing the needs of students experiencing learning difficulties was considered a strength in schools. There was concern expressed by some teachers who felt it was, however, at the cost of gifted students, as one teacher comments:

Absolutely. I think it's definitely overlooked. I think there's a lot of emphasis placed on the other end of the spectrum of special needs children, who are underachieving

because they have a learning difficulty. But I think these [gifted] children, who need more, are often overlooked. (04e)

Some teachers referred to students with learning needs as separate from gifted students, as though the two were always completely exclusive of one another. The identification of gifted students not featuring as a priority in some schools was a factor that was specifically referred to by six teachers from schools not identifying as well as the other group. Notwithstanding their acknowledgement of the importance of it, two teachers from one school commented that identification was ‘overlooked or dismissed’ (04b) and ‘not great’ (04g). Three other teachers explained that the priority was on students with special needs, ‘on those children that are struggling’ (026e) and those ‘...who aren't meeting benchmarks of where they should be...’ (026c). Priority for these students appeared to be primarily to improve performance: ‘It's really just to try and get the results up’ (04d).

Twelve of the 29 teachers from schools less successful in identification commented on the need for their school to focus on identifying gifted students, to a similar degree to which they currently focus on students with special needs, as the following comments illustrate: ‘I definitely think - it's just the same if you had a special needs child. They need extra support. It's the same here’ (026b). Another teacher observed: ‘...Yes, definitely. I think it's important. Like I said in a previous question, we test children with special needs, so why wouldn't we test in other spectrums? So I think it's very important’ (015g). A teacher from the same school made a similar point: ‘Yeah. It's as important as identifying children who need learning support, it's as important as identifying children who have English as their second language. It's just part of the whole make up of what's in your class’ (015c).

Teachers also saw identification as integral to addressing the progress and achievement of all their students, as this teacher notes:

At our school we really and truly believe that each child is important to be able to educate them and for them to reach their potential, to strive towards excellence, to strive towards whatever they need to be. It's - the identification process is something that's really important and if you don't know where the child is at then how can you help them? So, it's a really important thing (05b).

Four teachers spoke of the importance of their responsibility in having all students achieving close to their potential, as this comment demonstrates, '...to cater to every single child in the classroom and you can't have any child not working to their full potential' (012b). Others were in agreement but more moderated in their views about the necessity of identification. Some teachers shared similar views to this teacher:

...we're here to meet all children's needs and just like we meet the needs of children who are struggling, we should be trying to meet the needs of children who are excelling or who have a - who have gifted - who are gifted. (026k)

For some principals, the importance of identification to teachers was obvious, and a characteristic of schools effective in identification. From the principals' perspective, teachers see identification not as an optional extra but necessary to enable teachers to know and cater for all students, inclusive of gifted students, as these two principals demonstrate:

Yeah, I mean it's, the fact is you know we're here for all of them and they're part of our responsibility and to not do it [identification] would be failing our responsibility for those kids, those families; you know it wouldn't be right; it's not right (05P).

Another principal colleague shared a similar viewpoint: 'Definitely. ... Well, I would hope that every child reaches their full potential, whether they're a student with learning difficulties, whether they're gifted, so I think that's really important' (021P).

More broadly, however, identification was seen by some teachers as an ideal more than a necessity, as many held the belief that gifted students would learn regardless. One

teacher described this when she admitted to not attending to identification of gifted students:

‘They do learn in their own way, so in my experience, and to be honest with you, I’ve never actually officially identified a gifted child,..’ (026g). According to another teacher, there were competing priorities when it came to addressing the needs of students, and identification of gifted students did not seem to rate among them:

This is not the only child with a need that you’ve got. You’ve got a lot of others, and I think sometimes with it being a gifted child, a lot of teachers think, well they’re okay, let’s focus on all these other children who need a lot of help with special needs. So I think that’s the trap that a lot of teachers fall into, and that’s a big problem (026b).

Principals who do not believe identification is necessary can also have an effect on how teachers value it. One principal was open about his lack of support for identification of gifted students:

My background - I’ve got a degree in psychology, I work with special needs kids, that’s my love, that’s my passion. Gifted kids have never been really on my radar. ... So I might be one of those people who would have said that these kids are going to learn anyway. But the kids at the other end of the continuum are not. (015P)

This stance may make it difficult for teachers in the school to gain support for the process from this principal, thereby hindering identification for gifted students. Perhaps adding a further layer of complexity is the presence of opposing attitudes among staff, as another teacher at the same school describes her experience: ‘It makes me laugh when teachers say that. ‘Oh but they’re bright, they will do it anyway.’ This isn’t what it’s about. It’s about actually allowing them to reach their fullest potential. So we have to identify them’ (015b).

The priority given to the identification of the needs of gifted students is evidence of good practice in schools. It appears that the challenge for schools is when there are competing

priorities and that greater priority is given to the identification of the needs of students recognised as having English as an additional language or dialect (EAL/D) and students with learning difficulties, over gifted students.

Consequences of Non-Identification

The consequences of not identifying gifted students was recognised by teachers, though to varying degrees, in case study schools. In particular, teachers from across the schools considered boredom and disengagement as possibilities when gifted students are unidentified. As explained by a teacher in a school successful in identification: ‘...because a gifted student who's bored will completely disengage and that might impact on their learning for the rest of their school life and in fact their life, because they disengage and they just stop learning from boredom’ (021d). A similar view was expressed from a teacher in school with a less successful record of identification: ‘...Like I said before if you don't identify them then these kids are going to go through school, become disengaged with what they're doing if they're not being challenged’ (026n).

The long-term consequence of non-identification was highlighted by five of the 15 teachers from successful schools. A teacher with personal experience of the consequences expressed this concern: ‘They need to be catered for, and they need to be challenged and supported in the classroom. ... I've seen what happens when we do nothing because we're too scared to identify them, or we're not sure’ (021c). Loss of motivation for learning was considered as a real consequence, and the unease this caused in teachers seemed to provide an incentive to continue the identification of gifted students, as this example shows:

... because I believe that if we're not providing them with the adequate learning tools then yes they might learn, but their passion for learning might go downwards, ... I

think it's just that passion for learning, if they get bored too easily or have not been adequately given the right levels of interest. (021a)

Disengagement as a consequence of non-identification was a concern for teachers and principals across all case study schools. Loss of motivation for learning by the gifted student, on the other hand, was specifically identified as a concern by teachers in schools effective in identification.

Level of Confidence in their Understanding

Interview data suggested that the commitment of teachers to the identification of gifted students was enhanced when teachers had confidence in their own understanding of giftedness and its manifestations. How this affected the attitudes of teachers was remarked upon here: 'Very positive [towards identification] I would say overall. It helps that we have a good understanding or a better understanding than in earlier years of what giftedness is ...' (05e). Even when characteristics of gifted students are not easily recognisable, teachers in schools successful in identification showed confidence in investigating further to determine giftedness, as this example shows:

As a teacher I'm very open minded about trying to cater for all my children no matter what level they're at. But yes, my understanding became stronger about sometimes the behaviour not matching the outcome of the learnings for the child. So, I would need to be aware that underachievers can be gifted children. So, in that sense it changed my perception of the child. But I would hope that every - when I look at all my children that I'm able to hopefully see the characteristics or the indicators that would lead me to see that they perhaps, could they - they could be gifted. (05b)

The willingness on the part of the principals and teachers to delve more deeply supported the continuing process of identification and reduced the possibility of failing to identify:

I mean just the thing that you're always a little bit intrigued about is if you've actually found them all; you know that there might be kids there that you are missing. It is interesting; for example even in my infants group there's a little boy who, you know the activities are tried and tested but he doesn't seem to stick at it very well, but occasionally every now and again there'll be something that will grab his attention and you'll see what he can do. That's the challenge, is to I suppose to make sure that you've got them all. (05P)

Concern about a lack of expertise in identification and reluctance, or at the very least a hesitancy to identify, was expressed by some teachers, four of whom were in schools less effective in identification: 'I think there's an element of doubt in that you do wonder are they gifted...' (026e). Identification was seen as a difficult process due to a lack of understanding on the part of the teachers: '... I'd just say it's - I think sometimes teachers are sort of not really sure what to look for and maybe there's not enough support and help in that - in helping to identify the students...' (026k). One principal also named teachers' lack of knowledge as an inhibiting factor:

Probably a little bit - I wouldn't say the word slack at this stage but their ability to do so is nowhere near as good as their ability to identify students with learning difficulties. For example, over the last two years we've only had a couple of teachers come up to us and say, oh I've got these children that are going really well, I think they might be gifted, what do I do with them? Whereas every week you get someone asking about a child with learning difficulties, so it's a developing knowledge. (026P)

Teacher Beliefs

The rights of gifted students to have their needs identified and addressed, as with any student in the school, was noted by nine teachers from across the case study schools. A point

of difference, however, was demonstrated in a view expressed by a coordinator in a school not strong in identification: 'You don't know if you miss someone because like I said my biggest fear is that the child doesn't want to be identified. They just want to be a normal, everyday...' (015f). Holding such a belief may be discouraging some teachers from undertaking identification. Her colleague, however, while in agreement that some gifted students do not want to be identified, hoped this practice in the school would be challenged and changed: 'In my experience I have found kids who dumbed down because they didn't want to stand out. I think breaking the barriers of that alone can be a challenge. But it becomes a culture within a school' (015b).

It became clear that teacher beliefs about identification as a right contributed to their commitment and responsibility towards the education of gifted students. Identification was seen as the avenue by which gifted students' needs could be recognised and addressed. Two teachers in particular established this link. The first was motivated by a commitment to providing an education responsive to the student's needs:

...as an educator every child has a right to be educated according to their needs, whether they're special needs or they're gifted and talented, and we're not doing that child justice if we're not providing them with opportunities to further extend their thinking process and their ability process. (021a)

The second teacher recognised the role of the teacher in facilitating opportunities for gifted students in realising their potential:

I think that it's every child's right to be working at their God-given potential. I think that it's a teacher's job and a responsibility to be working at that [zone of proximal development] - each child needs to be given the opportunity to achieve what they can achieve. (012d)

Conclusion

The attitudes of principals and teachers towards the identification of gifted students varied across the six schools. Whilst most interviewees recognised the need for identification, variance in attitudes occurred, attributable to school-identified priorities. Levels of confidence in teacher understanding impacted the effectiveness of identification. Higher levels of confidence in teachers tended to be a facilitating factor for identification. Conversely, teachers' lack of understanding affected their confidence and occasioned a hesitancy to identify. Teacher beliefs about identification exposed differences in attitudes towards the necessity of identification. Some teachers viewed identification as an ideal, but not a necessity, and some held the view that gifted students did not want to be identified, but would rather blend with, or 'dumb-down' to, their age peers. Schools who were successful in identification had teachers who believed gifted students had a right to be identified and advocated identification as an essential process.

6.6 EQ8 Attitudes of Principals and Teachers – Towards the Identification of Gifted Students

EQ8: What are the reasons for ambivalent/negative attitudes of teachers and principals towards the gifted and their education, yet positive attitudes towards the identification of the gifted?

Part B of the survey recorded responses from case study school participants regarding their attitudes towards the gifted and their education, and was presented in the previous section addressing EQ7. Part B of the survey also recorded responses on a range of issues within the identification of gifted students. The results from case study schools can be found in Appendix JJ: Successful Identifying Schools' Means – Responses to Identification of

Gifted Students, and in Appendix KK: Non-successful Identifying Schools' Means – Responses to Identification of Gifted Students. A summary of the results are reported in the following section. In addition, the respondents were also asked to rate their own attitudes towards the identification of gifted students, and these results also follow. Last, data on attitudes towards identification emerging from interviews with participants are also presented here.

As previously reported, around half the respondents from case study schools reported ambivalent attitudes, approximately one fifth held negative attitudes and one third held positive attitudes towards the gifted and their education. This data indicates the greater majority of principals and teachers held ambivalent or negative attitudes towards the gifted and their education.

Attitudes towards Identification

Principals

The data deriving from the survey '*Opinions about Identification of Gifted Students*' indicates that half the principals had positive attitudes towards the identification of gifted students. Most principals were of the view that schools should implement programs for the identification of giftedness (R1). On the issue of whether schools within the system adequately identify giftedness, the principals' views were diverse with only one of the view they were adequately identifying, and three in disagreement. All principals were opposed to the suggestion that identification was not required as gifted students learn regardless (R12). Two principals agreed that some teachers rather the gifted not be identified (R11). Only one principal was of the opinion that the responsibility of identification of the gifted rests with parents (R9), with the five remaining principal colleagues believing it rests with the school.

Teachers

Akin to the principals, there was broad agreement from the teachers across the schools that identification programs for giftedness should be implemented (R1). The data from the survey suggests that, overall, teachers' attitudes towards the identification of gifted students were positive.

However, consistent with the principals, the teachers showed a degree of uncertainty as to whether the system of schools adequately identify gifted students (R7), as well as whether teachers prefer gifted students not be identified (R11). The majority of teachers disagreed, however, with the suggestion that gifted students do not need to be identified (R12).

Data from the survey also showed that most, though not all, principals and teachers appeared to reject the view that students with learning difficulties took priority over gifted students when it came to identification (R3).

Self-Assessment of Attitudes about the Identification of Gifted Students

Appendix LL: Attitudes Towards the Gifted and their Education, and Identification: Case study schools successful in identification, and Appendix MM: Attitudes Towards the Gifted and their Education, and Identification: Case study schools less successful in identification, show the comparative data of the attitudes of principals and teachers towards the gifted and their education, and their self-rating attitudes towards identification. Thirty-one percent of all respondents indicated positive attitudes towards the gifted and their education, and the identification of giftedness. Of the respondents who demonstrated positive attitudes to both, a greater number were in schools that were successfully identifying gifted students.

Interestingly, a closer analysis of the case study data revealed 65% of respondents reporting ambivalent or negative attitudes towards the gifted, yet positive attitudes towards

their identification. Notably, only a single teacher from all 51 respondents, who also held the position of Diverse Learning Coordinator responsible for gifted education in the school, reported against the norm, holding positive attitudes towards the gifted and negative attitudes towards their identification.

Three characteristics emerged from the interview data that may have influenced the ambivalent attitudes of teachers towards the gifted and their education, despite positive attitudes towards identification. Teachers, while not opposed to identification, seemed to fear the consequences of the identification of giftedness, namely the education of the gifted. Specifically, the three issues of workload, time and expertise required to be able to respond with a sufficiently differentiated educational program for gifted students appeared to be contributing to the ambivalence of teachers towards educating the gifted. The comment from a teacher in a case study school in the non-successful group points towards this: ‘I think staff are quite happy to participate in the actual process [identification]. But I think the challenge comes when they're required to actually differentiate the work for students’ (015e).

Fear of Creating Additional Workload

Teachers, predominantly in less successful identifying schools, named the issue of workload for teachers, particularly wary of the additional amount of work that would accompany the identification of gifted students. It seems that, in principle, teachers supported identification but were reluctant to engage in the process because of the implications for them, as this example explains:

I think there is that perception of well if they come out gifted I actually have to do a lot more work. I actually have to prove that I am helping that child meet their

potential. I think there is a reluctance to actually identify any child that is gifted.

(026c)

This reluctance to identify was backed up by another teacher, who named the additional programming that would be required if a gifted student was identified, as this comment demonstrates:

I think sometimes we're - oh I don't know whether reluctant is the right word. I think sometimes it worries us that, and being honest, that it just gives more work to the teacher. Like the teacher ends up with a little bit - well a bit more work because now all of a sudden you might have to write a new program or an extended program for that child or children. (026k)

Fear of extra workload on teachers might also be influencing their grading of students, inferring an underestimation of their ability, as suggested by a GE coordinator in a school not strong in identification:

Because I think that's one big thing that they don't do because they think it's going to cause me too many dramas so I will keep giving them a B in their grade because I know they can do more but I won't push them to see how far their potential can go. (026c)

Time

The demand on time was a factor closely aligned to the perceived increase in workload of teachers if they were to engage with steps of the identification process. Four teachers in schools less successful in identification felt challenged by the lack of time they had, and named it as a factor that inhibits identification. One teacher simply explained: 'I think time is one of our biggest enemies with that [identification]' (015b).

Teachers in LIS viewed identification not so much as an expected part of their role, but more that ‘...they were looking at it as an extra thing...’ (026b). The perceived impact on their time may account for the less-than-positive attitudes towards the gifted and their education, as well as low rates of identification. The responses from a few teachers would support such a view, as they felt the lack of time resulted in teachers being unwilling to identify. This teacher implied: ‘It [lack of identification] could at times be the time factor - teachers being very busy in the classroom’ (26n). Even when a referral for identification is made, the process is slow and identification is protracted due to the apparent lack of time by teachers to engage in the process. According to one teacher: ‘...I don't think that's anyone's fault, I think it's just a matter of time, like so it's a time management thing and everyone is so busy so I think it could be better’ (26k).

The issue of time was also raised in the context of school priorities; when having to decide where to apportion their attention, time-poor teachers tended to focus on students with learning difficulties rather than gifted students. The presence of a staff member specifically trained in, and responsible for, gifted education, along with an increased understanding by classroom teachers, appeared to counteract this shortfall in schools more successful in identification, as this teacher explained:

I think in primary school we're quite time poor, and we generally gravitate to the other side of the spectrum, and we're always targeting our special needs kids, trying to lift them and move them. ... I think we neglect sometimes our G&T kids. (021c)

Lack of Knowledge and Ability to Differentiate Satisfactorily

Teachers’ lack of confidence in their ability to effectively differentiate learning to cater for the gifted student was also seen as a factor influencing attitudes towards the gifted and their education, and consequently hindering identification. One implication of identifying

gifted students is the development of educational programs to address their learning needs. The demands of the differentiation required to ensure the engagement of gifted students in their learning impacts on teachers' commitment to identification. As a coordinator and a teacher both from a school not strong in identification commented: 'But I think the challenge comes when they're [teachers] required to actually differentiate the work for students' (015e); 'I think something else, the other challenge is, if you have a gifted child in your class, it's sometimes hard to differentiate the work. I think that's another challenge' (15d).

The response from teachers to the challenge of making provision for the gifted learners emerged from the data. Some schools viewed differentiation as part of their responsibility in ensuring gifted learners have an optimal match of educational program suited to their abilities. Encouraging their teachers to accept this responsibility, was a practice of schools effective in identification, as this gifted education coordinator explained:

That we realise that gifted students just like special needs students need support all the time and so it's my job to support the teachers to get them at a place where they feel comfortable with their differentiation so that the child is being appropriately challenged. (012a)

Some schools appeared to have a more challenging time influencing reluctant teachers to undertake differentiation: '...there's always that reluctance there, I guess, staff not feeling comfortable in differentiating, not knowing...' (15e). Teachers spoke of the challenge, as this example shows: '... the other challenge is, if you have a gifted child in your class, it's sometimes hard to differentiate the work...' (15d). Teachers so reluctant to differentiate will be unlikely to support processes of identification. The diverse learning coordinator in a case study school not strong in identification explained the challenge when teachers believe they lack the knowledge and ability to differentiate satisfactorily:

I'm trying to show them that it is doable, that it doesn't take a lot of time and effort to actually differentiate the curriculum. The time and the effort is actually getting to know the child and getting to know what they are potentially gifted in, how they think and how we can help them reach their potential. I think that's the part that they believe is probably the easy part and the differentiation part is the hard part. (026c)

6.7 EQ9 Teachers and the Identification Process

EQ9: What are the reasons identification is such an unfamiliar phenomenon for K-2 teachers?

Understanding the Approach to Identification

The awareness of teachers of the early years of the identification processes in the school and, in instances of uncertainty, knowing where they could find advice and support, was a feature of schools where identification was working effectively. A team approach to identification was evident, and deferring to others more experienced or skilled in identification seemed a well-accepted practice of these teachers. This may account for teachers of the early years not being directly involved in identification, yet the process continuing to be implemented and achieve acceptable rates of identified gifted. Greater understanding of processes, tests and assessments through professional learning was also recognised by teachers as contributing to a shared understanding among staff.

Yeah, absolutely, absolutely and if they didn't, everyone knows somebody that you could ask that could point them in the right direction. Everything's within the school but you might not have had to have done it [identification] before so there's certainly people you can ask if you're not sure. (012c)

A lack of knowledge of processes for identification and lack of confidence in undertaking these were named by teachers as factors hindering identification in less successful identifying schools. Identification was seen as an individual's responsibility rather

than a shared responsibility across the school. Teachers in one school spoke of 'a lack of understanding and knowledge in this school' (026i) and 'So most of us go on - like the hunch, most of us go on that...' (026L). Another teacher described how she saw it:

Gifted students have been dealt with on a one-to-one basis and that teacher just has to decide or go to the diverse learning needs coordinator and say, look I've got this child that - there doesn't seem to be a step-by-step procedure for giftedness at this school at this point in time. (026f)

The absence of school processes, and lack of teacher knowledge, may explain teachers of the early years' dearth of direct involvement in identification. There were similar concerns regarding a lack of knowledge of the school processes described by teachers, as the following quote demonstrates.

Yeah, that's - yeah, I'm not - yeah, I would need to know more about - I would like to know that there's a process that we actually - a formal process to go through when we have students, who we've had discussions with our colleagues, that we think are gifted. (04d)

One teacher noted that, until recently, identification of gifted students was not a topic openly discussed by staff. This teacher described the impact of that: 'Initially, there wasn't a lot of discussion about it. It was just if you think they're gifted, we'll get a Raven's test. That was it; that was as far as the discussion went' (04e). Progressing the identification process appears difficult to teachers under these circumstances. Another teacher tried to explain why it is not easy, when seeking support, to open up discussion on identification: 'I think time's very precious and it's very hard to go out there and discuss it with other people who might have a bit - a few more ideas or expertise on the issue' (015d).

Access to Support

The tentativeness of some teachers in their ability to identify gifted students within schools noted for their strength in identification of giftedness seemed counterbalanced by their confidence to access personnel in the school who could assist them in facilitating identification. Even so, they believed they still needed more knowledge and support:

I don't think that teachers are 100 per cent equipped to deal with it... Lack of - at the moment, it's I think this child is gifted but I don't think that we have the tools yet to positively identify within the school. We can outsource, I suppose, and we can do our own diagnostic tests, but I don't know whether they are sufficient enough to ascertain whether that person is definitely gifted or not. (021b)

This group of teachers also expressed apprehension strongly and widely, indicating that they were unsure who they could access to assist them. The weight of the responsibility for identification resting on the individual, coupled with a lack of confidence in their own ability to do so, appeared to thwart teachers' ability to ask for help: 'I think there's a lack of understanding and knowledge in this school, so that's definitely hindering it. I think there's a lack of - people don't know who to speak to' (026i).

Insufficient knowledge of, and confidence in, identification processes was also perceived by teachers to contribute to a lack of consistency in practices across the school. This proved to be a barrier to identification, as expressed by the following teacher:

So I might think a child's gifted whereas another teacher might not think they're gifted. They might just think they did a really good job and work. So I think consistency within the school. ... I don't think all teachers would know what to look for and - yeah, I think consistency is a big thing. (026m)

Knowledge of identification processes, or at least access to colleagues with such knowledge, appeared to facilitate identification, without necessarily the direct involvement of

teachers of the early years. Where this knowledge was not as evident, the confidence of teachers wavered and a breakdown in the process of identification of giftedness occurred.

Ownership of the Responsibility for Identification

An implied sense of ownership and responsibility for the identification of giftedness were characteristic of teachers successful in identification of giftedness. As a result, their practice reflects a commitment to the identification of the needs of all their students, inclusive of gifted students. A coordinator in one school explains this commitment:

It's an important process because you're here to do the best for every child so you have to look at engaging and challenging every single child in your class. So that would cover gifted kids. You need to do what you can to activate their desire to learn and to keep it going and to keep it strong. I just think that's just part of the process. It's part of looking after every child. (05d)

The interview data revealed one-third of teachers in schools that are strong in identification expect to do what they can to know the learners in their care, and address their needs accordingly. Teachers understood this to be a part of the identification process, even though they may not be directly involved. Being prepared to nominate a student as gifted, and subsequently have the student identified as not in the gifted range, was considered preferable by one teacher (021c) than to not having them identified and their learning needs not being addressed.

Identification was less than successful when teachers did not act on identification as part of their responsibilities, as noted by one teacher: '... - while there was an understanding that people have responsibility, the acceptance of that responsibility is a different thing' (015b). The discharge of responsibility to someone with greater expertise is implied in the following comment:

So that wasn't coming from me, but I did have a child who I thought possibly [was gifted], but nothing eventuated from that. ...obviously I was a little disappointed that the child I thought perhaps would be didn't; that testing didn't eventuate. I was a bit disappointed with that... (026e)

There was also the suggestion from one teacher that the hesitancy and lack of confidence was a consequence of teachers feeling unsettled by gifted students, as reflected in this remark: 'Well, everyone needs to be on board. I think staff need to be very open minded and not be intimidated by gifted children' (015e).

Comments from six of the 29 teachers from schools less successful in identification indicated a lack of support, and consequently a lack of action, for identification. While it was felt that '...most people are aware of it...' (04c), and it should be '...considered...' (015a), the data revealed that identification was not a focus in LIS. When asked whether they would consider identification of gifted students an important process for schools, one teacher responded: 'Unfortunately, it hasn't been a huge priority for our school. ... The emphasis definitely needs to be raised. I think there's a lot of potential that we're actually wasting out there' (04g).

6.8 EQ10 Influence of Attitudes, Training and Experience on Prevalence

EQ10: Is there a link between teacher attitudes, training, and experiences in identification and rates of identification of giftedness?

Appendix NN represents data of each case study teacher's qualifications/training, attitudes, personal experience and direct involvement with identification. Table 6.2 below collates this data into sample schools successful in identification (05, 012, 021) and Table 6.3 represents data for schools that are less successful (04, 015, 026).

Table 6.2 *Qualifications, Attitudes, Experiences: Schools successful in identification*

Qualifications/ training	n. of teachers (n.15)	n. with personal experience identifying giftedness	Attitudes			n. with direct involvement in identification
			Very positive/ positive	Ambivalent	Negative/ very negative	
Formal qualifications	1	0	1	-	-	1/1
Mini-certificate	2	2	1	1	-	2/2
In-school professional learning	4	2	3	1	-	2/4
Single in- service	4	1	-	3	1	1/4
No training	4	0	-	3	1	1/4

Successful identifying schools are so named owing to their expected, or greater than expected, percentage of identified gifted students, relative to recommendations in the literature referred to in Chapter 2. The data shows that, in these schools, the more training in gifted education the more likely the teacher had positive attitudes towards the gifted, and direct involvement in their identification. Conversely, the less training a teacher had the more likely those teachers had ambivalent or negative attitudes, and less likely to be directly involved in their identification. Even so, the presence of teachers with these characteristics did not seem to hinder identification of giftedness in these schools.

It would seem from the data that the less training a teacher had in gifted education, the likelihood of direct involvement in identification also decreased. Positive attitudes do not appear to be influenced by personal experiences with giftedness. However, the less personal experience of giftedness a teacher had, the more likely they were to hold ambivalent or negative attitudes. Personal experience in giftedness did not appear to have any effect on teachers' direct involvement in identification.

Table 6.3 *Qualifications, Attitudes, Experiences: Schools less successful in identification*

Qualifications/ training	n. of teachers (n.30)	n. with personal experience identifying giftedness	Attitudes			n. with direct involvement in identification
			Very positive/ positive	Ambivalent	Negative/ very negative	
Formal qualifications	1	0	-	1	-	1/1
Mini-certificate	4	3	1	3	-	3/4
Within-school professional learning	8	5	4	1	3	5/8
Single in- service	9	5	4	2	3	4/9
No training	8	4	-	6	2	0/8

Data from the schools in Table 6.3 shows the teacher most qualified in gifted education had ambivalent attitudes towards the gifted and no personal experience of giftedness, despite direct involvement in identification. The lower the level of training in gifted education, the less likely teachers from these schools were directly involved in identification, and the more likely they held ambivalent and negative attitudes. More than half of the teachers from this group had personal experience, through friends or family members, in identifying giftedness, and just under half reported having direct involvement in identification.

Teachers in case study schools with no training in gifted education did not hold positive attitudes towards the gifted. The majority of teachers with no training had no direct involvement in the identification of gifted students.

Attitude to Identification

The interview data offered some insight into the links between training, attitudes and experiences and their impact on the identification in these schools. It is apparent from the

survey data that personal experience of giftedness was not a factor of influence on teachers in identification.

For some teachers, a disinclination to commit to gifted students and their identification, aligned with the ambivalent attitudes they held. Five teachers in less successful schools expressed frustration at the lack of commitment from their colleagues to the identification process. In one school, this number was considered to be 50% of the staff: 'About half the staff are open to put students forward' (026a). Principal 026 aspires for the ideal approach, with teachers having an open and positive attitude towards identification: '...having a staff that's actually committed to saying, yes I believe a gifted student needs to be identified and needs to be given the opportunities to be taken as far as they can in whatever areas that they're gifted at' (026P). One consequence of teachers not assuming identification as part of their role was a low nomination rate of students for identification. Two principals expressed concerns regarding the limited number of students being identified by teachers in their schools. As one principal commented: 'I don't think we do enough in that area, but we have teacher nomination, again there's not many responses from teachers, so I don't think they're looking for it, or they don't know how to look for it' (04P).

In schools where a positive and open attitude towards identification was identified, it was reported as a supportive practice: 'The teachers in this school are very open to finding any children that are gifted or higher achievers in their class' (021d). One teacher remarked on feeling safe to take risks and nominate a student as gifted, even when uncertainty existed: 'Positive. Very supportive. Any time I've mentioned that a possible student could be gifted, I've had support and even if your hunch was wrong, it doesn't matter. Yeah, it's very positive, open and welcoming' (05d). A teacher in another school summarised the overall attitude of staff towards identification in the following way: 'I've never heard a negative conversation about gifted children at this school' (012f).

While this open and positive attitude is prevalent, it is not common to all schools, and can be an inhibiting factor to identification. One principal cited previous experiences of this being the case:

But I've been in schools where it's been huge issues. That they won't give them work unless they complete this other work or they think this child couldn't be gifted because they can't look at the spelling. So mine do have a very open attitude towards all of the children. (012P)

The interview data identified a growing confidence from within teachers. One teacher from a school successful in identification expressed a willingness to err on the side of possible giftedness, rather than overlook and risk not identifying a gifted student, as the following example shows: 'I'd rather identify a child and have them assessed and be told that I'm wrong, rather than have them come to Year 5 and not being catered for. That's my view on it. It is crucial. I think it's crucial' (021c).

The practice of teachers taking responsibility for the identification of gifted students also reflected positive attitudes and was a strong characteristic of schools effective in identification. Six teachers spoke of this responsibility as an ongoing process, as this comment explains: 'Yeah, yeah and we wouldn't often wait just for the [diverse] learning meetings. We'd definitely be talking before that,..' (012e). Identifying and responding to the needs of gifted students '...because you're here to do the best for every child...' (05d) Identification was named explicitly by five teachers as an important part of a teacher's role. The responsibility for gathering data and developing a profile of the gifted student to inform the identification process was clearly understood to be that of the teacher, as this comment from a teacher illustrates:

I think what I said before is that I really just want to do the right thing by every child and make sure that I've got - captured the best of them in a variety of different

situations. I just want to get as much information on that particular child as I possibly can. (012a)

The relationship between teacher identification of a gifted student, and a programmed response to the identified needs of the student, was drawn by at least two teachers from HIS. Teachers' ambition to meet the needs of students appeared to underpin their participation in the identification of gifted students: 'I think the teachers are pretty on board with those protocols and with wanting to identify and establish maybe some extra plans for those particular children' (012e).

6.9 EQ11 Influence of Approaches and Practices on Identification

EQ11: What are the links, if any, between the schools' approach to identification and range of practices in use, and effective identification?

School Approaches to Identification – survey data

Policy

As defined in Chapter 1, in this study, approaches are broader ways the school considers or manages identification, including the policy it has in place to reflect the school's position or stance about identification. As per the selection criteria, all schools have a school policy or statement in gifted education.

The policies in the schools successful in identification have not undergone any recent review, and were considered active at the time of data collection. In School 05, the Policy Statement on Gifted Education (2011) provided a rationale, and identified the aims and strategies to be implemented by the school. The statement made specific reference to utilising objective and subjective measures to identify gifted students. A checklist was provided as an appendix to the Policy Statement for teacher use, to assist in the identification of students

who may show signs of giftedness. Mention was also made within the Policy Statement of the use of parent interviews at the time of enrolment for identification, to ascertain students' interests and behaviours. The Gifted and Talented Education Policy Draft for School 012 was released in 2007, and has not been reviewed since. The draft policy stated identification occurred using a selection of 10 objective and five subjective measures, as listed in the policy. The process for identification was not stated, though a whole school assessment plan was documented. The teacher educator to School 021 drafted the Gifted Education Policy in 2010. It had not been reviewed at the time survey data were collected. Analysis of documentation indicates a GE coordinator was employed two days per week, the position funded from within-school funds. Screening at enrolment for giftedness was not being implemented at the time of the study, but school improvement plans indicate it was to be included in the role of the GE coordinator for the following year. There was evidence of a teacher's nomination form being used in the school for the purposes of identification of gifted students.

Policies in LIS underwent more recent revisions in 2012 and 2013. All three less successful schools in the case study indicated the previous policy was either inactive, or out-of-date, resulting in a recent review. The Gifted and Talented Policy of School 04 was originally created in 2008, revised in 2009, 2011 and, most recently, in 2013. The policy briefly addressed identification, namely the objective and subjective measures adopted by the school and available to staff. The policy named an aspect of the coordinator's role as '...assisting teachers with the identification of giftedness and talent in children within our school cohort' (Gifted and Talented Policy Draft, 2013, p. 5). In 2012, the Gifted Identification Policy of School 015 was formally reviewed and updated for implementation (Annual School Report to the Community – 2012, p. 11). However, it was not named in the school's key improvements of 2012, nor as a priority key improvement for 2013 (Annual

School Report to the Community – 2012, pp. 15-16). The Gifted and Talented Policy of School 026 was reviewed and updated in 2013, and made available to all staff electronically and in hard copy. The policy gave specific reference to the identification of gifted students. The document stated the identification process was shared by all staff, but was overseen and coordinated by the principal, AP and diverse learning needs coordinator. The process involved a teacher nomination form and a characteristics/behaviours checklist, as well as a checklist for identifying gifted underachievers. These processes were followed by the testing of students using objective and subjective measures. The policy stated that teachers are committed to ‘Early identification of students that display signs of having significantly higher intellectual ability’ (Gifted and Talented Policy, 2013, p. 3).

Leading Gifted Education

Schools differed in the title of the role for the person responsible for gifted education in the school. Given his formal qualifications in the field, principal 05 took responsibility for leading gifted education in the school, assisted by the school’s special needs teacher. In the remaining two successful identifying schools, 012 and 021, a gifted education coordinator (012a, 021d) assumed this responsibility. These two gifted education coordinators were employed on a part-time basis, did not have a class teaching load and had been employed specifically for gifted education.

In the case study schools not so successful in identification, leading gifted education was not a discrete role, but rather a role amongst others. In School 04, the responsibility fell within the role of one coordinator (04a). Gifted education was part of the responsibilities of the AP (015b) in School 015, and in School 026 gifted education fell within the role of the Diverse Learning Coordinator (026c). All three people with responsibility for gifted

education in these schools had a teaching load, and had other areas of responsibility in the school, aside from gifted education.

Attitudes Influencing Approaches to Identification

Data reported from the survey showed that all six principals and most teachers agree that identification provides a better match to an educational program (R6). There was broad agreement from teachers, along with five principals, as to the value of using multiple criteria in identifying the needs of gifted students (R2) and that there are numerous benefits in identifying gifted students (R14).

School Approaches to Identification - interview data

Interview data revealed the importance schools placed on identification of gifted students, and the willingness of teachers to be receptive to the process was a feature of schools who were effective in identifying giftedness. Many teachers found that an increased focus in their schools over recent years had resulted in a shift in teachers' attitudes towards identification. As one teacher observed: 'I think they're [teachers] very open to it because we've had a lot of talk about it' (05a). While some factors made identification challenging for teachers in HIS, it seems that these factors did not prevent them engaging in the process, as this teacher noted:

I think we're lifting that [attention towards the gifted] in the last few years with all the programs being offered, employing specialist teachers who are trained in that field. So I think the fact, in a primary school sometimes we're restricted with the funding and just time management, but that's not an excuse. (021c)

The data suggested that an understanding of the importance of identification positively affects teachers' commitment to the process, and the uptake of their responsibility

to contribute to it. One principal attested to this when commenting on teachers' attitudes towards identification:

I'd say positive supportive. Yeah. I mean that's.... I mean we probably need to do more work as a staff, but when they understand what the issues are and how serious it can be and how important it can be, you know they're very much on side. (05P)

Survey Data

Identification Practices

There was widespread agreement across case study schools that the main purpose of identification is to gather information that initiates appropriate curriculum and programs for gifted students (ID22). A high degree of consensus in the nomination of five practices characterised schools who were successful in the identification of gifted students. In terms of the timing of identification, these were throughout a student's learning experiences (ID3), and as an ongoing process (ID6). In terms of the measures used for identification, there was high level of agreement with teacher nomination (ID10), and objective measures such as standardised tests of ability or achievement (ID15). At a slightly lower level of agreement, was the use of previous student records or reports (ID14).

As Table 6.4 shows, Principal 05, who leads gifted education in the school, identified 17 practices in use for identification. School 012 Principal and GE Coordinator achieved agreement with 12 identification practices. School 021 reached consensus with seven practices. School 04 principal and GE Coordinator jointly agreed on four practices. School 015 Principal and AP 015b, who also leads gifted education, achieved agreement with 11 school identification practices. In School 026, the principal and the person responsible for leading gifted education achieved consensus on 10 practices.

Table 6.4 *Identification Practices: Principal and Gifted Education Coordinator*

School	# Identification practices nominated by principal	# Identification practices nominated by GE Coordinator (or similar role)	Identification practices nominated by both
05	17	-	-
012	14	13	12
021	8	15	7
04	6	10	4
015	14	14	11
026	14	10	10

Principals and Identification Practices

Consensus among case study principals was achieved on five of the six practices. These were: identification occurs throughout the student's learning experiences each year (ID3); identification is an ongoing process at our school (ID6); student files of previous records and reports are used in the identification of gifted students (ID14); objective measures, such as standardised tests of ability or achievement are used in the identification of gifted students (ID15); and both objective and subjective measures of identification are used to provide evidence in the identification of gifted students (ID18). High levels of agreement were also achieved with: teacher nomination is used in the identification of gifted students (ID10), and IQ tests and other forms of psychometric testing are used in the identification of gifted students (ID17).

6.10 EQ12 Leading Identification

EQ12: Where identification is effectively occurring, who takes responsibility for identification in the school, and what are some processes that make it successful?

For principals and teachers, the presence of a school-based leader in gifted education appeared to be important to identification processes. This position requires the person to take the lead and ‘drive’ the gifted agenda, and is a fundamental practice of schools who are successful in identification. In the context of this study, this leader is referred to as the ‘driver’ of gifted education.

It was the practice in some schools to have an identified ‘driver’ of gifted education, and that person was either the principal or an identified GE coordinator. While teachers could clearly identify the driver, these people were not solely responsible for identification. For example, in one school the principal is the driver, supported by a part-time special needs teacher. The following response from the principal describes the arrangement: ‘In effect it's me, and [special needs teacher], who's only part-time, she's actually doing some work with [external adviser of gifted education] at the moment, so she's as close as we've got now to a gifted education coordinator...’ (05P). The principal participating in the identification process was considered important to teachers as he was known as the qualified specialist in the area: ‘I would most probably have a chat with my boss and see what he would suggest I do, because he normally does the testing for the gifted children in this school’ (05c); ‘Yeah, we're very lucky that we do have someone who is specialised in gifted education’ (05e).

Almost all the teachers specifically mentioned the accessibility and responsiveness of the principal: ‘As soon as you get that hunch you can sort of go to [principal] and he takes it from there’ (05c). Teachers also spoke about the degree of support they received from the principal for identification. As the driver, he was considered by the majority of teachers to be important to the identification process because of his willingness to invest time to support and help his colleagues. As this example illustrates: ‘[name], our principal, is very open to it and he's - I think he's one of - he's probably quite passionate about it’ (05a). He is seen as the

driver of identification in the school, but was keen to acknowledge the support by the special needs teacher.

The special needs teacher, [staff], you know she's very astute and the kids can be referred through her too. I think the fact that we have done some work about the identification and the fact that I value that; I think that probably helps too, as I dare say if the executive value gifted education that would be something too. (05P)

This comment highlights the principal's observation that the process of identification is aided, not only due to his involvement but by the implied value teachers see being placed on identification because of his leadership position.

In two other schools, a person has been specifically appointed to the position of GE coordinator. Both appointments were made by the school principal, again implicitly suggesting a high value the school placed on identification. In School 012, the appointment came about from the priorities of the school, stemming from concerns the principal had on two fronts. The first was the educational progress of gifted students, and the second was the challenge of identifying these students, as this comment indicates: 'So the complexity of finding who the gifted children were in a school, is always complex' (012P). The principal felt that intervention was required and, in response, exercised her leadership by making the part time appointment of a teacher qualified in gifted education. As the principal explained:

Yeah. It's been prioritised because I wanted a shift. So I could have put that funding into lower children. ... So it was important and that was a need for us. So to have a gifted teacher come in and work in the classroom, so that all the children can meet their potential. ... So it was a priority. (012P)

In the current year and for the first time, one principal (School 021) appointed a part-time teacher to the role of GE coordinator. This teacher has not formally qualified in gifted education but has recently undertaken a short course specifically in identification, subsequent

to the appointment. This suggests the increasing value the school is placing upon identification. The following response describes clearly the impacts for her:

I had absolutely no idea before and everything we've been talking about today has come as a result of being able to go to firstly, the network meetings and secondly, the 'Leading gifted education pedagogy' [course]. Without those two things I wouldn't be - I would have no idea what I was doing. (021d)

Where there was the absence of an obvious qualified and skilled 'driver', teachers spoke of needing help from those with expertise to assist them in identifying gifted students. Teacher comments in these contexts reflected their desire for clearer direction with identification: 'we really need some expert help' (04g); 'people don't know who to speak to' (026i); and 'I think it needs to have that person in charge of that with your principal' (015d). The data from teachers suggests that the position of leadership in gifted education in some schools was either difficult to recognise, or was combined with a learning support or another leadership role. It would seem that a connection between the identification of gifted students and the role of the diverse learning coordinator had not been made in these schools. Their gifted education qualifications, expertise and focus on identification were not apparent to teachers. Teachers reported that identification typically focussed on those students with special needs, and this priority met with the approval of some teachers, as this example shows: 'I think more time is perhaps put into the special needs ones. But again, probably as it should, because they're not meeting outcomes' (04d).

One principal, when asked what would be the ideal approach to identification of gifted students responded: 'I've never thought about it. As in what processes would be in place to identify? All stakeholders being involved, so it's not just a teacher identifying' (04P). According to the AP in the same school, identification of gifted students has not featured as a process in the school:

We did some [in-service on identification] here a few years ago. But it was led by people, who knew two tiny bits more than we did. ... You need to keep revisiting things to gain that knowledge and become familiar with it. You also need for it to be an emphasis for a while - quite a while. Because I think we have so many other agendas that it gets swept under the carpet. So that would be necessary here, definitely. (04g)

In these settings, the required support for identification was not understood, and identification had not been a priority. One principal knew of staff members with some qualifications in gifted education, but he had not engaged them to work in that area in his time at the school, and he made clear his position: 'I'm told they've got an interest in it, but my work - I work with the other end of the continuum. That's where I'm actually hands on' (015P).

An AP, who was assigned the responsibility for gifted education upon her commencement within the last two years, had no formal training or expertise in identification and felt ill prepared for the role. As she explained:

Because I suddenly arrived at school told I was a gifted reference teacher once and went oh my goodness because I have not done this. So to me it was important that I had my head around it. So I just started by going through looking at [external gifted education resource agency] stuff. I also looked at the [employing authority] documents, what they were doing, that thing and did personal further reading. (015b)

She sensed further development of the school's identification program was also now unlikely to have much traction due to her being appointed to another school mid-way through her contract.

The diverse learning coordinator in another school took a linear approach, attending to various aspects of her role in turn, rather than in parallel. Consequently, there was no

sustained focus on identification, and it was placed 'on hold'. Sure of the school and system expectations she stated 'a big focus was special ed' (026c) to address the needs of students not meeting benchmarks, and therefore gifted education was viewed as far less a priority than special education. She also acknowledged her lack of qualifications and expertise: 'We currently don't have a G and T specialist teacher, that's one thing that we at the moment are looking into' (026c), along with feelings of inadequacy in fulfilling responsibilities around identification of gifted students: 'No. I have more to do' (026c).

Another teacher in the same school validated the view above concerning the lack of 'driver' and the consequential impact:

There just doesn't appear to be anyone that's taken that on board. ... People. There's no specific, okay, this is G and T identification, this is what we do for the children. I think that's what this school needs, and I'm pretty sure - I don't know 100 per cent, but I'm pretty sure the parents would be screaming out for that too, of those children.
(026g)

While these two teachers seemed to perceive the school as ineffective in identification, one teacher held an opposing view. She believed the person in the position of diverse learning coordinator was addressing gifted identification:

Our coordinator's very - she's obviously working really hard to identify all of the children and to create programs to target them. ... Like I said before I think just having the actual co-ordinator in charge of it really assists in that because you've got that person to go to and she is specifically in charge of that area. So it keeps us all on target. (026n)

A designated and qualified person 'driving' the school's processes in the identification of gifted students was a key feature of schools successful in identification, as this principal described:

What happened at the start of the year, the gifted education teacher went to the database and then started with those children and then she - if she needed she would speak to the class teachers as well and then if she needed more information she would administer a standardised test or something else to give her more information. (021P)

The presence of such a person facilitated the process and imbued confidence in teachers, who were grateful for the support. One AP confirmed this:

If the teacher was unsure and felt that he or she didn't have the skills to appropriately identify then I would either send in the big guns, someone who is actually trained in gifted education. Luckily on staff we have someone who is really adept and then officially identify. (05e)

Motivation to Support

It became evident through the interview data that support for teachers in the process of identification did not just come from the designated 'driver' of gifted education, but at the outset and primarily from the principal. Principals making provisions for a 'driver' through the allocation of school identified funds, was a practice in schools where positive identification rates existed. One principal, as 'driver', expressed a degree of frustration at the lack of system funding for professional development in gifted education, which results in greater demands on his time in order to provide this for his teachers. As he explains:

...it [funding for special needs] needs to be there, but there needs to [be] funding for gifted education so that I can actually get some teachers, give them a chance to do some professional development and actually experience taking some of those groups for example, because it would be good for them as well getting the like minds together is good for the kids. (05P)

Without a person specifically and solely responsible for leading gifted education, the identification of gifted students is largely left to teachers. Principals expressed strong views concerning factors that influenced them in their resourcing choice for identification. These views centred firmly on students and meeting their needs. In some schools, this meant the focus was geared towards students with special needs, as this teacher's comment demonstrates: 'There's so many different projects that focus on bringing up the bottom to the middle, and the middle, higher. But nothing's being done, I think, for that top group that actually need it' (04g).

Within the portfolio of diverse learning needs resourcing and funding has, for the most part, been allocated towards special needs, rather than gifted education, as this AP qualifies:

We've been focusing much more on our core and our bottom groups. I think it's [gifted] an area that we need to work on. ... But there just hasn't been the resources to follow through, because we've been too busy concentrating on the other area. So I think it's an area that we need to work on. (04g)

The suggestion implicit here is that priority funding is normally directed towards students with special needs. This presents a challenge for teachers when considering their students' needs and the process of identification, as one teacher commented:

In our current situation, the challenges are that there's nothing in place, and I'm assuming it has a lot to do with funding. So that's probably the biggest challenge for the school. However, if that can be overcome in some way, I don't know how, then yeah, that would really benefit the kids. That's probably the biggest challenge. I think we'd be able to do it if we had the resources of people and money. (026g)

On the other hand, one principal offered a counter view, and attributed her motivation for funding the position of the driver to:

Well you just the - no, no - you just want these children to learn to their best capacity so I think that it's an ethical question if you aren't meeting that child's needs. ... You have a moral obligation to do that. (012P)

Impact of the 'Driver'

When the identification process was implemented through a collaborative approach, teachers spoke of seeking support from the various colleagues available to them, and in particular the 'driver' of identification. The driver typically proactively engaged with teachers about identification and the progress of gifted students. As a consequence, teachers felt they did not have to implement the identification process in isolation. In fact, five teachers mentioned consulting with the driver at an early stage, as these comments reflect: 'It's like go through the process that we have here. First, go to the gifted and talented contact person' (05d).

I would do a couple of assessments, a couple of the standardised assessments that I'm qualified in doing, and then I would refer them to our G and T (gifted and talented) teacher, and then highlight the name to my principal. (021c)

Actively contributes to, and supports the identification process

Teachers in two schools also spoke of their Learning Support Team, inclusive of the GE coordinator, and the professional support the teachers received throughout identification and program response for gifted students.

Yeah, so we have separate infants and primary [learning support meetings] and the gifted teacher's there, the special needs, the principal and the teachers from those grades. That's a good way to have a chat about recommendations. ...We get a lot of support from each other.... (012e)

Drivers in these three schools also contributed to building the capacity of teachers in the identification process. Being able to spend time with their teacher-colleagues demonstrated commitment on the part of the driver, and was considered one way they could assist in the identification of students.

Teachers spoke of the confusion and uncertainty they experienced without a resident 'expert' in gifted education, as this teacher observes: 'There is (sic) the teachers, who are not sure what to do. There's uncertainty' (04e.) As the experience of another teacher suggests, the absence of expertise can lead to conflicting advice as to whether a student falls in the gifted range: 'So it is hard, because you might think that someone is gifted. Then when you do speak to a colleague or someone else, they might disagree with you' (026f).

While some teachers participated in informal conversations about the identification of gifted students, five teachers attribute the above issues to a lack of direction, as this example confirms: 'I felt that this school didn't have a very good or clear identification process for gifted children' (026f). A coordinator from another school shared similar concerns: 'Because a lot of people don't know the - I certainly have no idea about that, if there is a formal process that you go through for identifying gifted students' (04d). According to four teachers interviewed from one school, the process of identification was not well-defined and impeded teachers' efforts. The absence of an identifiable driver as a barrier to effective identification, was evident as teachers were confused about the process and were seeking specific guidance. This teacher tried to explain what was needed: 'So if you have a feeling about a child, this is the person you see. Or this is the paperwork or you need to call the parents at this time. Just so it's clear and it's not a grey area' (04c). Another teacher in the same school also expressed the need for direction: 'I don't know if there's an actual procedure in place and what we would follow to go through with that process. So I think that sort of hinders' (04b).

Two teachers described circumstances where they needed assistance with a nomination and were able to 'hand these over' to the diverse learning coordinator. However, this resulted in no further involvement from the teachers, and an assumption that the coordinator would pursue testing to identify. By way of explanation, one teacher from the same school observed that the process for identification of gifted students was not as well defined as that of special needs students:

I think at this point we would go to that coordinator or the principal or the AP, and then they'd take it from there, whereas with our special needs, we know to fill in a referral form and it goes to the special ed teachers, and that kind of thing. So the process is probably not as defined. (026b)

For the duration of the AP's short term at one LIS, she was the driver of the identification process, spending time-sharing with teachers the procedures for identification. The principal credited her with having made a significant impact with the teachers, during the short time she led the identification process, as the following response describes:

...she really ramped up the identification and the testing. She made it a much more rigid, rigorous identification. Along with that came the learning for teachers about why we're doing it, how we're doing it, and what we're going to do with those results. So in the last two years, we've really been on a steep learning curve with gifted at this school. (015P)

It appears, however, that the impact was not as effective as the principal may have expected, for according to this teacher's experience from the same school:

No, I'm not quite sure, no. Just what our job - we go straight to the coordinator and then from there it's - they pretty much take over. As I say, I don't have much to do with that part of it. (015g)

Teachers in schools where a driver was present were forthcoming in describing the level and type of support given by the driver to the identification process. The driver's involvement in learning support meetings, supporting the assessment process through clarifying teachers' perceptions, engaging in professional dialogue and developing teachers' skills in using data to inform their decisions all had an impact on identification within the school. As one coordinator observed: '... and she [GE coordinator] has been amazing in the assessment and the time she offers to assist us in clarifying our perceptions of the children' (021c). As drivers worked with teachers through steps in the process, professional conversations '...the process then would mean professional dialogue with the principal, with the gifted and talented teacher' (021a), exposure to reliable measures of identification, 'So we're moving from the, I think, I feel, to the concrete data and the feedback...' (021c), and decision-making, assisted in further developing teacher skills and knowledge.

Seeing the difference that comes from identification supported by the school's driver encouraged teachers, as they believed it made a difference to all students, not just gifted students, as this principal describes:

So these teachers are receptive to people coming into their - the gifted teacher - coming into their room and we're focusing on all the children, we're not just focusing - let's just focus, worry, about the gifted children here. We're just focusing on meeting everyone's needs. (012P)

The driver was also known to support the process when teachers were experiencing difficulties with 'hard to identify' students—those students who were underachieving or under-performing and therefore not easily identifiable as gifted. As one in the position explains:

But now that I've got this checklist and we're talking about it more, and the teachers are understanding from me what we're looking for in giftedness. They're you know,

more able to see it so they're looking less from their high achievers and more at other students who perhaps are gifted but not showing it. (021d)

The experience of a teacher highlighted the support provided by the driver in collaborative planning, as this comment demonstrates:

Yeah and I think that we've employed recently a gifted teacher who has a lot of expertise in that area and I think she - her working in the classroom - which is the model - and planning with those teachers is really helping them to really grow in this particular area. It's helping us all. (012d)

In some schools, the absence of a leader or expert in identification was felt strongly by teachers. Teachers frequently mentioned their concerns about their own inadequacies in identification when there was no expertise from which to draw. Three teachers commented that they would not know what to do in the identification of a gifted student, nor would they know who to go to. This teacher's comment accurately reflects the viewpoint of the others: 'I think that the identification project - process isn't made evident from the beginning. You have to go and find out about it. I wouldn't know how to go about it straightaway. I'd have to find out' (04c).

In responding to questions about hindrances to identification, three teachers felt they would like to do more for their gifted students but did not feel sufficiently supported to be able to do so. One teacher believed 'there's not enough done' (04e). In response to what would facilitate identification, one teacher ascribed to the following: 'It's being able to use the specialist teachers to actually assess those students...' (026j).

The teachers' concerns were validated by one diverse learning coordinator (026c), lacking in expertise in identification, when she expressed uncertainty about her ability to drive this agenda in the school: 'Because I think as a person who is, sort of, the driver of

identification in the school, I need support to make sure that what I'm doing is the right thing to do. I think that's one thing' (026c).

The active involvement of the driver has led to the perception that the distribution of resources has become more equitable, as this comment by a teacher suggests:

Yes, a big difference. Yeah. Because there was always a big focus on special needs and we had heaps of aide time and our special needs teacher that we had to lift our bottom kids. But this year I feel like the balance has evened out, the same amount of focus that goes into the special needs, goes into gifted as well, which is good and [driver] has done that. (012b)

Aside from contributing to the identification of gifted students, along with developing and sustaining professional relationships with their colleagues, this level of engagement also enabled the driver to support teachers to look more broadly at the student and involve parents in the process. Additionally, they enabled a focus on the school's structures and availability of external support. As this principal explains:

Not just looking at one part of the child - looking at the whole child and broadly. Having good - involving the parents and the teachers in examining what this child needs and moving forward from there in meeting their needs. Also looking at the structures we've got in the school would be very important. What personnel can come in? Collaboration among staff would be very high priority. (012P)

Leads and seeks ongoing professional learning

Drivers demonstrated a proactive approach to their own professional learning for improvement in practice. One driver was quite open about her process of self-review: 'I don't know if it's the - because I often go home and think how can I do it differently? So that's what I do do' (012a). Drivers were afforded the opportunity for ongoing professional learning.

Requiring the approval of the principal, this signified the importance the principal placed on the driver's professional learning. Drivers consistently accessing system support and advisory services, as well as network meetings for GE coordinators, characterised schools with high identification rates. Drivers appreciated these opportunities, as one observed:

I'm learning as I go, like this is only my first year in this role and I think as I continue going to the network meetings and continue networking with other gifted leaders, I'll be able to you know, improve on that. (021d)

A lack of professional learning was named as one factor that hinders identification. A call for more professional learning came from both a principal and a teacher, who both named it as an issue to be addressed at the school. The teacher felt more is required to be done with the staff on identification, as her comment here shows:

Yeah, I think the lack of knowledge or professional development of the staff here. We have spoken about it at staff meetings and things like that. But we really haven't sat down and discussed it in-depth. I don't know if there's an actual procedure in place and what we would follow to go through with that process. So I think that sort of hinders. (04b)

The diverse learning coordinator in one school recognised her limitations and her need for further professional learning, similar to that of other coordinators, if she was to effectively lead gifted education. Her attendance at network meetings was the only strategy named to address this. With the support of the principal, one teacher at this same school was currently undertaking a three-day course in gifted education, in the hope of working closely with the diverse learning coordinator in the identification of gifted students. She describes the circumstances:

I'm hoping - part of it is to do an action research project at the end of it which would lead to maybe implementing an identification process within the school. So that's

something I work with [staff member] and [staff member], our special - what is she called now, diverse needs - diverse learning needs coordinator. (026f)

On-site professional learning in gifted education was not a practice in which schools, with little success in identification, prioritised or regularly engaged. The drivers in these schools appeared uncertain that their understandings of identification practices were the right ones. This was confirmed by one driver, who said:

I think the big thing would be I am not a G&T [gifted and talented] guru so I rely a lot on advice from the [employing authority] advisors, or advisor because at the moment there's only one. I think there's a lot of people like me in G&T roles within schools that I'm not trained as a G&T person, I'm not G&T myself so here I am trying to help the teachers and provide support to teachers to ensure that we're meeting G&T children's needs and I'm learning myself. (026c)

Other teachers spoke of drivers who were confident in their level of expertise and provided helpful professional learning activities. While the frequency of these sessions varied across schools, the driver's ability to recognise the need for professional learning in identification was a particular characteristic of schools effective in identification: '...she would have several staff meetings a year and just show us the different tools and whatever and how to look at the responses that the children give and what that can indicate' (012d). Drivers had sufficient expertise to be able to facilitate these sessions themselves for the benefit of their teachers. This expertise was particularly apparent in the principal as driver in one school, as he details here:

I mean I've been through it [subjective and objective measures] with the staff and it's probably due for it again now because staff change over time; but we've actually been through those whole checklists of the sorts of quirky things or different things or little clues that might give you an idea that the child is a gifted child. So the teachers then

compile a list. You know we sort of threw around some names and any name that came up then we'd put them into some sort of formal identification process which as I say I usually start with the Raven's. (05P)

6.11 EQ13 Early Identification

EQ13: What underpins and supports early identification in schools?

Timing of Identification

All principals and most teachers had very clear views on the need for early identification. There was a shared belief, both explicit and implied, that identification can, and should be done early, and that no time was too early. This principal reflected a collective opinion that 'You can't do it too soon' (05P).

Many teachers expressly supported this position, holding the view that identification should be done as early as possible, as this comment suggests: 'As soon as they come into kindergarten really because you need to identify straightaway' (026l). Half the principals and many teachers of the early years advocated for kindergarten (the first year of school) as an ideal time. This view is based on the assumption that students so young are easy to identify, as this teacher's comment indicates:

I think from early on. So once they begin school. I think kindergarten's a time for them to settle in, but it's still very easy at that age to pick up on children that are gifted. I think you can see it straight away. So I think the earlier the better it is for the kids. (026n)

As another teacher also holding this view shared: 'I think they're pretty obvious, even in kindergarten. So right from kinder. It would be almost better if we did some watching at our playgroup. I think the earlier, the better' (04g). A rationale for identification in

Kindergarten was put forward by a teacher: ‘The sooner we are aware of students the better for them, the sooner we can program for their needs’ (026a). This rationale to quickly address the needs of these students, was also supported by a principal: ‘As soon as they come into your school. ... So we know how to best cater for them, the individual’ (021P). All principals utilise the enrolment process, particularly the enrolment interview, to begin the identification of gifted students, as this principal points out ‘Kindergarten. ... Because we need to know our children as early as we can’ (012P). One GE coordinator confirmed identification as part of the school’s enrolment process, and the opportunity to begin prior to starting school, to ensure students are not overlooked:

Before school. I have one student coming into kindergarten next year and I've already started the process to identify him. ... I'll be just observing him and seeing where his particular giftedness lies. So he was identified in a, in like, in the intake interview and so and then I will continue the identification process for him... (021d)

Using enrolment to start the identification process was also supported by a teacher in another school:

Pretty much when they start, when they enrol. I think you've got to - you look at every other factor for this child, if they've got any learning difficulties or anything like that. So I think the identification should take place when the child enrolls in the school. (015d)

Interestingly, however, not all agreed that Kindergarten-aged children were easy to identify: ‘You know, sometimes it might - it's hard in kindergarten but an experienced teacher would pick up some yeah...’ (026k). There was a view shared by four teachers that identification should not occur in Kindergarten as the children are new to the school environment and, as this teacher explains, ‘I think maybe not in kindergarten, in terms of a school, because the kids are finding their feet. You're learning about them. But pretty soon

after that. Because I think if they're gifted, it comes - it shows early' (04d). The reliability of testing students as young as Kindergarten was also questioned: 'We give them one year of schooling and then they - I think they're too young to start straight away' (015g).

Some teachers, supporting early identification, did not commit to any particular time, as these comments indicate: 'As soon as you feel like - as soon as you get that hunch...' (05c); 'As soon as possible. It doesn't matter what the age is' (021b); and 'As soon as a child presents. It's like with any child, any child in any classroom' (05e).

Five teachers suggested that after Kindergarten was a preferable time to begin identification. One reason was the perception that gifted students were more easily recognisable the older they are, as this teacher suggests: 'Though once you get into one you know, Year 1 and 2, it's like flashing lights. You can see when the child is gifted' (026k). Another reason offered for later identification was the risk of an under-estimation of a student's ability if they are too young, or do not yet have language proficiency to demonstrate their abilities. This teacher provides an example of this:

...when I look at it, I'm looking at around the year 1, year 2 mark. ... We are a very high ESL school so children in kindergarten come - if they are from a very English speaking background they do look like they are outperforming children in the class because we do have a very high cohort of ESL students. I think once they get into year 1, we can actually see those children who we thought might potentially be gifted in kinder they are still outperforming in year 1 and that's when we would generally start to pick up who could potentially be outperforming children of their own age. (026c)

Identification is seen as an ongoing process, initially with the use of subjective measures such as information from prior to school settings and enrolment interviews, teacher nomination/observations, work samples and class assessments. This teacher explains the

ongoing nature of identification: 'I think it needs to be ongoing because, depending on the child's state, then they might not have shown signs at the start of the year, you know...'

(012c). However, when ambiguity as to the timing of identification existed, teachers were vague, unable to commit to a particular position on the issue, sometimes offering a broad period in which to identify, or not able to offer a suggestion. The following comments show the ambiguity that existed among the teachers: 'probably primary school' (04e); 'I don't know if there could be a set answer for that, to be honest. I think it just depends' (026b); 'I don't know. I don't think I've got enough information about what happens, and the effects of this. I'd have to read up on it, I think' (026h); and 'I would say definitely in the early years' (026i).

The following comment from a teacher exemplifies the uncertainty among some teachers as to when identification is best to occur:

As soon as they come into kindergarten really because you need to identify straightaway. ... So I think year three is a good target but from kinder, even preschool for that matter, hopefully you've got a good dialogue within that transition period from kinder - preschool to kindergarten, so there should be - you'd hope some sort of notes or psychometric testing that's been done prior to them coming in. (026l)

Despite naming enrolment as an appropriate time to begin identification, ambiguity was also evident among two principals. They were unwilling to commit to a definitive timeframe for identification, and were vague in their responses when asked about timing, as this comment demonstrates: 'No I don't know whether there's a particular stage, if they're gifted they'd probably show their giftedness at an early age, I don't know if you could put it to a stage' (04P). From Principal 015, a similar position was evident: 'I don't think there's any ideal time. I think when the teacher sees the potential, So we have no particular time' (015P).

The use of objective measures such as standardised testing to add to the student's profile once sufficient subjective data has been gathered, was a practice used in schools with

high identification rates. Highlighting the importance of the various roles within the timing of identification, and the ongoing nature of the process, this teacher cautioned:

So for me, it has to be open communication between the G&T specialist in your school and the classroom teacher, and it needs to be ongoing tracking. It's not just a, oh, we tested them in kinder, and they didn't come out. (021c)

The associated risk, if early identification does not occur, was also implied by the same teacher when further commenting about the timing: 'Across the K-6 continuum, I think as early as possible, because I've seen the damage of children' (021c). For one teacher, beginning identification at enrolment time was a logical step, as it is a time to screen for the particular needs of the child: 'I think you've got to - you look at every other factor for this child, if they've got any learning difficulties or anything like that' (015d). This teacher believed the benefit of identifying at enrolment interview was to influence the educational provision for gifted students when they commence school education, regardless of the year level they are entering.

So I think the identification should take place when the child enrolls in the school. Because that's an important factor not just because of whatever grade they were going - doesn't matter from kinder to Year 6 - but I think it's important to start at that beginning. (015d)

Inconsistencies and ambiguities in the timing of identification do not support best practice. Early and ongoing identification was adopted by schools effective in identification. Holding clear beliefs about the timing of identification for gifted students, with the opportunity to commence and continue identification during the student's enrolment, was considered best practice by schools with expected rates of identified gifted students.

6.12 EQ14 Measuring Giftedness

EQ14: What tools and measures are being utilised by schools effective in identification, and what differentiates these from assessments used by those schools with low rates of identification?

Current School Identification Practices

The interview data revealed seven practices, being implemented to varying degrees, common to case study schools. They included: a) testing; b) deferring to a diverse learning/learning support coordinator; c) involving parents; d) teacher nomination/observations; e) teacher-made assessments and work samples; f) information from previous settings; and g) interview/conversation with student. Table 6.5 below shows the identification practices that emerged through the interview data. The table also reflects the percentage of teachers and principals from both groups who, during the course of their interview, referred to the identification practice within their school.

Table 6.5 *Identification Practices: Comparative Characteristics of Principals and Teachers in Successful and Non-successful Schools*

Practice	Successful n = 18	Non- successful n = 32
Testing	94%	75%
Deferring to diverse learning/learning support coordinator	61%	63%
Involve parents	66%	66%
Teacher nomination/observations	61%	47%
Teacher-made assessments/work samples	50%	44%
Information from previous/other settings	50%	19%
Student interview/conversation	33%	19%
Peer identification	17%	-
External adviser involved	-	6%

The consistent use of a range of identification practices by teachers and principals was a characteristic of the schools. Testing is the most consistently used practice in the identification of gifted students. One principal referred to this as going into ‘the formal identification’ as opposed to ‘observing and noting’ (015P). A number of teachers made direct reference to standardised testing. Objective standardised tests were specifically named by interviewees, citing their use as part of the identification process. These tests included, but were not limited to, ones named by a GE coordinator: ‘...any sort of formal testing that the school adopted whether it's Raven's Progressive Matrices or a Slosson or AGAT or a psychometric test’ (012a). For example, nearly half of all teachers and most principals referred to the Raven’s Progressive Matrices, seven (14%) interviewees mentioned the AGAT (Acer General Ability Test) and six (12%) named PAT (Progressive Achievement

Tests) as measures used in the identification of gifted students. Most schools had online access and/or held one or more of these tests on-site.

Aside from *testing*, there was a consistently high level of reporting of the practices of *deferring to the diverse learning coordinator* and the *engagement of parents* in the identification process. This suggests that the schools see these practices as useful in the identification of gifted students. *Student work samples and teacher-made assessments were reported less frequently*. Using *Teacher nomination/observations* for identification was reported by more than half the interviewees from schools where identification rates were high. This may suggest that these teachers are confident and likely to trust their own observations and judgements in identifying gifted students.

Obtaining data about students from their *preschool or previous school setting* was a less-used practice within schools. Overall, there was low level reporting on the practice of an *interview or conversation with the student*.

Even though peer identification was mentioned by a very limited number of interviewees, they considered it an effective practice as evident in the following comment.

Listening to kids is important. You know, we have a new boy in Year 3, he's only been here a couple of weeks and one of the other boys who is in the gifted group said to me, [principal] I think you need to test Joseph because he's really smart. So that's peer identification. They know, you know, this little boy is smart and this other boy obviously; so peer identification is a good thing to think about. (05P)

A breakdown of the practices mentioned by principals, and by teachers, reveals further commonalities and points of difference. Table 6.6 shows the number of principals and teachers, who reported using an identification practice.

Table 6.6 *Identification Practices: Comparative Characteristics of Principals and Teachers*

Practice	Principals n = 6	Teachers n = 44
Testing	5/6	36
Deferring to Diverse Learning Coordinator/Learning Support	3/6	30
Involve/engage parents	6/6	30
Teacher nomination/observations	1/6	25
Use of work samples/teacher assessments	1/6	23
Information from previous/other settings	3/6	14
Student interview/conversation	2/6	12

Principals and Identification Practices

All principals (n = 6) acknowledged the *engagement of parents* in identification as a common identification practice. This was the only practice on which there was accord. The *use of testing* as a practice in their schools was the next most used practice. Half the principals commented on the use of *deferring to diverse learning coordinator*, as well as gaining *information from previous/other settings* as part of their school practices. The practice of using *work samples and teacher-made assessments* was nominated by just one principal as was the use of *teacher nomination/observations*.

Teachers and Identification Practices

Interview data regarding identification practices featured five practices that were nominated by more than half the teachers. There was a high level of reporting on the practice of *testing*. Similarly, but not to the same extent, an elevated level of reporting occurred on the practices of *deferring to Diverse Learning Coordinator* and *involving parents*. *Teacher*

nomination/observations and use of work samples and teacher-made assessments were seen to be a frequently used practice nominated by just over half the teachers interviewed.

Conclusion

In this chapter, the data from Phase Two involving a case study of six school sites has been presented and analysed. The emerging questions from the diocesan findings in Phase One were investigated to establish whether the findings identified in Phase One were evident in these case study schools. Analysis of interview data highlighted both best practice as well as the challenges and barriers to effective identification of gifted students in these primary schools.

The following chapter provides discussion of the data presented in Phase Two and analysis of the research findings in relation to Research Question Three (RQ3), as follows:
How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

Chapter 7

Discussion of the Research Findings and Emerging Questions from Phase 2

7.1 Introduction

The aim of this study was to investigate identification of gifted students, particularly the relationship between teacher and principal knowledge, attitudes and experiences and their influence on identification. To this end, the following research question was developed and explored through a mixed methods approach: How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?

Research Question Three

This chapter provides discussion of the data presented in Phase Two of the data collection, and analysis of the research findings in relation to Research Question Three (RQ3), as follows:

3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

RQ3 was designed to explore the themes identified in the review of related literature, as discussed in Chapter 2. As with a sequential design, analysis of data within Phase One (diocesan data) prompted the analysis made in the subsequent Phase Two (case study data from six sites), hence the sequential research design in two phases. The discussion below follows the framework of 10 emerging questions (EQs) from Phase One findings, coded EQ5 – EQ14. In order to address these 10 emerging questions, Phase Two data from a case study involving six sites was analysed. This analysis was undertaken to gain further understanding of the factors of influence on identification of giftedness that emerged as questions from

Phase One. The analysis involved a deeper exploration of three sites with high rates of identification of giftedness, and three sites with low rates of identification. Findings will be discussed within the context of each EQ.

7.2 EQ5 Knowledge of Principals and Teachers

EQ5: What are the knowledge characteristics of principals and teachers who are effective in supporting the identification of giftedness in students?

A tendency towards principals and teachers with moderate to high levels of training in gifted education, coupled with lower number of teachers with minimal or no training typified those schools very successful in the identification of gifted students. As teachers' conceptions of giftedness influence their referral of students for identification (Miller, 2009), it is reasonable to assume that the more training in the field of gifted education, the more likely effective identification occurs. This has been a finding of this study and supports the substantial evidence in the research literature that training in gifted education positively influences the effectiveness of identification owing to increased teacher knowledge and the subsequent teacher nominations that arise (Brown et al., 2005; Copenhaver & McIntyre, 1992; Ford, 2004; Gear, 1978; Siegle & Powell, 2004a; Whitton, 1997). Research studies within the last 10 years have reinforced the argument that a lack of training in gifted education is a factor that hinders identification (Long et al., 2015; Moon & Brighton, 2008; Pfeiffer & Petscher, 2008). Increased knowledge through professional learning and training in gifted education was also found to influence more positive attitudes of teachers towards gifted students, as found in Australian studies by Lassig (2009) and Plunkett and Kronborg (2011). Adequate training on characteristics and manifestations improves teachers'

understanding of giftedness and, as Whitton's (1997) study recommended, more likely leads to increased rates of identification.

Data on training and self-rated knowledge on identification in the present study found that the majority of those who rated themselves with at least adequate knowledge were working in schools least effective in identification. This may suggest an overestimation of self-knowledge in identification characterised principals and teachers. As the majority of respondents rated their own knowledge in identification as less than adequate, an underestimation of self-knowledge seemed apparent in schools with high rates of identification. One potential explanation for this discrepancy is that respondents may realise gaps they have in their understanding about identifying giftedness due to training, ongoing professional learning and their school experience of successful identification. Others may not realise what they are yet to learn, owing to lower levels of training, lack of professional learning or negligible involvement by the school in identification processes. This finding supports the findings of a recent study by Baudson and Preckel (2016) that the theories and conceptions of giftedness held by teachers with inadequate training can impede identification, due to biases and prejudices.

Of further interest were the majority of teachers who, though well placed to undertake identification processes given their close day-to-day engagement with students, rated their knowledge in identification as less than adequate. Teachers lacked confidence in their own understanding of giftedness, its characteristics and identification, again highlighting the importance of knowledge acquisition for its influence on positive attitudes, and subsequent impact on teachers' motivation to identify giftedness.

Analysis of interview data showed principals and teachers from schools successful in identification demonstrated a clear understanding of the school's identification program, communicated through the avenues of policy, additional documentation and/or staff

meetings. It was evident the teachers were aware of a range of processes and measures available to them for identifying giftedness, and recognised the importance of using multiple measures inclusive of both objective and subjective tools to reduce the risk of non-identification of gifted students. Teachers and principals noted that professional learning and training in gifted education was also an ongoing focus in these schools.

Teachers who were feeling ill equipped for identification, concerned about their limited knowledge, uncertain of the school's approach to identification, and unclear as to the value and purpose of measures used, constituted a barrier to effective identification. As a consequence, these teachers expressed a lack of confidence in their ability to identify giftedness. The principals of schools in which these teachers operated substantiated this, bringing into question their teachers' competencies in deciding what measures to use, as well as their knowledge of the characteristics of giftedness to successfully identify gifted students. In these schools that demonstrated poorer levels of identification, training and professional learning in gifted education had not a regular focus. While some of the principals and teachers of these schools had undergone training, there was a lack of consistency in conceptions of giftedness. Similar findings were evident in a study undertaken by McCoach and Siegle (2007), and a later study by Miller (2009), reporting that there is no assurance that inclusive conceptions of giftedness and its characteristics are commonly held by those who have undertaken training in gifted education. It seems that, in the present study, more recent limited attention had been given to supporting teachers in least successful schools with differentiation for program provision, suggesting that the prior step of professional learning in identification had been missed.

Summary of Findings

FEQ5.1 Schools effective in identification have principals and teachers with high levels of training and professional learning in gifted education.

FEQ5.2 Teachers are more able to effectively contribute to the identification of giftedness in learners when they are aware of the school's policy, processes and tools for identification, and are provided with ongoing professional learning.

7.3 EQ6 Conceptions of Giftedness

EQ6: Do conceptions and manifestations of giftedness, as understood by teachers and principals in schools with high prevalence of identified giftedness, differ to those in schools with low prevalence of identified giftedness?

Definitions of giftedness embracing broad conceptions inclusive of domains of giftedness and measures beyond traditional IQ tests were typically discussed by principals and teachers from schools effective in identification. While the field of gifted education has not reached consensus on a universally accepted conception of giftedness, the conceptions by these principals and teachers are consistent with contemporary research literature seeking to broaden conceptions of giftedness (Columbus Group, 1991; Gagné, 1985, 2004a; Marland, 1972; NAGC, 2010).

The findings of this study indicated that the understandings of conceptions of giftedness of both principals and teachers in the least effective schools were similar. As the analysis of the interview data showed, most discussed giftedness in general, using tentative ideas rather than specifically defined terms. Consistent with the research of Bracken and Brown (2008), this study found that the varying definitions and conceptions of giftedness that teachers hold impacts their approach to identifying gifted students. Some teachers from

schools least successful in identification were reluctant to define giftedness, preferring to describe behaviours of the gifted. Their lack of confidence likely stems from inadequate knowledge and understanding of conceptions of giftedness. Similar findings are evident in research by Heller et al. (2005), who found the greater majority of teachers are likely to rely on subjective conceptions of giftedness due to their lack of knowledge.

It seems conceptions of giftedness in schools least successful in identification may have emerged from a more pragmatic base rather than a theoretical or specific knowledge base or, as suggested by Kaufman and Sternberg (2008), that they hold a more implicit conception of giftedness rather than an explicit conception qualified by a strong knowledge base and firsthand experience. When defining giftedness teachers in schools with little success in identification did not demonstrate the contemporary conceptions of giftedness as reported in the literature, such as Gagné's model (2010). Additionally, these teachers gave no consideration to prevalence or innateness, and minimal reference to levels of giftedness.

Schools more successful in identification demonstrated broad and inclusive conceptions of giftedness, and consistently referenced advanced cognitive ability as a chief characteristic. This finding contradicts Galton (1892) and Terman's (1925, 1926) position on narrow one-dimensional conceptions modelled as theories of intelligence. These schools were notably explicit when identifying what constituted giftedness. These conceptions of giftedness were defined by three particular characteristics: the recognition of potential; beyond the norm for age; and its multidimensionality.

Potential and Achievement

The teachers and principals in schools strong in identification identified *potential* for high achievement, with the terms giftedness and potential or ability frequently used synonymously. Confirmatory analysis through NVivo (see Appendix OO and Appendix PP)

showed that potential and ability were the two key terms used by principals and teachers in these schools, giving further weight to potential as key to their definition of giftedness. The influence of the concepts of potential or ability on teachers' and principals' perceptions of giftedness is a finding consistent with a recent study by Baudson and Preckel (2013) who found that *ability* was the personality trait teachers most ascribed to gifted students. This finding is also consistent with the research of Reis and Renzulli's study (2009), that refuted conceptions of giftedness as defined by a score and supported giftedness as a developmental construct.

Principals and teachers from successfully identifying schools also considered the importance of providing an environment for potential to be developed and demonstrated. They viewed giftedness as possessing high potential, regardless of whether that rendered in performance, as this example illustrates: 'A gifted student is a child with a potential to achieve above the ordinary' (05P). The presence of potential as natural abilities, and the significant role catalysts play in the transformation of giftedness into achievement (talent), is a key principle underlying Gagné's model of giftedness (2004b, 2012)—the model adopted by the system within which these schools exist. In the minds of the principals in schools successful in identification, in particular, the school had a responsibility to provide the opportunities for high aptitude to transform into high achievement or performance. The importance of providing an environment for potential to be developed identified by these schools was consistent with several previous studies especially Cross and Coleman (2014) who found that although potential to be gifted is normally distributed, supporting potential to evolve into achievement necessarily involves the school environment playing a critical role. This finding similarly supports a recent study by Olszewski-Kubilius and Thomson (2015) which focussed on the development of potential and the malleability of ability, placing emphasis on educational access for high achievement, a position clearly identified by

principals in successful towards their responsibility in providing the learning environment conducive to the transformation of giftedness into achievement.

Schools strong in identification hold conceptions of giftedness as both potential and achievement which more likely influenced the approach to recognise, and make provision for, giftedness to be manifest within the learning context. The imperative for schools to provide opportunities for potential to surface and transform into exceptional levels of performance supports the finding of Siegle et al. (2016). All three studies cited here (Cross & Coleman, 2014; Olszewski-Kubilius & Thomson, 2015; Siegle et al., 2016), along with the findings of the present study, confirm Gagné's (2004b, 2012) model, which showed that context and catalysts are required to enable the shift from potential (giftedness) to high-level achievement or advanced development.

In qualifying potential, both principals and teachers in schools successful in identification referenced students' abilities being well ahead of expectations for their age norm. The potential to surpass what was age-expected seemed to be a significant component to their understanding of giftedness which supports the study by Laine et al. (2016) who found that teachers in successful schools determined giftedness through a comparison with others.

Giftedness narrowly defined as observable achievement beyond what they would reasonably expect for the age or stage of the student was described by principals and teachers in schools where identification rates were low. For example: 'A gifted student would be a child who is not at the standard for that grade level, so a child who is reaching outcomes beyond their stage or their grade' (026b). This approach disregards the potential without some demonstrated outcome.

Schools least effective in identification placed greater emphasis on defining giftedness as achievement, rather than reference to potential or ability, a perspective which lends itself

to a more limited profile of the gifted learner. This finding is consistent with the work of Renzulli (1979, 2005) and his concept of ‘schoolhouse’ giftedness and Sternberg’s work (2003), which reinforced giftedness as demonstrated achievement, frequently measured by performance on ability tests. However, this finding is in contradiction to other studies (Gagné, 1985, 2003, 2004a, 2010; Heller, 1991), where giftedness is defined as the potential to achieve, with achievement as the product or talent. Principals and teachers in schools with little success in identification demonstrated a limited understanding of Gagné’s model (2004a, 2012), with little if any awareness of either the diversity of giftedness nor the role of catalysts enabling giftedness to emerge and develop into outstanding mastery. Hence, the limited conception of giftedness held by most of these principals and teachers does not take into account the developmental nature of giftedness that is evident in the literature (Colangelo & Davis, 2003; Pfeiffer, 2002; Sulak, 2014). Such limited conceptions are also reflected in the preferred measures of assessment for giftedness identified by schools not effective in identification, and this is discussed later in relation to EQ14.

Principals and teachers in schools with less successful records of identification defined giftedness, as observed in their own school context, as performance well above or beyond that of their years or age peers. Their conception of giftedness, primarily based on achievement, required results above age peers, and usually measured by testing. This suggests that their implicit definition of giftedness is a relative measure, linked to their school’s group norms (Richert, 2003) rather than as defined in the research literature (Gagné, 1985). A drawback of such reliance on comparative context to determine levels of achievement in defining giftedness is that, in another context, the achievement may not necessarily be considered in the gifted range. The determination of giftedness can be further prejudiced by the environmental and intrapersonal influences that may come into play, as suggested by Gagné in his Differentiated Model of Giftedness and Talent (DMGT) (2004b).

Responses from teachers and principals, from schools with little success in identification, to questions about their conceptions of giftedness were frequently vague, and limited in depth and detail, as reported in Chapter 6. This is of concern, as the Australian Senate Report on the Education of Gifted Children (2001) pointed out almost two decades ago, that vagueness surrounding a definition of ‘gifted’ leads to confusion and discrepancy. This finding aligns with an earlier study by Callahan et al. (1995), which recommended the need to adopt a clearly defined, broadened conception of giftedness, reflecting current theories. The finding from the present study suggests that a consistent, broad and inclusive conception of giftedness will better support the effective identification of gifted students. The practice of defining giftedness as demonstrated achievement could also be interpreted not so much as giftedness but more as a measure of task commitment, exhibited as the capacity to focus on a particular area for an extended period.

Giftedness being overlooked or not identified is problematic when achievement is the significant component of understanding of giftedness and would be another potential explanation for low rates of identified gifted. A number of studies reporting mis- or non-identification of giftedness also reported the limitations an achievement-based process places on identification. This finding supports the research by Bonner II et al. (2009) and Wormald et al. (2015) found that test performance was one of several key factors contributing to under-identification. It seems that a consequence of limited conceptions of giftedness may be their failure to take into account those students who are underachieving, commensurate with their abilities. If giftedness in these unsuccessful schools is only recognised in achievement, then giftedness can be reasonably expected to be hidden as unrecognised potential. This is supported in studies of gifted students with special needs by Reis and McCoach (2002) and Wormald (2009) that reported a number of factors that hampered the identification of these particular learners as gifted. Characteristics of gifted students with a learning disability

included: frustration with inability to master certain academic skill, failure to complete assignments, demonstration of poor listening and concentration skills, disorganisation, immaturity, single-mindedness, low reading ability and deficiency in tasks emphasising memory and perceptual abilities, all of which impact on achievement.

This difference in emphasis on achievement rather than potential is highly problematic when considering the learning needs of diverse learners. Students who are learners of EAL/D and students who are from LBOTE, twice-exceptional learners, indigenous or coming from culturally diverse backgrounds, for example, may be excluded in a measure that is grounded in a performance-based definition of giftedness. This finding is consistent with Rimm's (2008) research which identified a range of causes attributing to a discrepancy between ability and achievement including gaps in the curriculum, test conditions or learning disorders such as attention deficits. There exists the strong possibility that, due to the narrow achievement-based conception of giftedness they hold, principals and teachers in schools least effective in identification may be unknowingly contributing to the exclusion of a number of gifted students.

Multidimensional

The broad conception of giftedness as demonstrated by principals and teachers from schools strong in identification was also expressed in terms of the multidimensionality of giftedness which is consistent with early studies by Hollingworth (1939) and later by Marland (1972). This supports the conceptual understanding that giftedness is much broader than a narrow intelligence-based conception of giftedness. Teachers indicated that their understanding of giftedness in domains other than the cognitive domain was due to the opportunities they have to observe their young students in a diverse range of areas on a day-to-day basis, particularly in curriculum areas such as music, visual art and sport, and in other areas such as leadership. The literature supports such expanded paradigms of giftedness

beyond the intellectual and the practice of observing students in a range of contexts. This finding regarding the recognition of giftedness manifesting itself across different domains or fields is well supported by previous studies (Baum et al., 1996; Hollingworth, 1939; NAGC, 2010; Renzulli, 1978; Sternberg, 2003). The finding is further supported by Pfeiffer and Blei (2008) that the conceptions of giftedness a school holds or espouses should determine the selection of measures used to identify giftedness. It follows then that the expanded paradigms of giftedness, beyond a narrow intelligence based conception, would require the use of an expanded choice of assessments and procedures in these schools. This is addressed in EQ11 and EQ14.

The acknowledgement of the multidimensionality of giftedness by principals and teachers in schools successful in identification is an indication that their focus is not solely on the academic domains, and further evidence of their more inclusive understanding of giftedness. They appeared willing to look for and anticipate giftedness in more than one domain. The participants' attention to learning dispositions and non-cognitive domains was important to their contemporary understandings of giftedness and the gifted learner.

Schools with low identification rates did not acknowledging the various ways to be gifted. Very few participants in these schools named giftedness as existing within, as well as across, areas or domains, instead predominantly singling out examples of giftedness in the academic domains. This finding is supported by the research of Callahan et al. (1995) that reported the emphasis in the field of education in areas of giftedness has been primarily on the intellectual domain.

As their conception of giftedness was predicated on achievement, the teachers and principals in schools not strong in identification linked their conceptions to practice, and expected to see high achievement demonstrated in particular characteristics. According to teachers and principals in in schools least successful in identification, giftedness is evident

when manifested in overt gifted behaviours in domains within the school context, suggesting that giftedness in domains outside existing forms of school performance or achievement may not be recognised or taken into account. This was supported by a study by Lee (2002), which reported on ‘noticeability’ as a consistent conception of giftedness held by teachers.

‘Noticeability’ was a key element in the conception of giftedness held by teachers in low identifying schools, and a barrier to good practice. As far back as Terman’s studies (1925, 1926), there have been warnings guarding against defining giftedness solely in terms of scores on a test, albeit intelligence tests at that time, as no single measure is criteria for giftedness. With ‘noticeability’, manifested in achievement, as an essential element of their conception of giftedness, teachers in the present study may be at risk of not identifying underachieving, non-producing gifted students.

Important to this finding regarding the multidimensionality of giftedness is the theory that recognises aptitudes in the first instance, and ideally the subsequent transformation into exceptional achievements by means of variables or catalysts. This finding is relevant to the research on the factors influencing the conversion of potential into achievement by Stoeger et al. (2014) and Gagné (2004a). The implications of an achievement based, narrow definition, as shown in schools with low identification rates, is that the assessment of giftedness in domains relies on demonstrated performance such as a test score. This is supported by the work of Siegle et al. (2016) who noted in their study, that the NAGC (2010) claimed that defining giftedness in this way neglects the diversity among the gifted student population. This finding regarding the definition, coupled with the teachers’ sense of being ‘time poor’, suggests the academic-based definition of giftedness may be perceived to be an easy, simple and convenient one to apply, as opposed to an alternative multiple criteria approach inclusive of both subjective and objective measures. Frasier’s (1997) study supports this when she found the multiple criteria approach that a broadened definition of giftedness requires, is

accompanied by increased logistical demands on teachers such as increased teacher training, greater detail in scoring/grading, collection of assessment data and consistency of standards for reliability and validity of assessments. This has support and resourcing implications and is discussed in EQ11, EQ12, EQ13 and EQ14.

Importantly, there were two other inclusions in the conceptions of giftedness held by principals in successful identifying schools that were not held by teachers, namely levels and prevalence of giftedness.

Levels of Giftedness

‘Levels’ or ‘degrees’ of giftedness were reported by very few teachers, and those teachers were predominantly in schools effective in identification. Levels are terms that reflect an understanding of high ability by degrees of giftedness along a continuum, as reported in the early research by both Terman (1925, 1926) and Hollingworth (1926). In descriptions used to define giftedness, the rare times these principals and teachers spoke of levels of giftedness it was in terms of ‘highly’ gifted more so than any other levels, primarily in reference to the intellectual domain. One teacher in these schools referred to ‘highly and profoundly’ gifted. This supports the study of gifted Kindergarten children by Sankar-DeLeeuw (2004), who found that some characteristics were more commonly and easily identified than others in gifted students, and that high abilities were easily established. The study also found that teachers may not trust their judgement in identifying giftedness if characteristics are not clearly obvious and unmistakable.

This may be an explanation for the almost negligible rates of identification in schools least effective in identification. Teachers from these schools, unaware of levels of giftedness tended to divide characteristics into two discrete groups of gifted and non-gifted, and clustered the characteristics of gifted as one homogeneous group. These teachers’ lack of confidence in recognising specific characteristics of giftedness was linked to their lack of

knowledge of what constitutes giftedness, and goes somewhat to explain their reliance on test scores to inform them one way or the other. Their understandings of characteristics are discussed later in this section.

The awareness by a few participants in schools strong in identification of varying levels of giftedness signals recognition of giftedness not as one specific level of ability, but varying in degree and range. While principals had a broad and encompassing definition of giftedness and, consistent with Hollingworth's research (1926), recognised variability among those with exceptional ability, they did not use terms such as moderately, highly, exceptionally or profoundly gifted as stated in the system's policy, drawn from Gagné's model (2010). This suggests they may not be familiar with the terms used in the field to classify degrees of giftedness. Regardless, at least the acknowledgement of varying levels is an indication of a view of gifted students, not as one homogeneous group, but as a diverse range of learners within the gifted range.

Prevalence of Giftedness

An appreciation of the prevalence of giftedness signifies a heightened awareness of the number of students that could reasonably be assumed to be gifted in the school's student population. Principals and teachers could well be excused for a lack of clarity, as the research literature is unable to arrive at consensus on the issue, as shown in Terman (1925, 1926), Marland (1972), Gagné (1998, 2004b, 2010), NAGC (2010) and Renzulli's studies (1986, 1990). From a school effective in identification, one principal's acceptance of a 10% rate of prevalence reflects the school system's position and the adoption of Gagné's Differentiated Model of Giftedness and Talent (Gagné, 1985, 2004b).

Impacting the issue of prevalence, teachers remarked on the challenge of defining giftedness, especially when evidence of high or exceptional levels of achievement is absent.

However, as both Thorndike (1963) and Pirozzo (1982) found from their research conducted into gifted underachievers, it is not uncommon to have a lack of correlation between ability and achievement, and variations should be expected. About one-third of teachers from successfully identifying schools understood this as underachievement. The frustration experienced when ability continues to linger as potential and not achievement was also alluded to by principals in the context of underachievers. This frustration was recognised in Whitmore's study (1980), as teachers witnessed the discrepancy between students' significant potential and low performance. This relationship between giftedness and underachievement has continued to be a focus area in the contemporary research literature of Morisano and Shore (2010) who assert that between 15% and 50% of gifted students are achieving significantly below their identified potential. Only a small number of teachers in the case study schools identified underachievement in gifted students as a concern consistent with Gagné's (2010) study that identified that while outstanding abilities remain as potentialities there is academic underachievement. When expected outstanding performance outcomes are not forthcoming, the process of identification becomes unreliable and somewhat more perplexing for teachers. Achievement-only based conceptions of giftedness may result in gifted underachievers not being identified and, in turn, these students are not delivered appropriate educational provisions. It is understandable, then, that rates of prevalence are lowered in those schools where teachers are less trained and unlikely to look beyond evidence through high achievement. The application of prevalence assists schools to anticipate the frequency of giftedness within their student populations. It would seem, however, that the majority of teachers across the case study schools are unaware that expectations of levels of prevalence exist.

Despite the challenge of obtaining evidence in achievement particularly with underachievers, teachers and principals in schools effective in identification believed that

giftedness can still be present and identified by measures other than academic achievement, a position supported by VanTassel-Baska (2005) who reported from her research on domain specific giftedness, that due to the inadequacy of traditional measures that rely heavily on evidence of advanced development, schools are increasingly turning to non-traditional measures of giftedness to identify the full range of gifted students. An overall finding in the present study, from the analysis of the data presented in the previous chapter, was that principals and teachers of schools successful in identification held conceptions of giftedness that embraced both potential and achievement, and this differed significantly to those in least successful schools who leaned towards a more narrow achievement-based conception that potentially contributed to lower rates of prevalence.

Giftedness and Talent

There was evidence to confirm findings reported previously by Gagné (2004a) of widespread confusion surrounding the terms giftedness and talent. Two-thirds of teachers and principals from schools least effective in identification used them synonymously, as the Marland definition (1972) does. Gagné (2004b) asserts giftedness, as aptitude or potential, is a pre-requisite for talent, described as achievement or outstanding skill mastery. To confound the terms giftedness and talent indicates a lack of understanding of Gagné's DMGT (1985), where the distinction between the two concepts is defined and the catalysts for the transformation of giftedness into talent are identified. To use giftedness and talent interchangeably suggests that teachers in schools least successful in identification fail to recognise the precondition and malleability of giftedness that leads towards talent within a developmental context, as found in contemporary research (Subotnik et al., 2011). The confusion surrounding the definition of giftedness among these teachers has implications for identification. Teachers believing giftedness to be what Gagné describes as talent – outstanding achievement – will result in the non-identification of non-achieving gifted

students, and consequently the failure to provide an educational program optimally matched to the student's knowledge, skill and pace of learning.

Participants from schools successful in identification reported on the value of non-intellectual abilities such as motivation, commitment, interests and perseverance, as Kaufman and Sternberg (2008) do, in the development of giftedness into talent, whereas those in schools least effective in identification did not. The importance of educators accessing ongoing professional learning, which articulates broadened notions of giftedness, particularly those not identified by achievement measures like the ones mentioned above, requires greater consideration by these least successful schools, a position supported by Plunkett and Kronborg's (2011) who found that teachers' access to research and literature can influence and change misconceptions about giftedness. Findings indicate the importance of educators accessing ongoing professional learning, which articulates broadened notions of giftedness, particularly those not identified by achievement measures, to ensure potentially gifted students are not passed over. This is supported by the research of Baudson and Preckel (2013) and Ahmed (2009), who found a relationship between teacher knowledge and conceptions of giftedness had a direct impact on their nomination of students for gifted education programs. Giftedness as potential, as defined by schools effective in identification, and giftedness as achievement, as defined by schools least effective in identification, represents a significant disparity between the conceptions of giftedness held by schools in the current study.

Summary of Findings

FEQ6.1 Schools effective in the identification of gifted students have teachers who share an understanding of giftedness as significantly advanced potential/ability in students regardless of achievement.

FEQ6.2 Teachers' knowledge of identification is enhanced by training in gifted education that focuses on broad and inclusive conceptions of giftedness.

FEQ6.3 Teachers' knowledge and understanding of conceptions of giftedness have a positive impact on their schools' effectiveness in identifying giftedness.

FEQ6.4 Identification of advanced ability or potential in students, by teachers, is a necessary prerequisite for schools providing appropriate educational provisions for gifted students.

FEQ6.5 Schools have better rates of identification of giftedness when broad conceptions of giftedness, incorporating measures of both potential and achievement, are utilised.

FEQ6.6 Schools effective in identification are staffed by teachers who identify giftedness as significantly advanced ability that was multidimensional in nature, occurring in one or more domains of learning.

Manifestations of Giftedness

Cognitive manifestations

Principals and teachers in successful schools described a range of common characteristics of giftedness across the cognitive, behavioural and affective domains. A focus on cognitive characteristics predominated in these schools with less emphasis on behavioural and affective characteristics. In reporting cognitive characteristics, advanced thinking skills and the ability to make connections, fast pace of learning, and a sophisticated and extensive vocabulary were more frequently mentioned than other characteristics. Other concomitant cognitive characteristics mentioned less frequently included high degrees of curiosity, keen interest in learning, consistent questioning, excellent memory, advanced reader, good sense of humour, creative and notably good with numbers. To have such a comprehensive range of cognitive traits nominated by these principals and teachers reflects their broad understanding of what constitutes giftedness in the cognitive domain and is consistent with the research

literature addressing characteristics of gifted students (Davis et al., 2011; Hoh, 2008; Rogers, 1986; Silverman, 2003; Vialle & Rogers, 2009). Interestingly, specific reference to performance expressed as test scores as a characteristic of cognitive giftedness was almost negligible in data from schools effective in identification. It is likely then, that in the minds of these principals and teachers, high performance on an academic objective measure is not perceived as a more essential criterion of giftedness than other characteristics. An expanded conception of giftedness is espoused by these educators.

Leaders and teachers from schools least effective in identification made very little reference to the affective and behavioural domains. In describing how giftedness presents in students, both principals and teachers in these schools predominantly referred to a small number of recurrent characteristics limited within the cognitive domain. This finding supports the research literature that found giftedness traditionally has been interpreted to mean intellectual giftedness (Hoh, 2008). Of the cognitive characteristics observed by these participants, the most frequently mentioned were: fast pace of working and learning; ease of learning; naturally inquisitive/curious and frequently asks questions; verbally advanced; as well as high interest area(s) with an associated depth of knowledge. Some of these characteristics are stronger markers of giftedness than others, and are aligned to the differentiating developmental traits that both Rogers (1986) and Silverman (2003) revealed in their empirical studies of gifted and average students. Of particular importance is the fast pace of learning identified by teachers in schools least successful in identification, and is supported by the research of Silverman (2003), who found the rapid progression through developmental milestones, though not defining of itself, a significant characteristic of giftedness.

Behavioural manifestations

Principals and teachers from schools effective in identification also reported on behavioural characteristics as points of difference of the gifted, but much less so than their reference to cognitive characteristics. Of the few behavioural characteristics described, perseverance featured as a significant trait of motivation, and this is consistent with the literature that identifies perseverance as a behavioural characteristic of giftedness (Franks & Dolan, 1982; Renzulli, 2005; Walberg et al., 1981). Principals and teachers described perseverance in a variety of ways such as motivated, engaged, studious and conscientious. Students' high levels of motivation for, and engagement in, learning combined with other traits, was seen by participants from successful schools as characterising giftedness.

In schools least effective in identification, behavioural characteristics such as motivation, expressed as *keen to learn* and *seeking to know or do more*, were mentioned by teachers, though considerably less frequently than the cognitive traits. The identification of motivation is consistent with the findings of Davis et al. (2011), who found motivation as one of the single most recurrent traits of successful gifted individuals, and a key intrapersonal catalyst in Gagné's DMGT (2004b).

Aside from the limited inclusions above, overall there was a lack of awareness by principals and teachers in these schools of the extent of gifted characteristics. Teachers, in particular, did not present an expanded conception of giftedness in the characteristics they identified. The apparent inability of teachers in this study to recognise characteristics of giftedness beyond a limited number of indicators in the field of cognition implies there is something about the school's professional learning or teachers' training, that contributes to this gap in knowledge and understanding. Responses from teachers in schools least successful in identification identified their need to know more about giftedness and its manifestations. Their lack of training and professional learning in gifted education was found to be

problematic to identification. This finding supports the study by Gear (1978), that found training teachers in defining giftedness and characteristics of giftedness, among other topics, had a direct and positive impact on their effectiveness in identification. However, the finding is at variance with McCoach and Siegle's study (2007) which found that training does not always result in teachers having an inclusive conception of giftedness. Regardless, a review of the school's professional learning program to include revisiting conceptions and related characteristics of giftedness may play a vital and ongoing role in teachers' development in identifying giftedness.

The *standard of work produced* was also identified by principals and a number of teachers in schools least effective in identification, but remained unqualified except for a few who felt work produced was beyond other students in the class. Indicators differentiating the standard of work from bright, conscientious learners and from gifted learners were not identified. Described as such, standard of work as a characteristic is not consistent with the more widely accepted checklists of characteristics from contemporary research such as the 'Characteristics of Giftedness Scale' (Silverman, 2003) and Hoh's (2008) study on cognitive characteristics. That principals and teachers in these schools perceive this as a characteristic of giftedness indicates consistency with their conception of giftedness as achievement, rather than giftedness as ability or potential.

While not all gifted students will exhibit all descriptors from such scales mentioned above, Gagné's model (2010) proposes that, when provided the opportunity and catalysts, they can demonstrate high potential in the cognitive and/or behavioural and/or affective domain. However, except for the few traits reported above, principals and teachers in schools least successful in identification had difficulty identifying distinguishing characteristics that differentiated students with high potential, with those of their peers with average potential, and those somewhere in between. For example, as this teacher stated:

... if I have to identify a child myself as a teacher, I basically would see it in their answering questions, I'd see it in their work, I'd see it as someone who needs a bit more a push because they've got the basics already... (015d)

Teachers' inability to identify a range of characteristics of the gifted may also be attributed to their uncertainty of the difference between what they described as hard-working bright students, and gifted students. Analysis of the interview data revealed almost one third of teachers expressed their lack of clarity on this issue, and their tendency to refer to gifted students as one set. One explanation for this may be a lack of understanding on the teachers' part of the widely researched view consistent with the work of Gagne (2010), Gross (2009) and Jung, Barnett, Gross and McCormick (2011) that intellectual giftedness occurs in degrees or levels, usually relying on either IQ scores or above level test scores, or both, on which the levels are based.

Apart from those previously reported, responses from teachers in schools least effective in identification to questions of characteristics were vague and non-descriptive, or identified characteristics equally applicable to learners in the mainstream classroom. This finding supports Valpied's research (2005) that found teachers had a lack of understanding of the range of characteristics of giftedness, ultimately resulting in gifted students not being identified. An example of the inability to specify characteristics is evident here: 'Oh, I don't know - maybe they seem ... older than their years. Gee, I don't know. Maybe they just stand out - they just stand out' (04f). Plunkett and Harvey (1995) also found that specialised training in gifted education led teachers to be more consistently confident in their ability to identify characteristics of gifted students. Teachers in schools that were less successful in identification may need support through professional learning to develop their explicit knowledge of the multiple manifestations of giftedness that can be observed.

Affective manifestations

While very few affective characteristics were mentioned by principals and teachers in schools effective in identification, a preference for like-minded peers, older students or adults was the most frequently noted, and a characteristic consistent with studies in the literature. For example, Gross (2004a), in her studies of gifted students, found that gifted students exhibited a preference for the companionship of those chronologically older. Seeking the opportunity to be grouped with those of similar ability was also a finding from Silverman's (2003) study, involving a synthesis of her research of gifted students over 30 years. Teachers in successful schools noted reasons for this preference for like-ability grouping, including a lack of interest in what age peers are interested in, not feeling socially accepted by age peers, and the desire to be with others who think in a similar way.

Underachievement

Of note was principals' and teachers' from successful schools heightened awareness of characteristics signalling underachievement in the gifted, specifically when they are disengaged in learning, or exhibiting behaviours more consistent with the abilities of their age peers, rather than their giftedness. This finding is consistent with the 'Inquiry into the Education of Gifted and Talented Students', a recent inquiry by the Victorian Government (Parliament of Victoria, 2012) that found gifted students, while they may be performing well, have the capacity to work at much higher levels than they are currently being expected to in schools. Principals and teachers in schools effective in identification explained these as characteristics of gifted students trying to 'blend in' and not appearing to be different. However, the state inquiry finding suggests that schools are failing to provide the necessary rigour and challenge for gifted students to be achieving near to their potential. Unlike the teachers in an Australian study by Valpied (2005), who, owing to their misinterpretation of characteristics related to giftedness, had students overlooked or excluded from being

identified, the principals and teachers from schools effective in identification in the current study seemed to recognise and understand less desirable, even negative, characteristics of giftedness. This may suggest a more open response on their part to the various manifestations of giftedness.

Analysis of the interview data showed principals and teachers in successful schools were candid in their observations that negative behaviours of giftedness, leading to underachievement, were attributed to the inadequacy of the educational program in meeting the ability of these learners. This finding is consistent with those of previous studies (McCoach & Siegle, 2003; Valpied, 2005) that identified where the educational environment falls short in providing adequate support for the gifted learner. For example, McCoach and Siegle (2003) found that unless gifted students see value in the work or outcomes of their education, they will not perceive any benefits to school, and will lack motivation to demonstrate behaviours showing them at their best. Similarly, Valpied's (2005) study found teachers' reluctance and uncertainty to recognise or confirm gifted characteristics resulted in an inadequate educational provision for gifted students. Valpied's findings, suggesting consideration towards the value of time saved by not having to deal with negative behaviours when an educational program was matched to needs, might be useful for principals and teachers in the present study.

Principals and teachers from schools effective in identification, consistent with studies in the field of giftedness, from as early as Cox (1926) through to contemporary times (Silverman, 2009), identified characteristics of boredom, disengagement, disinterest, lacking in motivation and disruptive behaviour as examples of negative behaviours, and offered as reasons for poor performance or underachievement of the gifted. This finding is supported by the research of the NAGC (2010), which found motivational and emotional issues are barriers to achievement, recommending, as the successful schools in this study have indicated

already, a focus on aptitude rather than achievement in such cases. That both positive and negative characteristics were manifestations of giftedness appeared to be readily accepted by principals and teachers in effective schools, and aligned to the research by Betts and Niehart (1988), that is synthesised in their profiles of the gifted and talented. The understanding, by principals and teachers, of the opposing traits of giftedness may enhance these educators' effectiveness in recognising giftedness across a range of learners in a variety of contexts.

Teachers in schools least effective in identification gave considerably more focus to negative or undesirable traits of giftedness, rather than positive characteristics. Principals from these schools, however, who only referenced positive characteristics and strengths of giftedness, did not share this position. Poor performance, evidenced in presenting work either below class standard or what could be reasonably expected, was one example noted by teachers. This may be explained by the research of Silverman (2013), who found gifted underachievers can resent the expectations of performance in areas that hold no interest for them. Teachers in schools less effective in identification also made frequent reference to behaviour problems such as acting out in class, misbehaving, distracted or not engaged, and behaviours reflecting boredom. Anti-social behaviours, such as being uncooperative and trouble 'fitting in' were also cited, but less so. This is supported by a study by Neihart (1999), demonstrating when gifted students are achieving, and their educational needs are being met, they are no more at risk of social/emotional problems than their 'non-gifted' peers. Her study established that gifted students' psychological well-being was influenced positively or negatively by three intersecting factors: the type of giftedness; the educational fit; and one's personal characteristics. This would suggest that, if teachers in these schools are evaluating giftedness on the observations of negative traits, a review of the educational provision and achievement experienced by these gifted students may be necessary to influence the emergence and recognition of more positive characteristics.

The consideration towards negative characteristics of giftedness over positive ones in the responses from teachers in schools least successful in identification would be an influencing factor in their identification of giftedness. This finding is supported by a study by Copenhaver and McIntyre (1992) of teachers' perceptions of gifted students, who found negative characteristics were listed most by primary teachers with no training in gifted education. As schools are based on group norms, negative characteristics may not be recognised by teachers as a manifestation of frustration, a position also supported by Copenhaver and McIntyre (1992). Rather, these students may not be well received in classrooms and their behaviour be misconstrued by teachers as being incongruous with giftedness, and consequently inhibiting their identification. It could be suggested that, by focussing on the negative behaviours, and by inference shifting attention away from characteristics of giftedness, teachers may feel released of the responsibility to identify the gifted during these early years of school education.

The findings support an earlier research study into indicators of giftedness identified by trained and untrained teachers in gifted education (Endepohls-Ulpe & Ruf, 2006), that claim: an emphasis on cognitive characteristics; frequent mention of perseverance as an aspect of motivation; and a minor focus on behavioural characteristics, impact on identification. In the case of schools least effective in identification, a focus more on negative behaviours than positive occurred.

Summary of Findings

FEQ6.7 Schools effective in identification comprise principals and teachers who identify a range of traits and characteristics of giftedness from across cognitive, behavioural and affective domains.

FEQ6.8 Ongoing training and professional learning in gifted education leads to broadened conceptions of giftedness, and improvement in the ability of teachers to accurately recognise characteristics of giftedness.

FEQ6.9 An awareness by principals and teachers of diversity in the levels and domains of giftedness contributes to effectiveness of identification of giftedness.

FEQ6.10 Schools' effectiveness in identification is strengthened by principals and teachers recognising characteristics of underachievement in gifted students, including the occurrence of seemingly contradictory traits of giftedness.

7.4 EQ7 Attitudes of Teachers and Principals towards the Gifted

EQ7: Are teacher and principal attitudes towards the gifted, and the flow-on effect on identification, different in schools successful and not successful in high giftedness recognition?

The findings from survey data show that least successful schools differed from their colleagues in schools successful in identification, and from the broader cohort of their diocesan colleagues, reporting less positive attitudes and higher frequency of negative attitudes towards the gifted and their education. While the difference in frequency of positive attitudes between successful schools and least successful schools was marginal (9% difference), the difference in frequency of negative attitudes between least successful schools (24%) and successful schools (11%) was notable.

Although a greater percentage of principals and teachers from schools effective in identification reported positive attitudes towards the gifted and their education than their colleagues in ineffective schools, the figure remained low at only slightly over a third of respondents. Interestingly, levels of ambivalence towards the gifted was consistent across

schools successful in identification, least successful schools and the broader system context. This finding suggests that higher levels of negative attitudes, as found in the least effective schools, impacts detrimentally on identification more so than low to moderate levels of ambivalent or positive attitudes. Research by Pfeiffer and Blei (2008) on alternative gifted assessment models to the traditional intelligence test endorses the finding that the identification by teachers is directly related to their attitudes towards giftedness. It is perhaps not surprising then, that where higher levels of negative attitudes existed within least effective schools, lower rates of identification were present. Conversely, the higher levels of positive attitudes found in schools effective in identification accompanied higher rates of identification, a finding supported by the research literature that a necessary pre-requisite for effective identification were positive attitudes towards the gifted (Haight, 2006; Plunkett, 2000). Also of interest was the finding that principals in effective and less effective schools had a more positive attitude towards gifted education and gifted students than their teacher colleagues, which suggests that there were additional contributing factors influencing the effectiveness of identification other than the attitudes of the principal.

Attitudinal differences between successful and less successful schools in terms of school priorities for identification were identified. First, identification to determine the needs of all students, inclusive of gifted students, was consistently reiterated by respondents from schools effective in identification. The principals observed the importance their teachers placed on knowing the learning needs of all their students. This was dissimilar to schools least successful in identification of giftedness who positioned the identification of EAL/D students, students from LBOTE and students with learning difficulties as the priority. While principals from these schools value gifted education, other pressing agenda has meant they are not able to successfully attend to gifted education, though some respondents from these schools felt they should be. The finding regarding competing agendas was reflected in the

broader research literature addressing principal attitudes as shown in the findings of Begin and Gagne (1994b) and Sternberg (2010) who reported ambivalent attitudes held by principals towards the needs of gifted students as they prioritised students with learning difficulties requiring special provisions.

Second, the willingness of teachers from successful schools to identify, even when the manifestations of giftedness in students were not easily recognisable, was at variance to the teachers from not successful in identification. Teachers in these latter schools appeared to find the process almost too challenging, and consequently were reluctant to identify, inhibiting the frequency of referrals. As expected, and consistent with research by Mandelman et al. (2010), identification models in schools effective and not effective in identification hinged greatly on teachers to inform the process. The somewhat negative/ambivalent personal attitudes of teachers in least successful schools, more so than their colleagues in successful schools, appears to affect their views of, and practices towards, giftedness and its identification. Last, teachers in successful schools were committed to the process of identification, seeing it as their responsibility in ascertaining the needs of gifted students leading to the provision of a more appropriate educational program for these learners.

Summary of Findings

FEQ7.1 Lower rates of identification of giftedness in schools seem to be related to negative attitudes of teachers and principals towards the gifted and their education.

FEQ7.2 Positive attitudes of principals towards the gifted and their education do not necessarily result in effective identification of giftedness in schools.

FEQ7.3 Schools effective in identification of giftedness in students have teachers who adopt a broad rationale for the identification of student needs inclusive of a diverse range of learners.

FEQ7.4 Identification of giftedness is more likely to occur when teachers regard their involvement in the process as part of their role and responsibility.

7.5 EQ8 Attitudes of Principals and Teachers – Towards the Identification of Gifted Students

EQ8: What are the reasons for ambivalent/negative attitudes of teachers and principals towards the gifted and their education, yet positive attitudes towards the identification of the gifted?

As previously stated in Chapter 6, the findings of the study reported around two-thirds of principals and teachers from schools successful (61%) and schools not successful in identification (69%) held ambivalent or negative attitudes towards gifted students and their education. As though in contradiction, however, almost all principals and teachers in these same schools agreed that programs for the identification of giftedness in students should be implemented. Notably more respondents from schools successful in identification (39%) indicated positive attitudes to both the gifted and gifted education, and the identification of giftedness, than from those schools not effective in identification (27%).

Despite positive attitudes occurring among a large minority of teachers within schools successful in identification, identification practices occurred and resulted in expected rates of identified giftedness as defined in the research literature (Gagné, 2004b). The more positive attitudes of principals in schools successful in identification compared to their principal colleagues in schools not so successful may have been a factor facilitating and supporting the identification practices in these schools. By comparison, schools least effective in identification reported less positive attitudes than their colleagues in effective schools, and a context where identified giftedness was in effect non-existent. Negative attitudes from two principals of schools least successful in identification may have been an inhibiting factor

affecting teachers. However, closer analysis has revealed three conditions the teachers observed that may offer an explanation as to the incongruity between their ambivalent/negative attitudes towards the gifted and gifted education, yet seemingly positive attitudes towards the identification of giftedness, despite having almost no gifted students identified. These factors came primarily from schools ineffective in identification and were perceived by their teachers to be consequences of identification, rather than a part of the identification process per se. They included fear of creating additional workload, time constraints and teachers' lack of knowledge and expertise in differentiation. Interestingly, two findings emerged from the 2001 Australian Senate Inquiry into Gifted Education (Senate Employment, Workplace Relations, Small Business and Education References Committee, 2001) more than 15 years ago: that teachers lacked knowledge and understanding of the means by which to identify gifted students, and the expertise to be able to meet the needs of these learners. A more recent Australian research study by Taylor (2016) included an investigation of issues faced by primary teachers in providing for gifted students. Consistent with the present study, the Taylor (2016) research study found the majority of teachers experienced a lack of time to plan for effective provisions for gifted students, and felt that such activity placed additional pressures on their already extensive workload. Perhaps compounding the issue, the competing priority to provide for students with learning difficulties, students from LBOTE and EAL/D students as a finding identified in the previous section of the present study may also be negatively influencing teachers' attitudes towards gifted students and the planning of educational programs for them.

Teachers in schools less successful in identification, while supportive of identification of giftedness, were reluctant to engage in the processes, knowing the consequences that would accompany a successful identification. Additional workload due to the expectation to program the educational interventions for gifted students, the impact of this workload when

many already perceived themselves to be time-poor, and the challenge that differentiating the curriculum to cater for gifted learners posed were emphasised by teachers. It is apparent that these issues impact negatively on teachers' attitudes towards the gifted, and teachers' motivation to provide for the education of the gifted.

Summary of Findings

FEQ8.1 Teachers' perception, that identification of gifted students leads to increased workload due to the additional differentiated programming required, is a deterrent to teachers' engagement in identification.

FEQ8.2 Schools have lower rates of identification of giftedness when priority is given to the identification of, and provision for, students with additional needs, in preference to gifted students.

7.6 EQ9 Teachers and the Identification Process

EQ9: What are the reasons identification is such an unfamiliar phenomenon for K-2 teachers?

Analysis of the diocesan data from Phase One has already revealed that the experience of K-2 teachers in the identification of gifted students was at best limited, and non-existent for the majority of system teachers of the early years. Upon closer analysis of schools successful and unsuccessful in identification, there are noteworthy differences in experiences of identification.

The team approach to identification adopted by schools successful in identification, where those with relevant knowledge and skills in gifted education including identification, supported and imbued confidence in teachers throughout the processes. Analysis of interview data indicated teachers in schools successful in identification viewed the responsibility for identifying giftedness in students as the shared responsibility of all teachers, and not the

delegated role of a few. However, as far as direct involvement in identification, not all teachers of the early years were routinely engaged in the processes, as ‘specialists’ supported them in this regard, a position supported by Endepohls-Ulpe and Ruf (2006) and Speirs Neumeister, Adams, Pierce, Cassady and Dixon (2007) who suggest that teachers’ ability to identify giftedness is reliant upon a solid knowledge base about gifted education. While teachers K-2 in schools successful in identification may not have been sufficiently knowledgeable in this regard, they had access to colleagues who were. The expected prevalence of identified gifted in schools successful in identification would suggest that the collaborative team approach was effective, and sustained identification practices within the school by utilising the strengths of members, especially the possession of a sound knowledge and understanding of giftedness.

Teachers of the early years in successful schools overall possessed a general understanding of the school’s processes and tools for identification, and the tentativeness of some to identify seemed to be offset by their confidence in accessing support. There is an inherent risk, however, that if their lack of direct involvement continued for an extended time, teachers’ knowledge and confidence to be involved may decrease.

Conversely, the absence of established school-wide practices and within-school support for identifying giftedness in students caused teachers in schools not strong in identification to feel ill-equipped or, in some instances, largely oblivious to effective processes for gifted identification. While teachers were not directly involved, those teachers who were alert to their role in referral were unsure who they would access to begin the process. A lack of consistency in processes was clearly evident, with the responsibility for any kind of referral or identification resting with individual teachers.

Teachers are key agents in identification (Tirri, 2017), but with a lack of training in gifted education, as well as narrow conceptions of giftedness (to be discussed later in this

section), teachers in schools lower in their identification success rate are likely to be unwilling to be involved in identifying gifted students. The importance of knowledge as a pre-requisite for effective identification is reinforced by Baudson and Preckel's study (2016) investigating teachers' conceptions of giftedness. Their study found teachers' engagement with identification is influenced by the conceptions of giftedness teachers hold, thereby making the acquisition of knowledge about giftedness highly relevant to successful identification. Additionally, the absence of within-school support and established shared school-wide practices, occasioning the responsibility for identification to fall on individual teachers, may be sufficient reasons for teachers of the early years to be deterred from identifying gifted learners.

Summary of Findings

FEQ9.1 Schools effective in identification have a consistent school-wide approach to identification and are comprised of teachers with a sound knowledge of the school's identification practices and share the responsibility for their implementation.

7.7 EQ10 Influence of Attitudes, Training and Experience on Prevalence

EQ10: Is there a link between teacher attitudes, training, and experiences in identification and rates of identification of giftedness?

Findings from the schools successful in identification were consistent with findings from the diocesan data (see F3.4 and F3.5). In successful schools, higher levels of training tended to be linked with more positive attitudes, involvement in the identification of gifted students and their higher rates of identification. This supports the recommendations of two Australian Senate Inquiries (1988; 2001) into the education of the gifted dating back 30 years, identifying teacher training as necessary to improve teachers' ability to identify.

Lassig's study (2009) of Australian primary schools also found a link between teacher training in gifted education and more positive attitudes towards the gifted and their education. Almost to the contrary, however, higher levels of training in schools with a less successful record of identification tended to be linked more with ambivalent attitudes, and very low rates of identification. For that reason, high levels of training alone do not necessarily translate to positive attitudes and effective identification.

Nevertheless, in both schools successful and unsuccessful in identification, it followed that as training levels decreased, ambivalent and negative attitudes rose, and the likelihood of direct involvement in identification dwindled. Therefore, for those teachers not involved in identification, a lack of knowledge and training in gifted education is likely to be an influencing factor. Given that most teachers in primary schools have had, at best, minimal training in gifted education, and that gifted students spend most of each day in the regular classroom with these teachers, it is perhaps plausible that many remain unidentified. The findings of a recent study by Baudson and Preckel (2016) into teachers' conceptions of giftedness, and another by Plunkett and Kronborg (2011) investigating teachers' misconceptions, may offer an explanation for these declining attitudes. Both studies established a relationship between knowledge and attitudes, particularly where attitudes of bias and prejudice are evident when teachers have been inadequately trained in characteristics and manifestations of giftedness. As teachers are the main avenue in the school context by which gifted students are identified, teachers' ongoing training and professional learning is essential in order for them to undertake accurate identification. Interestingly, while personal experience of giftedness did not appear to directly link with more positive attitudes towards the gifted, neither did it appear to impact teachers' direct involvement in identification.

Despite very few teachers having higher levels of training, there was a willingness in schools effective in identification to investigate the possibility of giftedness, and even be

proved wrong, than to run the risk of non-identification of a gifted student. It seems that the influence of teacher attitudes is a contributing factor in the effectiveness of identification in these successful schools. This finding is consistent with a study by Plunkett (2000) who found explicit training was recognised as essential for eliciting more informed attitudes from teachers and, as Weber (1999) found in her study, attitudes towards giftedness influences teachers' willingness to identify.

Identification in schools successful in identification seemed to have influenced a greater sense of ownership and responsibility from the teachers within these schools. Many teachers in these schools perceived it as their personal responsibility to inform the identification process, with or without personal experience of giftedness or their own explicit involvement. This finding suggests that there were other factors at play within the school to explain teachers' positive attitudes and the expected rates of identification of giftedness. These factors are discussed in the following sections.

Summary of Findings

FEQ10.1 The less training teachers undertake in gifted education the more likely they will hold ambivalent or negative attitudes and not be involved in identification of giftedness.

7.8 EQ11 Influence of Approaches and Practices on Identification

EQ11: What are the links, if any, between the schools' approach to identification and range of practices in use, and effective identification?

The findings in this study, with regard to nominated practices for identification, indicate some ambiguities between what was reported through the survey in schools not strong in identification, and the practices named as part of the interview process. In these

schools, the respondents' selection of their school's identification practices from 23 options provided in the survey was far greater than practices identified through interview. The interview provided a more considered response of the actual practices in place, over the ease of a checklist of practices within the survey. This finding could suggest that while participants may have considered a variety of processes were being utilised, that number was greatly reduced upon closer consideration at interview.

Approaches

The analysis of documents and interview data revealed two factors within schools' approach to identification that differentiated schools successful in identification and schools who were not: policy and leadership in identification. Analysis showed that schools effective in identification had developed policies within the previous three to six years. These had been implemented and remained operational since their development and were current at the time this study was being undertaken. All schools with a less successful record of identification had undertaken policy revisions, within a year or two prior to the study, as previous policies were out-of-date and/or inactive. This suggests that prior to the latest review, teachers in these schools did not have access to policy or procedural support for the identification of giftedness in students. This confirms the importance of an established, active gifted education policy to support implementation, a finding consistent with a recent Australian study by Long et al. (2015). Their study found that, among other factors, variations in policy implementation across schools were influenced by the length of time a gifted education program had existed in a school.

Leadership in gifted education was distinctly different in schools successful in identification compared with those who were not successful. The appointment of a qualified, part-time person specifically dedicated to gifted education was a position created by two principals of successful schools, funded from school budgets. In the remaining successful

schools, the principal, formally qualified in gifted education and with a strong personal interest for the field, assumed the role of leading gifted education. The creation of, and funding for, these positions, along with the ongoing professional learning in gifted education provided by the schools, indicates the priority and direction given to gifted education by the principals of schools successful in identification. This is also supported by the Long et al. study (2015), which found the influence a principal committed to gifted education has, arising out of their own knowledge and attitudes, on the provision of resourcing and support for effective implementation.

Teachers in schools effective in identification observed a shift towards more positive attitudes within the school and aligned this with the priority given to gifted education. In least effective schools, on the other hand, gifted education was delegated to a current member of staff already with a teaching load and other areas of accountability. Analysis of interview data showed gifted education was not an area of priority, but rather one of many competing areas of responsibility within their role. Leadership in gifted education within both schools effective in identification and those who are not will be discussed in greater detail under the section EQ12 Leading Identification.

Practices

The specific mention of at least five identification practices commonly used across schools successful in identification would suggest a comparable and seemingly consistent approach to identification existed across these three schools. These practices embraced issues such as the timing of, and measures for, identification. That these practices were nominated by both principals and teachers in all three schools would suggest that they were well known, regularly implemented, and encompassed a broader assessment of giftedness, likely contributing to the expected rates of identification established in these schools. By comparison, principals and teachers nominated just one practice common to all schools not

strong in identification, though some degree of agreement was reached on two other practices. This suggests a limited assessment of giftedness was operating in these schools, contrary to Tannenbaum's (2003), finding that an identification program should be flexible and broad enough so as not to miss any possible gifted student with outstanding potential. This is also supported by another study by Brown et al. (2005) who found that an identification program needs to be flexible and defensible, and include multiple sources of evidence. It is not unexpected, then, that the consistent use of multiple measures of assessment of giftedness in schools successful in identification in the current study resulted in more effective identification than from the limited measures used in those least successful in identification.

Assessment of giftedness in students within schools most effective and least effective in identification is discussed in greater detail in EQ14 Measuring Giftedness.

Summary of Findings

FEQ11.1 Schools effective in identification of giftedness in students have an operational gifted education policy inclusive of practices for identification, supported by ongoing professional learning.

FEQ11.2 Policy is important in providing direction to teachers involved in the identification of gifted students.

FEQ11.3 Schools effective in identification use a range of practices primarily focused on both the timing and measurement of identification that are readily available and easily implemented by teachers.

7.9 EQ12 Leading Identification

EQ12: Where identification is effectively occurring, who takes responsibility for identification in the school, and what are some processes that make it successful?

The system of schools, within which the case study schools function, has a policy for the education of gifted students, which takes as its definition of giftedness Gagné's Differentiated Model of Giftedness and Talent. Guidelines and recommendations are included in the policy. However, actual processes and measures for identification of giftedness in schools successful and not successful in identification was dependent upon the individual school's discretion regarding this policy. This has resulted in inconsistent approaches in identification across the school sites. One example is the provision of explicit leadership in gifted education within the school context. As reported previously in Chapter 6, a feature of schools successful in identification was the appointment of specialised 'drivers' with expertise in gifted education. This was a distinguishing point of difference between these schools, and schools less successful in identification where the 'driver' of gifted education in the latter schools held the role as a small component of a much broader portfolio of responsibilities including a teaching load.

A link can be established between principals' attitudes towards identification and the subsequent priority they give to the process within their schools. The position of the driver in successful identifying schools was resourced by the school, a staffing decision made by the principal. For these schools, the issue was not the allocation of resources based on an either/or model, but rather a model responsive to the needs of all learners inclusive of gifted learners. This priority, emerging from the analysis of the data, was the rationale and motivation behind the allocation for gifted education. However, it is also likely that principals of successful schools, aware of the school system policy for gifted education, used this as the impetus for decision making to ensure implementation. This finding supports a recent study

by Warne and Price (2016) on the impact of policy on accountability and rates of identified giftedness, that found principals' attitudes and subsequent decisions towards identification were directly influenced by the presence of accountability measures. The almost non-mandatory nature of the system policy within this study, due in part to the absence of system accountability measures, seems to have resulted in a somewhat limited policy implementation. As in schools successful in identification, the application of the system policy within the school context relied a great deal on the motivation and volition of principals and individual teachers of gifted education. To teachers and principals in schools less successful in identification, however, the needs of diverse learners was also of importance, with most believing the schools' priorities lay first and foremost with special needs students and students of EAL/D and LBOTE. As a consequence, the principals appeared not overly focused on the school's level of compliance with the system policy for gifted education. The apparent lack of accountability measures in these schools, such as principal oversight to ensure adherence to the system's gifted education policy, may have directly contributed to fewer students being identified. This is consistent with findings in the Warne and Price study (2016) when accountability measures were absent. Accordingly, gifted education was not as great a priority in schools unsuccessful in identification as in successful schools, and was subsumed within the role of a diverse learning needs coordinator accountable for multiple areas of responsibility.

For teachers in schools effective in identification, the impact of the 'driver' on identification of giftedness was significant. Drivers proactively supported teachers, working collaboratively with them from the outset of the identification process, through professional conversations and team meetings as well as assisting with the administration of assessments for identification. Principals and teachers from successful schools acknowledged the impact of 'drivers' on the developing competence and confidence of teachers, and the strengthening

of a school-wide approach to identification. This is consistent with the research by Hedrick and Tomlinson (2008) which found that the trained gifted education teacher has a key influence on teacher referral rates, as evidenced in the present study.

The expertise of drivers was also demonstrated in their facilitation of targeted professional learning opportunities for teachers. Teacher-held myths and misconceptions about giftedness, an issue referred to in the research literature as impeding identification (Baudson & Preckel, 2013; Gallagher, 2007; Senate Employment, Workplace Relations, Small Business and Education References Committee, 2001), seemed to be assuaged through the work of the driver in schools effective in identification. The perception from some teachers was that the role of the 'driver' contributed to an equitable approach towards identification of learning needs of all students, evident in the support provided by personnel, school structures and processes. The driver was also supported by a school-wide team approach, which typified the practice of identification within schools successful in identification. While the membership varied according to each school the team often met to discuss initial referrals from teachers, and decide the next steps to take.

The disparity in expertise of the 'driver' between schools effective in identification and those who were not was a point of differentiation, and directly impacted the effectiveness of identification in these schools. Ambiguities stemming from a lack of clarity and direction for identification in schools not identifying as well as the other group was attributed to the absence of an 'expert' in gifted education. This was despite two of three 'drivers' in these schools rating their knowledge in identification as adequate or above. Notwithstanding the delegated responsibility of gifted education to a specific person on staff, analysis of interview data revealed wide spread confusion within schools not successful in identification as to the process of identification, and an uncertainty as to where assistance could be accessed. It seems the 'driver' in these schools was not perceived to be an obvious expert by teachers.

The exception was in one school (015) during the 18 months the AP was at the school.

Largely untrained in identification, the AP introduced minor strategies to assist teachers with the process, and accessed the system gifted education officer for further assistance.

Regardless, this school, along with the other two case study schools not strong in identification and with no trained dedicated driver in gifted education, continued to have very low rates of identified gifted. This finding is consistent with an earlier study by Hedrick and Tomlinson (2008) investigating the impact of a gifted education specialist in the primary school. One significant finding of the study was that schools without a gifted education specialist had lower identification rates than similar schools with a trained specialist leading gifted education in the school. This emphasises the important influence teachers can have in lessening the gap between theory and practice in identification when they possess a depth of knowledge and understanding in gifted education. A later study by Newton (2010) also endorses these findings and those of the current study, advocating the need for a teachers to have a solid knowledge base in identification for the establishment of effective identification processes, thereby placing schools in a better position to respond to the needs of gifted students.

As processes for identification were not well defined in any school less successful in identification, involvement by teachers tended to begin and cease once their referrals were made, and accountability measures did not appear to be in place to monitor the process. Limited professional learning in identification provided in these schools meant that teachers' competences in the processes remained at low levels.

Summary of Findings

FEQ12.1 The effectiveness of identification tends to be higher when there is a qualified person driving the gifted education agenda in the school.

FEQ12.2 Identification was more likely to be effective or at least occurring in schools where the person leading gifted education was adequately trained.

FEQ12.3 A system gifted education policy that offers clear guidelines and accountabilities for the identification of giftedness can influence the effectiveness of identification practices in schools.

7.10 EQ13 Early Identification

EQ13: What underpins and supports early identification in schools?

Advocating the early identification of giftedness, using enrolment processes, and frequency of identification particularly continuing throughout the first year of school seemed to maximise opportunities in effective schools to identify. This approach to identify early and often is supported by the research literature (Callahan, 2005; Pfeiffer & Blei, 2008). The widely held acceptance of early identification by schools successful in identification teachers and principals was backed up by practices. Effective schools tended to use subjective measures such as information from previous settings, observations, teacher checklists and work samples to build a profile of students prior to the use of objective measures such as standardised tests. Understood by principals and teachers as an ongoing process, neither cut-off times nor cut-off scores were indicated practices.

Ambiguity about the timing of identification may have contributed to ineffectiveness of identification in schools with low identification rates. Numerous teachers made reference to the lack of clarity around the practices, and approach to, identification. While some are aware that a process reportedly exists, they were not aware of the details. Many teachers from these schools supported early identification though uncertainty emerged as to what 'early' meant. Analysis of comments within the interview data also showed that opinions were

divided about when to start the process. Enrolment time and through the first year of school (Kindergarten) was posed as an appropriate time only by some. This finding is consistent with the diocesan data where identification was not a consistent practice within the enrolment process in schools (see Chapter 4: Timing). While enrolment and school entry was seen by some in low-identifying schools to be ideal, and is consistent with the literature research supporting early identification (Callahan, 2005; Pfeiffer & Blei, 2008; Robinson, 1993; Silverman, 2009), comments from other participants revealed concerns about the ability to identify giftedness in students so young. Hence, opposing views also emerged for identification to be later than Kindergarten contending very young children may lack proficiencies to be able to demonstrate their abilities, and that giftedness in older children was more easily recognisable. This latter position is contrary to recent research by McGowan et al. (2016), who found that, based on grade level comparisons, identification of gifted students was less difficult in earlier year levels. Regardless, most teachers in schools less successful in identification are not directly involved in the identification process in their school, and the unwillingness of their principals to commit to an opinion as to when to identify may also have influenced teachers' attitudes and contributed to inconsistencies around early identification.

Early identification in schools not strong in identification rests solely with teacher discretion. Only one of these schools provided an 'identification pack' for teachers at the beginning of the school year. However, the interview data indicates teachers rarely use it, and the gifted reference teacher carries out no follow-up. Acknowledging that formal tools and measures available for use with very young children are limited, the findings from the current study suggest that teachers are reluctant to trust their own skills, knowledge or judgements using school-based measures for identification. This position is partially supported by Callahan et al. (1995) who also suggest that early and ongoing identification aids the

recognition of giftedness in its multiple manifestations, and minimises mis-identification or non-identification of high ability students.

In case study schools that were less successful in identification, a lack of alignment exists between the processes the principals believe are in place for identification in their school, and what in practice actually occurs. Those individuals who felt the identification process was improving and was known by teachers were in positions of leadership within their school. This finding could suggest that they were either unaware of the teachers' lack of knowledge and/or confidence in the school's approach to identification, or that they were aware but to reveal teachers' inadequacies may reflect poorly on the school, or perhaps on themselves as leaders.

The findings in this research suggests that teachers in schools not strong in identification, due to an insufficient understanding of the manifestations of giftedness in young children and the measures to determine them, avoid practices for early identification.

Summary of Findings

FEQ13.1 Identification as an ongoing process, beginning at the onset of enrolment processes and continuing throughout the first few years of school education, contributes to the successful identification of giftedness in students.

FEQ13.2 Clear, purposeful and specific practices of identification, inclusive of subjective and objective measures, are factors contributing to consistent and effective identification of giftedness.

7.11 EQ14 Measuring Giftedness

EQ14 What tools and measures are being utilised by schools effective in identification, and what differentiates these from assessments used by those schools that were less successful in identification?

Endeavouring to capture potential across the academic domain by the consistent use of a range of identification practices was characteristic of schools effective in identification. These schools used multiple sources such as the use of standardised testing, engaging the expertise of the person responsible for gifted education, parent engagement in the process of identification, teacher nomination, student assessments and work samples, information from previous settings, and conversations with the student themselves. As students can display giftedness in various ways, this multiple measure approach would seem a more authentic means to broaden the identification process to capture those students otherwise not identified. These findings are consistent with the research literature that found approaches to identification have advanced to a combination of multiple measures to mitigate against the possible exclusion of gifted students not identified by a single measure test (Brown et al., 2005; Pfeiffer, 2003).

Analysis of the data showed that teachers in schools effective in identification used a combination of objective and subjective measures frequently and simultaneously. This practice is strongly supported by the research of Pfeiffer and Blei (2008), investigating the use of measures of giftedness beyond the traditional IQ test.

Objective measures and subjective measures support each other by providing additional data for the students' profiles, rather than basing identification on a single measure. This practice is strongly supported by the findings of a recent meta-analytic review of performance and non-performance gifted identification methods by Acar, Sen, and Cayirdag (2016). This study found that performance methods, such as IQ tests and tests of aptitude and achievement, and non-performance methods, such as rating scales, and parent and teacher nominations, are effective when used concurrently to extend the group of students with identified giftedness. The research of Acar et al. (2016) also found that

identification was less accurate when only objective or only subjective measures were used. In the current study, the repeated use of nominations in the form of checklists or rating scales, as well as input from parents and previous educational settings provided further evidence for identification when combined with testing. This practice of integrating objective and subjective measures supports the research literature into issues adversely impacting gifted education programs, that accuracy in identification is increased when multiple measures are used, and sole reliance on a single test score is eliminated (Pfeiffer, 2002).

Utilising teacher nomination for identification suggests a degree of confidence in teachers of successful schools in their ability to undertake this process, lending support to the benefits of their training in the characteristics of giftedness. This is consistent with research findings by Borland and Wright (1994), whose earlier study found that teachers were more likely to nominate students when those teachers were trained in gifted education. Interestingly, principals in schools effective in identification, who collectively relied more upon a combination of testing and the involvement of parents, did not identify the practice of teacher nomination. The somewhat regular practice of using information about the students from previous settings indicates a willingness by teachers in successful schools to delve more deeply to better understand these gifted learners. As already established, recognition of giftedness as potential, regardless of achievement, by schools effective in identification was a significant understanding. Such was the awareness of these principals, issues of underachievement in those gifted students where potential is not recognised nor realised was particularly noted by them. Cognisance of ability not matching performance would incline these leaders to look to processes of identification that safeguard such students from being overlooked.

Poorly defined conceptions of giftedness may have had a flow-on effect and contributed to the lack of clarity and inconsistent processes experienced by teachers in

schools less successful in identification. The predominant identification practice by these teachers was testing, coupled to a lesser degree with the practice of involving parents and the person responsible for gifted education. Using objective measures such as testing alone may be reassuring for teachers with their ease of use, but challenging when the results do not reflect a student's current academic performance. The focus on testing is steered by the narrow conception of giftedness as achievement held by these teachers. This finding is also shared by researchers who have reviewed the use of tools and measurements of giftedness, and found that a teacher's conception of giftedness guides her/his approach to identifying learners who might be gifted (Pfeiffer & Blei, 2008).

The tendency towards conceptions of giftedness centred on performance or achievement that typified schools not strong in identification was in contrast to that of the focus on both potential and performance in schools successful in identification. It is not surprising, then, that teachers in less successful schools showed a preference for testing as the chief measure of giftedness. However, the reliance by these schools on statistically measurable characteristics demonstrated in test achievement poses a risk that many gifted students could be passed over in identification. This supports the findings of Worrell and Erwin (2011) who found that best practices in identification rely on several predictors of giftedness, recognising that multiple factors contribute to the demonstration of potential (giftedness) and achievement (talent).

The multiple criteria approach adopted by schools effective in identification acknowledges first the diversity of backgrounds and abilities in gifted students and, as Tannenbaum's (2003) research found, an understanding that a combination of factors combine to contribute to giftedness being demonstrated. Training in the use and purpose of tools and measures to illuminate an understanding of their advantages would be needed. Teacher nomination did not feature as a subjective practice in schools least effective in

identification as greatly as it did in successful schools. This is likely due to teachers' lack of confidence attributable to inadequate training in gifted education. However, according to the findings of a recent study by Borghans et al. (2016), limited overlap across measures such as teacher nomination, standardised testing and IQ testing creates a concern. It seems the limited measures taken by schools less successful in identification may be contributing to low-identification levels due to the non-identification of gifted students.

Summary of Findings

FEQ 14.1 Schools effective in identification of intellectually gifted students use multiple measures inclusive of both objective and subjective measures, reflecting their broad and inclusive conceptions of giftedness.

FEQ14.2 Accuracy in identification is significantly higher when multiple measures of identification, rather than single objective measures relying on cut-scores, are activated.

FEQ14.3 Where narrow conceptions of giftedness are held by teachers, a restricted range of identification measures are used.

FEQ14.4 Lack of confidence in teachers due to inadequate training were inhibiting factors in the use of teacher nomination.

FEQ14.5 The effective implementation of objective and subjective identification measures by teachers is influenced by the adequacy of teacher training in the purpose and use of these tools.

Chapter 8

Conclusions and Recommendations

The purpose of this research was to investigate the relationship between the knowledge, attitudes and experiences of teachers and principals and the identification of gifted students in primary schools. The study, undertaken in a Catholic education system, sought to understand whether knowledge, attitudes and experiences held by principals and teachers influence the approaches and practices towards identification of gifted students. The following question guided the study: **How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers?** This chapter provides a summary of the key findings framed as a result of the data analysis and the questions that emerged. The final section of the chapter makes recommendations for policy, practice and further research into the effective processes of identification of gifted students in primary schools.

8.1 Summary of Findings

Following an analysis of the data, the discussion of the findings and the relationship to the literature of the field, the factors necessary to support the effective implementation of an identification program within a primary school were reported. These findings have been utilised to develop a model for best practice for the identification of giftedness in primary schools. This model is presented in Figure 5 below. This chapter presents the findings of the study according to the elements of the model, showing the sources of each finding in brackets at the end, from the discussion and findings identified in Chapter 5 and Chapter 7. The model serves to support and assist schools in reviewing their practices, and establishing the conditions to improve their effectiveness in the identification of giftedness.

Key Factor	Evidenced through
Knowledge	<ul style="list-style-type: none"> • high levels of training and ongoing professional learning by principals and teachers in gifted education • broad and inclusive conceptions of giftedness held by principals and teachers • recognition of giftedness by principals and teachers as significantly advanced potential/ability, regardless of achievement • principals and teachers understanding the multidimensional nature of giftedness occurring across one or more domains
Attitudes	<ul style="list-style-type: none"> • principals and teachers embedded belief in, and giving priority to, identifying the needs of all learners, inclusive of gifted learners • positive attitudes and high levels of gifted education training of teachers and principals, interfacing with identification practices to ensure optimal match of educational provisions • recognition and acceptance by principals and teachers of identification as a school-wide, shared responsibility of teachers
Approaches	<ul style="list-style-type: none"> • principals and teachers demonstrating focussed and deliberate attention to identifying giftedness in students • considered and targeted application of resources by systems and principals (funds, measures and tools) towards identification of giftedness • principal appointment of a within-school leader with expertise driving the gifted education agenda • teacher cognisance of established school-wide policy and expectations regarding practices of identification of giftedness • systems and schools offering ongoing provision of professional learning for improvement
Practices	<ul style="list-style-type: none"> • early and ongoing identification practices in schools • application of a range of purposeful, accessible and easily implemented identification practices • use of multiple practices inclusive of objective and subjective measures and tools • direct involvement of teachers in identification, supported by within-school driver

Figure 5. *Factors Enabling Effective Identification of Giftedness*

The model is not prescriptive, but rather gives insight to those core factors that most directly enable identification. The goal of identification is to identify giftedness in students, in order to provide an optimal match between learning needs and educational provisions. For this reason, ascertaining what educators can examine and provide to better serve identification can ultimately lead to school improvement in practice. The factors are inter-related and educators will gain value in identifying and reviewing concurrently the influence of all four factors on current practices.

In the findings (as discussed in Chapters 5 and 7), the conditions and practices associated with identification of giftedness in students clearly varied in consistency, in the

scope of implementation and in the extent of principal and teacher involvement. Factors emerged that were particular to three schools with effective practices, demonstrated in high rates of identification. The following discussion reflects a synthesis of the findings, illustrated in Figure 5.

8.2 Knowledge

In the present study, RQs 1 and 3 investigated the knowledge characteristics of principals and teachers in schools, first at the system level, and following at the site level with schools that were effective in identification, and schools that had minimal to no identified gifted students:

- RQ1. What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification?
- RQ3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

The conceptions of giftedness held by principals and teachers, and their understanding of how giftedness is manifested, were examined. A summary of the eight lead findings associated with the influence of knowledge (KN1 – KN8) on the identification of giftedness follows. Evident in the literature was the importance of training in gifted education and its influence on effective identification (Copenhaver & McIntyre, 1992; Siegle & Powell, 2004a). The findings of the present study aligned with Whitton's (1997) Australian study, indicating that training in gifted education influenced identification practices, due to the increased knowledge in principals and teachers on the characteristics of giftedness. Higher levels of training led to broader, more inclusive conceptions of giftedness, and resulted in increased rates of identified giftedness in students. Conversely, and consistent with a recent

Australian study (Long et al., 2015), the present study found lower levels of training were evident in those schools with low or negligible rates of identification.

Findings KN1 – KN3

KN1 Schools effective in identification are comprised of principals and teachers with higher levels of training in gifted education which leads to increased knowledge, broadened conceptions of giftedness and higher rates of identification in schools (FEQ5.1; FEQ6.3).

KN2 Higher rates of identification are evident in schools where principals and teachers share an understanding of giftedness as significantly advanced potential/ability in students, regardless of achievement (FEQ6.5; FEQ6.1; FEQ6.6).

KN3 An awareness by principals and teachers of diversity in the levels and domains of giftedness contributes to effectiveness of identification of giftedness (FEQ6.9).

Objective conceptions of giftedness that embraced expanded and inclusive notions of giftedness typified the knowledge base held by the majority of teachers and principals within schools effective in identification. This reflected broadened conceptions of giftedness found in contemporary research (Columbus Group, 1991; NAGC, 2010), and aligned with Gagné's DMGT (2004b).

Several factors, reflecting the depth of their knowledge, differentiated teachers and principals within schools effective in identification from those in schools with nominal effectiveness. These included three characteristics by which they defined giftedness, and are well supported in the research literature: 1) potential or ability regardless of achievement (Baudson & Preckel, 2013; Reis & Renzulli, 2009); 2) ability beyond the norm for age (Hoh, 2008; Valpied, 2005); and 3) the multidimensionality of giftedness across domains (Baum et al., 1996; Marland, 1972). Recognition of traits and characteristics that constitute giftedness

within the cognitive, behavioural and affective domains was an additional indication of the broad understanding held by principals and teachers effective in identification. Opposing and negative traits were also recognised, and linked to signs of underachievement in gifted students.

Findings KN4 – KN5

KN4 Broadened conceptions of giftedness gained through training and ongoing professional learning is associated with an increase in the knowledge of principals and teachers to more accurately recognise the traits and characteristics of giftedness, multidimensional in nature, occurring in one or more domains of learning (FEQ6.2; FEQ6.7; FEQ6.8).

KN5 Schools' effectiveness in identification is strengthened by principals and teachers recognising characteristics of underachievement in gifted students, including the occurrence of seemingly contradictory traits of giftedness (FEQ6.10).

Schools effective in identification were characterised by principals and teachers who also demonstrated a sound understanding of their school's policy and identification program, including the processes and measures available to them for identifying gifted students. To the contrary, principals and teachers who lacked knowledge and were uncertain of the processes and tools for identifying students were positioned in schools where rates of identification were very low. Where the depth of knowledge among principals and teachers was low, school practices in identification were weak, if not absent. It was apparent that shared responsibility by principals and teachers forged an operative school approach and, reinforced by a sound knowledge base, were factors supporting the effective identification of giftedness.

Finding KN6

KN6 Schools where principals and teachers contribute and share in the responsibility for identification, and understand the policy, practices and tools utilised, are more effective in identification of giftedness (FEQ5.2; FEQ9.1).

Of interest was the overestimation of self-knowledge in principals and teachers from schools seemingly ineffective in identification, and an indication that they remain unaware of deficiencies in their knowledge acquisition. Where gaps in knowledge existed, contracted subjective conceptions of giftedness tended to be held, as Heller et al. (2005) also found, influencing a limited selection of characteristics of giftedness nominated by teachers. In contexts where ineffective practices of identification existed, gifted students were seen more as a homogeneous group, rather than in their diversity of giftedness as identified by many schools effective in identification.

Similar to studies by Baudson and Preckel (2016) and Plunkett and Kronborg (2011), who established a relationship between knowledge and attitudes, the present study also found a link between the types of training in giftedness principals and teachers have received, and attitudes towards identification. Increased knowledge through formal training and subsequent professional learning was also found to influence more positive attitudes towards gifted students, involvement in the identification of gifted students and higher rates of identification. More ambivalent and negative attitudes rose as training levels decreased.

Findings KN7 – KN8

KN7 Higher levels of training in gifted education are linked to more positive attitudes in principals and teachers towards the gifted and their identification (F1.3).

KN8 Even when self-knowledge is perceived to be adequate, principals and teachers with low levels of training are more likely to have ambivalent or negative attitudes

towards gifted education, and minimal rates of identified gifted in their schools (F1.1; F1.2; FEQ1.1; FEQ10.1).

Knowledge Enabling Effective Identification of Giftedness

The importance of principal and teacher knowledge in contributing to the effective identification of gifted students has been identified as associated with:

- high levels of training and ongoing professional learning by principals and teachers in gifted education
- broad and inclusive conceptions of giftedness held by principals and teachers
- recognition of giftedness by principals and teachers as significantly advanced potential/ability, regardless of achievement
- principals and teachers understanding the multidimensional nature of giftedness occurring across one or more domains.

Recommendation 1

It is recommended that systems require and support preservice and graduate teachers to undertake studies in gifted education. Possible strategies include setting a target for principals to apply a percentage of their global staffing to be suitably trained in gifted education.

Recommendation 2

Systems to support a formal entitlement for the recruitment of teachers qualified in gifted education are recommended. Evidence of recruitment processes that include qualifications in gifted education as part of the selection criteria, and evidence of gifted education qualifications upon successful appointment of the teacher, need to be required.

Recommendation 3

It is recommended that school systems enter into negotiations with feeder universities to establish requirements for undergraduate and postgraduate teacher education courses to include mandatory and elective units in gifted education. The mandatory content of these courses needs to include conceptions and definitions of giftedness, and the manifestations of giftedness within the cognitive, behavioural and affective domains, while postgraduate courses in areas of specialisations would offer units in gifted education consistent with the teacher selection criteria within the school system.

8.3 Attitudes

In the present study, RQs 1 and 3 investigated the attitudes of principals and teachers towards the gifted, their education and their identification. The focus was initially at the system level, and then at the case study site level with schools who were effective in identification, and schools who had minimal to no identified gifted students:

- RQ1. What are the knowledge, attitudes and experiences of principals and teachers in Catholic system of primary schools related to giftedness and its identification?
- RQ3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

The link between knowledge and attitudes, and the influence of attitudes on the prevalence of identified giftedness was also examined. A summary of the seven lead findings associated with the influence of attitudes (AT1 – AT7) on the identification of giftedness follows.

Widespread ambivalence and some indications of negativity towards the gifted existed among system teachers, despite their credence that the needs of these same learners should be identified and addressed. Indeed, the greater majority of principals and teachers

placed the identification of gifted students as much a priority as students with learning difficulties. It was the matter of educational provision at which teachers tended to hesitate, regarding this as a considerable challenge. Teachers and principals were also conflicted as to whether educational provisions for gifted students should be a focus, when there existed students with learning difficulties requiring high support. For these teachers and principals, it seemed an either/or approach prevailed rather than an inclusive approach to educational provision. Such concerns influenced the tendency to not identify gifted students, as schools that placed priority on the identification of students with learning difficulties, EAL/D and LBOTE had very little evidence of identified giftedness.

Negative attitudes were found to be more frequent in those schools with nominal identification rates. However, even the positive attitudes of principals of these schools towards the gifted and their education did not produce an expected prevalence of identified gifted. The present study showed that principals' formal training in gifted education and positive attitudes similarly did not necessarily give rise to expected levels of identified giftedness in schools. Though teachers held positive attitudes and were accepting of the responsibility for identification, processes were not being successfully implemented. Still, where positive attitudes towards identification were evident, diocesan system teachers and principals noted the inadequacy of current practices and an inconsistent and unreliable approach to the identification of gifted students. These findings suggested the interplay of a number of factors were drivers in identification.

Findings AT1 – AT2

AT1 Positive attitudes towards the gifted by principals and teachers with training in gifted education, and acceptance of responsibility for identification of gifted students, do not of themselves lead to the effective identification of giftedness in schools (F1.6; FEQ3.1; FEQ7.2).

AT2 The attitudes of principals and teachers towards gifted students and their education cannot be assumed to be consistent with their attitudes towards the identification of giftedness (F1.7; F1.8).

Closer investigation through the case study was able to establish the influence of training in gifted education on attitudes. Higher levels of training tended to yield more positive attitudes and, conversely, where minimal levels existed or training was absent, negative attitudes were more likely to be present. Teachers inform the process of identification and, as positive attitudes towards the gifted are a necessary pre-requisite for effective identification the importance of training for teachers to influence attitudes and practices towards giftedness is heightened, supporting the findings by Haight (2006) and Plunkett (2000). At the system and school level, higher levels of training in teachers tended to be linked with more positive attitudes, their involvement in the identification of gifted students and higher rates of identification.

Findings AT3 – AT4

AT3 The higher the level of training in gifted education, the more positive the attitudes of principals and teachers towards the gifted and their education (FEQ2.1).

AT4 Lower rates of identification of giftedness in schools seem to be related to negative attitudes of teachers and principals towards the gifted and their education (FEQ7.1).

Additional workload stemming from planning differentiated program provisions as a consequence of identification was a perception held by many teachers, particularly in LIS, and likely deterred them from engaging in the process. Where a clear understanding of the purpose of identifying students' needs existed in schools, they were inclusive of a diverse

range of learners, and teachers viewed this process as a shared responsibility and integral to their role in educational provision, identification of giftedness was more effective.

Findings AT5 – AT7

AT5 Identification of giftedness in children is more likely to occur when teachers adopt a broad rationale for the identification of needs of a diverse range of learners, and regard their involvement in the identification process as part of their role and responsibility (FEQ7.3; FEQ7.4).

AT6 Involvement by teachers in the identification of giftedness is impeded when they perceive it will result in an increase in their workload (FEQ8.1).

AT7 Orientation towards the needs of students with special needs detracts from teachers' commitment to the identification of giftedness (FEQ8.2).

Attitudes Enabling Effective Identification of Giftedness

The importance of principal and teacher attitudes in contributing to the effective identification of gifted students has been identified in terms of their:

- embedded belief in, and giving priority to, identifying the needs of all learners, inclusive of gifted learners;
- positive attitudes and higher levels of gifted education training, interfacing with identification practices to ensure optimal match of educational provisions;
- recognition and acceptance of identification as a school-wide, shared responsibility of teachers, supported by principal.

Recommendation 4

School systems should develop policy that leads to procedures providing direction for schools to adequately resource and support teachers in the implementation of identification practices.

Recommendation 5

Principals, in collaboration with teachers, should develop on-site professional learning plans for gifted education within their school-wide professional learning frameworks, to build the knowledge base of teachers, improve attitudes and develop teacher skills and confidence. This professional learning should incorporate intensive and sustained study of the conceptions and manifestations of giftedness and differentiated action research projects on identification.

Recommendation 6

Principals appoint a suitably qualified teacher leader within the school's diverse learning team to drive the identification program as part of the school's gifted education agenda. Part of this agenda should be ongoing resourcing and professional learning of the teacher leaders, with the potential for networking and sharing of expertise beyond the school.

8.4 Approaches to Identification

In the present study, RQs 2 and 3 investigated the approaches schools had taken towards the identification of giftedness. The research focussed initially at the diocesan level, and then at the site level with schools who were effective in identification, and schools who had minimal to no identified gifted students:

- RQ2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?
- RQ3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

As the approach to identification ought to be grounded in the definition of giftedness being used, the prevalence of giftedness, according to Gagné's DMGT (2004b), which was the model adopted by the system of schools within this study, was determined as 10% of the

population. System principals reported the number of formally identified gifted students in their schools; however, there was no evidence of processes of accountability within the system for ensuring schools reach reasonable rates of identified gifted in their schools. A summary of the six lead findings associated with the approaches (AP1 – AP6) to identification of giftedness follows.

The absence of a system-wide identification program within the system policy and guidelines meant decisions about the approach to identification were formulated by individual schools. Low, or in many cases negligible, prevalence of identified gifted would indicate inconsistent and arguably ineffective approaches were apparent across the majority of schools. This assessment was at odds with the expressed ideals of principals and teachers to support the needs of gifted students, as it was with their assertion that identification was the school's responsibility.

Findings AP1 – AP3

AP1 An understanding of identification as the means to align the needs of gifted students with appropriate and planned educational programs does not of its own result in effective identification (F2.1).

AP2 Ineffectiveness in identification can occur due to a lack of teacher knowledge and insufficient resourcing when teachers belief in, and responsibility for, identification is not matched with actual school practice (F2.3).

AP3 System gifted education policies, that communicate clear direction and expectations regarding the identification of giftedness in schools, more likely bring about increased effectiveness when processes for greater accountability are in place (F2.2; FEQ12.3).

Upon close analysis, two factors emerged from within schools' approaches to identification that differentiated highly effective schools to least effective schools in

identification: policy and leadership in identification. First, established school-based operational policies that included guidelines for identification made apparent the schools' focus on identification, and provided clear direction for teachers. Such policies were characteristic of schools highly effective in identification, which supports the finding of Long et al. (2015). Supporting the implementation of these policies, schools also made provision for ongoing professional learning and a selected range of identification practices, including measures and tools to be available for use by teachers and school-based 'experts'.

Findings AP4 – AP5

AP4 Schools effective in identification of giftedness in students have an operational gifted education policy that provides direction for teachers, inclusive of practices for identification, supported by ongoing professional learning (FEQ11.1; FEQ11.2).

AP5 Schools effective in identification use a range of practices primarily focused on both the timing and measurement of identification that are readily available and easily implemented by teachers (FEQ11.3).

The appointment by the principal of a school-funded trained 'expert' or driver demonstrated the priority given to gifted education and directly contributed to the effectiveness of identification practices within a school. Schools are part of the wider system of diocesan schools and the application of the system gifted education policy within the school context was reliant on the motivation and volition of principals and individual teachers of gifted education. The provision of resourcing and support through the appointment of the driver was characteristically reflective of the principals' positive attitudes towards, and commitment to, gifted education, and their responsibility to ensure compliance with the system's policy. This supports Long et al.'s (2015) findings that showed a policy and positive attitudes of principals towards gifted education directly influenced their commitment to supporting gifted education programs.

Teachers and principals described ways in which the driver proactively supported them in the identification process including through professional dialogue, team meetings, provision of professional learning and assistance with the administration of assessments for identification. The impact of the ‘driver’ was realised in the building of teacher capacity and strengthening the school-wide approach to identification. In schools where identification was not occurring effectively, the absence of a suitably trained driver in gifted education was apparent.

Findings AP6

AP6 The presence of an adequately trained, qualified person driving the gifted education agenda in the school leads to increased effectiveness of identification (FEQ12.1; FEQ12.2).

Approaches Enabling Effective Identification of Giftedness

The importance of school approaches in contributing to the effective identification of gifted students has been identified in terms of:

- principals and teachers demonstrating focussed and deliberate attention to identifying giftedness in students
- considered and targeted application of resources by systems and principals (funds, measures and tools) towards identification of giftedness
- principal appointment of a within-school leader with expertise driving the gifted education agenda
- teacher cognisance of established school-wide policy and expectations regarding practices of identification of giftedness
- systems and schools offering ongoing provision of professional learning for improvement.

Recommendation 7

A framework and supporting guidelines for the identification of giftedness be developed at system level to assist principals and schools in demonstrating compliance with standards in gifted education. The standards would include: 1) requirements for teacher knowledge of conceptions of giftedness; 2) expected prevalence of giftedness in schools; 3) the required elements of a program of identification at the school level; 4) establishing a system for the monitoring and tracking of identified students; 5) levels of professional learning in gifted education; and 6) type and level of compulsory school-based resourcing.

Recommendation 8

Schools document targeted strategies for the ongoing implementation of an identification program to meet standards identified in the system framework with the requirement to provide evidence of maintenance of standards in identification.

Recommendation 9

School systems review current models of leadership, to ensure focus is placed on training and leadership in gifted education that facilitates the identification and capacity building of potential school-based leaders in gifted education.

8.5 Practices in Identification

In the present study, RQs 2 and 3 investigated the identification practices undertaken by schools. The practices nominated by principals and teachers, and their link to conceptions of giftedness held, were examined. The research focussed initially at the diocesan level, and then at the site level with schools who were effective in identification, and schools who had minimal to no identified gifted students:

- RQ2. What are the approaches and practices to the identification of gifted students in Catholic primary schools?

- RQ3. How does the experience of principals and teachers in six case study schools inform the practice of identification of gifted students?

These practices of identification of giftedness fell into three main areas: timing, processes and measures. A summary of the 11 lead findings associated with the practices (PR1 – PR11) for identification of giftedness follows.

It is clear from the present study that variations and inconsistencies in practices of identification prevailed across the diocesan system of schools that were the focus of the research and contributed to overall low prevalence of identified gifted students. Teachers, overall, were lacking involvement in identifying giftedness which was contributed to by absent or insufficient documentation of school identification processes. Lack of established consistent practices in schools meant that the greater majority of teachers of the early years had minimal involvement in identification.

Findings PR1 – PR2

PR1 Early identification practices, such as enrolment processes and the engagement of teachers of the early years, increase the effectiveness of identification of giftedness (F1.9; F2.5).

PR2 The achievement of clarity and consistency of practice in identification by teachers is increased by clear documentation of school practices in identification (F2.6).

Consistency in the timing of identification was not evident across system schools. Emphasis on particular times of the year was outweighed by the preference for identification more as an ongoing process. For most system schools, enrolment processes were not utilised as a catalyst for early identification, yet McGowan et al. (2016) recently found early opportunities as favourable openings for identification. Identification through everyday learning experiences and teacher nomination were commonly used processes by teachers,

implying that convenience and ease of implementation were factors influencing such decisions. These decisions, as well as that of using objective over subjective tools, and to assess achievement rather than potential, are understandable when considering the issues of inadequate training and ambivalent attitudes present in many schools. Teachers and principals were placed in a challenging position, trying to discern appropriate processes and tools for identification, while lacking depth of knowledge and holding attitudes not conducive to making informed decisions.

Findings PR3 – PR6

PR3 Students' learning experiences are readily accessible opportunities for principals and teachers to undertake identification practices (F2.4).

PR4 The effective implementation of objective and subjective identification measures by teachers is influenced by the adequacy of teacher training in the purpose and use of these tools, and the extent of teachers' involvement in identification (FEQ14.5; F2.8).

PR5 Training in the use of both subjective and objective measures of identification supports an expanded conception of giftedness, and is important for developing teachers' confidence in their administration and the avoidance of potential bias or preference of one form over another (F2.9; F2.10).

PR6 Teacher nomination is an important element in the identification of giftedness and requires adequate training and positive attitudes of teachers (F2.7; FEQ14.4).

Closer analysis unveiled further relevant findings of the practices within schools highly effective in identification. Teachers in these schools were more directly involved in identification when they held a combination of formal training and positive attitudes towards the gifted and their education, and this involvement decreases as the level of training decreases. Interestingly, no direct link was made between teachers' personal experience of giftedness, and attitudes or direct engagement in identification of gifted students.

For schools highly effective in identification, timing emerged as a factor of influence in the effectiveness of identification. Successful practices involved early identification, particularly during the enrolment process. The research literature, notably by Callahan (2005) and Pfeiffer and Blei (2008), endorses early identification as a means to mitigate against failing to identify, or underachievement in gifted students, by ensuring educational provisions are responsive to their learning needs. The current research suggested that the successful identification of gifted students occurred when understood as an ongoing process from pre-entry to school at enrolment and continuing well into the first years of formal school education. This finding is strongly supported by the research of Callahan et al. (1995), which advocated for early and ongoing identification so as to recognise giftedness emerging in its multiple manifestations over time.

Findings PR7 – PR9

PR7 Formal training and positive attitudes by teachers towards the gifted and their education are associated with an increased direct involvement by teachers in the identification of giftedness (FEQ4.1).

PR8 Personal experiences of the identification of giftedness does not influence teachers' attitudes or their direct professional involvement in identification (FEQ4.2).

PR9 Identification as an ongoing process, beginning at the onset of enrolment processes and continuing throughout the first few years of school education, contributes to the successful identification of giftedness in students (FEQ13.1).

Students can demonstrate giftedness in various ways and, to reflect a broad and inclusive conception of giftedness, and thereby reduce the possibility of non-identification of outstanding potential, schools successful in implementing a defensible identification program undertook a multiple measure approach by concurrently using both objective and subjective forms of assessment. This multiple measure approach supported the findings by Brown et al.

(2005) for a comprehensive identification program. In schools highly effective in identification, teachers consistently used measures which included standardised testing, collaborating with the school's 'expert' in gifted education, parent engagement in the process of identification, teacher nomination, student class assessments and work samples, information from previous settings, and conversations with the student themselves. While a multiple measure approach is more likely to capture a broadened definition of giftedness, it does carry with it increased demands on teachers in terms of additional training, scoring/grading, and data collection, and increased need for consistency of standards for reliability and validity, as Frasier (1997) also found. This may explain the nomination of a multiple, yet limited, range of identification measures by teachers, compared to the principals in the current study.

As Pfeiffer and Blei (2008) and, more recently, Acar et al. (2016) found in their research, the use of both objective and subjective measures increased the accuracy and effectiveness of identification by providing additional data and extending the group of gifted students identified. In this research, those schools where identification rates were minimal, narrow conceptions of giftedness were held and reliance on a restricted range of measures, predominantly objective measures such as testing, reflected this. Sole reliance on test scores adversely impacts not only identification but, as research by Pfeiffer (2002) cautions, the broader and important issue of gifted education provisions.

Findings PR10 – PR11

PR10 Using multiple identification measures inclusive of both objective and subjective measures, reflecting broad and inclusive conceptions of giftedness contributes to increased effectiveness of identification. Where narrow conceptions of giftedness are held by teachers, a restricted range of identification measures are used (FEQ14.1; FEQ14.3).

PR11 Clear, purposeful and specific practices of identification, using multiple measures inclusive of subjective and objective measures, increase accuracy and consistency in identification of giftedness in students (FEQ13.3; FEQ14.2).

For teachers, knowing the rationale for measures and tools to assist their understanding was an important factor, and pointed to the significance of training in their use and purpose. The effectiveness of teacher nomination remained largely unrealised as a valuable subjective practice in schools overall, particularly so in schools least effective in identification. This is likely due to inadequate training inhibiting implementation, as the literature is clear that teachers tended to nominate students when those teachers were adequately trained in gifted education, as Siegle et al. (2010) found in their study of preservice and in-service teachers, and Speirs Neumeister et al. (2007) found in their study of teachers of gifted primary students. In the present study, when teacher nominations in the form of checklists or rating scales were used by those with a knowledge of characteristics of giftedness, and used collectively with input from parents and previous educational settings, they provided further valuable evidence for identification when combined with testing.

Practices Enabling Effective Identification of Giftedness

The importance of school practices in contributing to the effective identification of gifted students has been identified in terms of:

- early and ongoing identification practices in schools
- application of a range of purposeful, accessible and easily implemented identification practices
- use of multiple practices inclusive of objective and subjective measures and tools
- direct involvement of teachers in identification, supported by within-school driver.

Recommendation 10

School systems promote and/or develop exemplars for teacher nomination ensuring coherence with the conception of giftedness common to the system and the inclusion of characteristics grounded in gifted education research. Exemplars would be designed to: 1) increase teachers' awareness and knowledge of characteristics of giftedness; 2) be easily applied as an identification practice by teachers; and 3) reinforce consistency of practice within and across schools within a system.

Recommendation 11

System leaders allocate resources to enable consistency across schools in accessing objective, reliable and valid identification measures. Resourcing would include the associated training or induction of teachers in the administration, scoring and interpretation of these measures to build expertise and reliability within and across schools.

Recommendation 12

It is recommended that the school system establish an online tool for the profiling and monitoring of identified gifted students within the system, as is frequently the practice for high support, EAL/D and LBOTE learners. The tool would align with a system expectation for the use of both objective and subjective measures, selected by individual schools from a store of options and have the capacity to hold a wide variety of identification assessment data and generate reports for use by schools or individual teachers, to inform planning, provide feedback to students or when reporting to parents.

8.6 Limitations of the Study

1. This multi-site case study may be limited in its representation of the broader reality in schools. As the schools in the research were all Catholic primary schools from one diocese, there is vulnerability regarding questions of generalisability (Yin, 2003).

2. The chosen schools were relatively successful or not in comparison with all the schools in the diocese on the measure of the percentage of identified gifted students relative to enrolment. Other methodological approaches may have resulted in different samples and results. Variation in collection methods would need to be undertaken with schools to confirm the findings.

3. When referencing teachers, the study refers to teachers of the early years and teachers with leadership responsibilities including APs, RECs and coordinators. Further research would benefit from the inclusion of teachers regardless of the grades taught and position held within primary schools.

8.7 Recommendations for Future Research

The findings of this study suggest that further studies should be conducted with wider representation of student systems and cultures. The present multi-site case study involved purposeful sampling of school sites varying in their level of effectiveness in identification. The study cannot be considered as representative of the broader reality of schools across the system, state and, indeed, across Australia. However, the study should be replicated for the inclusion of schools with students from a wider range of linguistic, cultural and socioeconomic backgrounds.

Further research is warranted into Australian undergraduate and graduate teacher education programs to determine the status of gifted education to gain an understanding of how universities impact the knowledge and attitudes of teachers.

The characteristics of effective ‘drivers’ in gifted education is worthy of identification and examination in future research, to understand the potential influence these experts have on the gifted education agenda within and across schools.

A longitudinal study of the impact of a system-wide identification program on identification levels warrants further research. Particular consideration should be given to the impact of policy and accountability, definitions and conceptions of giftedness, prevalence of identified giftedness, leadership in gifted education, training and professional learning, student eligibility and selection for gifted educational programs, and the tracking and monitoring of gifted students through the K-12 pathway of school education.

8.7 Concluding Remarks

The major research question asked: How is the identification of giftedness of students in primary schools influenced by the knowledge, attitudes and experiences of principals and teachers? The findings from this research propose factors that need to be considered in supporting the effective implementation of an identification program for giftedness within a primary school. This research has made 32 findings associated with the influence of principal and teacher knowledge, attitudes and experiences on identification. Twelve recommendations have been offered to support and assist universities, school systems, principals and teachers in reviewing practices and establishing curriculum, training programs and policies to improve effectiveness in identification of giftedness.

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