PROFESSIONAL LEARNING, KNOWLEDGE AND PRACTICE AND THE IDENTIFICATION OF GIFTED STUDENTS IN NEW ZEALAND PRIMARY SCHOOLS

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ABSTRACT

Professional Learning, Knowledge and Practice and the Identification of Gifted Students in New Zealand Primary Schools

New Zealand schools have been mandated with the responsibility of identifying and providing for gifted students. Identification of gifted students requires a theoretical knowledge base and the translation of theory to practice. This study set out to investigate a group of New Zealand primary school teachers and their professional learning experiences and needs in relation to the identification of gifted students. Interviews and focus groups were conducted in three New Zealand primary schools in the greater Auckland area. The findings showed that there was a lack of effective professional learning and a consequent gap between theory and practice that impacted detrimentally on the identification of gifted students in primary schools. Primary school teachers and senior management require professional learning and development support to address that gap. In addition there is a gap in pre-service teacher education as courses related to gifted students are optional electives rather than integrated into training education. This means that trainee teachers are entering the professional work force with little or none of the knowledge and skills required to identify gifted students. A further complication is that the professional learning and development courses reported as being conducted by external facilitators or 'experts' and the resources provided by the Ministry of Education do not always provide the framework or contexts necessary to ensure long term

professional learning and growth for teachers and substantive positive impacts on gifted student outcomes.

The study concludes that the catalyst that will address the gap between theory, teacher and school practice is professional learning. A professional learning programme is required for training teachers, primary school teachers and principals that integrate the professional knowledge with professional practice. This will ensure that professional capacity will be enhanced long term. Finally, further research into the knowledge base of primary school teachers when identifying gifted students is required to confirm or challenge the research findings, further inform school and system leaders about teachers' professional learning needs and prompt an evaluation of identification practices for gifted students in New Zealand primary schools.

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LIST OF ABBREVIATIONS

ERO: Education Review Office

IQ: Intelligence Quota

MoE: Ministry of Education

PAT: Progressive Achievement Test

CHAPTER ONE

Introduction

The object of this research study was to explore teachers' professional learning, practice and knowledge in the identification of gifted students. The identification process is the mediating link between defining giftedness and talent and developing and implementing programmes (Ministry of Education, 2000). The identification process teachers and schools take is dependent on their knowledge and perceptions of giftedness as well as the strategies and tools used to identify. There appears to be a gap between theory and practice for primary school teachers charged with the responsibility of identifying gifted students. This research study examined the role of professional learning and development in supporting the transfer of theory to the practice of identifying gifted students.

Rationale

In December 2003 the Ministry of Education (MoE) placed a notice in the *Education Gazette* advising National Administration Guideline 1(iii) c had been amended to state: "including gifted and talented students." From Term 1 2005 it became mandatory for all state and state-integrated schools in New Zealand to demonstrate how they were meeting the needs of their gifted and talented learners. The gap between teachers' professional knowledge and understanding of the conceptions, definitions and methods of identifying gifted

students in primary schools and the actual process of identifying gifted students has to be bridged through effective professional learning and development. For many teachers, this has yet to occur; an issue I will substantiate in the pages that follow.

The MoE's handbook, *Gifted and Talented Students: Meeting their Needs in New Zealand Schools* (2000), highlights some of the consequences when gifted students' needs are not met. Amongst these are students experiencing boredom, frustration or hostility, accepting mediocrity, denying their own abilities or giving up. Cathcart (1998) concurs, stating that between 60–80 per cent of gifted students are working at least two years below their true ability level. She advises that such experiences can have lasting results such as loss of self-esteem or confidence and the inability to relate to others. Moltzen (2004b) adds that some of these students are at risk of even greater tragedies such as delinquency, chronic underachievement, depression or suicide. The diverse group of students who underachieve further highlights the lack of equitable representation (Moltzen, 2004b). Underachievement albeit by gender, culture, socio-economic status, disability or handicap is a significant issue because of the loss of potential to society. The Working Party (MoE, 2001) commented that it would be very short-sighted if the potential these students have to contribute to our nation's social well-being and economic development was not recognised. In failing to identify and provide for these students we fail to provide for our future.

Just as students at the other end of the spectrum who struggle to achieve have the right to receive an education to achieve excellence so too do gifted students. Yet when ignored or repressed it is claimed that the ability of these students to achieve excellence is hampered by the very adults entrusted with that duty (McDonough & Rutherford, 2003). Lack of identification negates students' rights to an education that meets their individual needs and an equitable share of teacher time and support. So that these consequences can be avoided more must be learned about teacher knowledge and perceptions when identifying gifted students in order to contribute to solutions (Booth, Columb & Williams, 1995).

The relevance and worthiness of the research study lies in supporting a better understanding of sound practice in identification through professional learning and development, enabling better decision-making when planning for gifted education (Riley, Bevan-Brown, Bicknell, Carroll-Lind & Kearney, 2004). Action can only be taken once we see things through teachers' eyes. Thus the overall aim of this research was to analyse the professional learning experiences and requirements of a group of New Zealand primary school teachers in relation to the identification of gifted children. This in essence was the rationale for undertaking this research study.

Research aims and questions

The central aims of this study therefore were to:

1. Examine the knowledge and perceptions of teachers in New Zealand primary schools around the issue of identification;

2. Identify ways in which teacher knowledge and perceptions may impact on the identification of gifted and talented students; and

3. Understand the role of professional learning and professional development in relation to the identification of gifted students.

The research questions that underpinned this study were:

1. What knowledge and perceptions do primary school teachers use to identify gifted students?

2. How does this impact on the identification process?

3. How can professional learning and professional development better inform teachers to address the barriers to identifying gifted students?

Throughout this study the term 'gifted' was predominantly used. As will be discussed in Chapter Two the terms 'gifted and talented' have a plethora of meanings. In order to avoid confusion this research used 'gifted' or 'giftedness.'

These research questions were addressed using a qualitative, descriptive stance in order to capture the perceptions and experiences of a group of New Zealand primary school teachers. The research was undertaken in three New Zealand primary schools as follows.

Table 1.1 Details of participating schools

	Kowhai School	Rata School	Totara School
Number of teachers	7	18	22
Roll size	128	333	302
Student levels	Y1 - 8	Y1 - 8	Y7 - 8
Surrounding area	Rural	Town	Urban

Pseudonyms are used for participants' names. In each of the three schools six classroom teachers and their principals participated in interviews. The teachers then came together for three school-based focus groups to further explore their professional learning, knowledge and practice around identifying gifted students.

Presentation of the thesis

This thesis is organised into six chapters.

Chapter Two reviews relevant literature and explores research findings related to issues of professional learning, professional development and the identification of gifted students in primary schools. It first explores the theories of professional learning and professional development that promote professional growth and the factors that impact on professional learning and professional development. Next it explores the professional knowledge teachers must develop through professional learning and professional development in order to identify gifted students in New Zealand primary schools.

Chapter Three opens with a review of educational research and problems inherent within such research. It describes the qualitative methodology chosen in this study, its strengths and limitations. The methods used to gather data from the three primary schools are described: interviews and focus groups. A discussion ensues regarding the questions in the interviews and focus groups. The chapter includes a description of the data management and data analysis processes with consideration also given to validity, reliability and ethical issues.

Chapter Four opens with an introduction to the participants, a review of the research activity and a step-by-step analysis of the data gathered from the interviews and focus groups. These findings are presented in table or written form and include quotes from the participants. The chapter also provides a summary of the significant issues emerging from the data and concludes with a discussion of the key findings.

Chapter Five commences with a discussion and interpretation of the research findings and relates these to the literature and research previously discussed. The chapter presents the two key issues that arise out of the discussion and interpretation: professional learning and development issues and the gap between theory and practice. The chapter also provides an outline of the research conclusions.

Chapter Six provides the conclusions of the research study. This is followed by the following recommendations arising from the research: at the personal

professional level principals and teachers explore what strategies they can use to enhance their own professional learning around identifying gifted students; at the school level the development of a professional learning programme that provides a theoretical and practical understanding of giftedness for teachers and senior managers; at the system level a pre-service professional learning programme on giftedness that is integrated into initial teacher training programmes and greater accessibility of 'expert' facilitators; and the need for further research into teacher perceptions and knowledge when identifying gifted students.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter reviews relevant literature and explores research findings related to issues of professional learning and professional development. Research suggests (Cuttance, 1998; McDonough & Rutherford, 2003) that at least 60 per cent of student achievement is attributable to quality teaching and that, given supportive conditions, teachers' professional learning and professional development can dramatically influence student achievement (Timperley, Wilson, Barrar & Fung, 2007). Therefore enhancing teachers' knowledge and skills through professional learning and professional development may be pivotal to ensuring gifted students are identified. The following sections will explore the theory of professional learning and development, the factors that impact on professional learning and development and the professional knowledge teachers require in order to identify gifted students.

Professional learning and professional development

Over the past two decades the New Zealand primary education system has been and continues to be the subject of intense, comprehensive reform and revision, sparked initially by the creation of self-managing schools in 1988 (Cardno, 2005). Primary schools have been involved in ongoing professional

learning and professional development in a milieu of government-supported, professional development initiatives (Cardno, 2005) including gifted education. At times professional learning and development practices associated with these initiatives can be problematic. Cardno (2005) suggests that professional development has been viewed as an 'extra'; something required because it is inexpensive or has been allocated in the budget. Attendance at conferences or one-off workshops, she continues, rarely changes teacher practice yet these continue to be popular forms of professional development in New Zealand. Conversely extended opportunities for professional learning are not necessarily connected with improving outcomes for students. There is little evidence to support the position that teachers are self-regulating and simply require, independently or collectively, more time and resources (Timperley et al., 2007). Alton-Lee (cited in Timperley et al., 2007) further explains that in fact professional development has not necessarily been successful due in part to a lack of understanding of the complexity of professional practice.

Nevertheless the steady stream of educational change has brought about a renewed consideration of the role of professional learning and professional development in improving student achievement with a growing emphasis on school-managed and school-based teacher development (Coolahan, 2002). This has highlighted the need to maximise professional learning and development at individual, group and school wide levels in conjunction with an appropriate learning culture or community (Law, 1999) to improve valued student outcomes.

A plethora of definitions makes it challenging to distinguish between professional learning and professional development. Professional learning according to Eraut (1994) involves teachers incorporating new information into already existing knowledge frameworks, overlooking aspects which do not easily fit and intermittently altering those frameworks to better fit newly acquired information. It is part of a generally unplanned process of knowledge assimilation and accommodation that occurs both on and off the job. Sachs (cited in Grundy & Robison, 2004, p. 149) identifies professional learning as a distinctive feature of professionals and a pivotal part of the process designed to improve professional practice. As such teachers:

> continue learning throughout a career, deepening knowledge, skill and judgement, staying abreast of important developments in the field and experimenting with innovations that promise improvements in practice.

Guskey's (2000, p. 16) definition mirrors the above although he refers to professional development rather than professional learning:

> those processes and activities designed to enhance the professional knowledge, skills and attitudes of educators so that they might, in turn, improve the learning of students.

Middlewood, Parker and Beere (2005) see professional development as an ongoing process of reflection and review that meets school and individual needs whereas learning is a process of self development leading to personal growth as well as the development of skills and knowledge that improves student learning and teacher practice. Begg (1994, p. 9) states professional development is: "a healthy growth state sustained by a professional which leads to change in practice and beliefs that improve education" while Bolam (1987, p. 38) widens the definition as follows:

> improving the professional knowledge, skills and performance of an individual teacher, extending the experience of an individual teacher for career development and promotion purposes, developing the professional knowledge and understanding of an individual teacher and extending the personal or general education of an individual teacher.

Coffield (2000) sees these distinctions between the terms 'development' and 'professional learning' as conceptually vague while Day (1999) expresses concern that the explicit and implicit aspects of the definition could have a potentially limiting focus on professional development and learning. Connors (1991, p. 54) unites professional learning and professional development: "the sum of all activities, both formal and informal, carried out by the individual or system to promote staff growth and renewal" and for the purposes of this

research study the diversity of professional development will be considered as an integral part of professional learning (Hoban, 2002).

It can also be argued that further clarification needs to be made by locating both professional learning and professional development within the more general concept of 'teacher change.' Much has been written about the change process (Fullan, 1990; Guskey, 1986; Bolam, 1987; Scott, 1998). Richardson and Placier (2001) suggest that teacher change can be described in terms of professional learning, professional development, socialisation, growth, improvement, innovation, cognitive and affective change and self-study. There is acknowledgement that change depends on the teacher's willingness to learn, the school's culture and the teacher's position within the school (Hargreaves, 1994). Personal factors and history such as attitudes, childhood schooling experiences, confidence as a teacher and needs and perceptions of professional development (Baird, 1988) all play a part in the outcome of professional learning and need to be considered.

Forms of professional learning are strategies used to promote teacher change (Richardson & Placier, 2001) by introducing new knowledge and ideas (Eraut, 1994). The adoption of new professional knowledge or learning into a person's teaching style can be dependent on the teacher's conceptions of themselves as teachers (Kelchtermans, 2004) and the teacher's personal system of knowledge and beliefs about teaching (Clark & Peterson, 1986; Day, Calderhead & Denicolo, 1993). The key change process in professional learning revolves around knowledge transformation: teachers' current

conception of themselves, knowledge, experience and beliefs interact with new knowledge and ideas that are integrated and transformed into professional actions (Clarke & Hollingsworth, 2002). In essence new knowledge is learned and then used. To Eraut (1994, p. 25) learning knowledge and using knowledge is the same process: "the process of using knowledge transforms that knowledge so that it is no longer the same knowledge." He places the knowledge transformation process of professional learning within three contexts: the academic context found in all professions, the school context which is shaped by organisational norms and communicates through dialogue and policy and the classroom context where routine practice is produced privately without questioning underlying assumptions. The various ways knowledge is validated and people's behaviour operates differs in each of these contexts. This makes knowledge transformation problematic. However Eraut (1994) contends that not only does most professional learning take place in the context in which it is used, that is the classroom, but that professional learning is not immediately transferred from one context to another. Rather it requires considerably more learning to take place for the transfer to occur.

Further complications lie in the distinctions between forms of knowledge; 'technical knowledge', 'practical knowledge', and 'theoretical knowledge'. Technical knowledge, according to Oakeshott (1962), can be reduced to simple technical description but practical knowledge such as teaching is learned only through experience or practice and cannot be coded. Making practical knowledge explicit is challenging given the complex nature of

teaching, the interpretative use of professional judgement and the paradigms under which the teaching profession operates. Yet Oakeshott's statements assume technical knowledge is used methodically and overtly while practical knowledge is used individually and implicitly. Eraut (1994) acknowledges that this is true only for some kinds of knowledge and some modes of use. Significant new professional knowledge cannot be used unless incorporated into a person's teaching style. Consequently he contends that when ideas have not been included in practice they are classified as theory. Otherwise they are adopted as common sense.

Hargreaves (1994, p. 126) adds, not only should professional learning include the acquisition of knowledge but also "the place of moral purpose in teaching, political awareness, acuity, and adeptness among teachers, and teachers' emotional engagement with their work". In this respect Day's (1997, p. 4) definition seems most comprehensive.

> Professional development consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school and which contribute through these to the quality of education in the classroom. It is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purposes of teaching and by which they acquire and develop critically the knowledge, skills and emotional

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intelligence essential to good professional thinking, planning and practice with children, young people and colleagues through each phase of their teaching lives.

Professional learning is a dynamic feature of ongoing teacher education and one perspective of professional learning (Eraut, 1994; Huberman, as cited in Day & Sachs, 2004) focuses on differing career stages: that teacher characteristics and stages of development have important implications for professional learning needs. Dreyfus and Dreyfus (1986) have described a model depicting the five stages of skill acquisition, from novice to expert, teachers could move through during their careers. This model highlights the changing nature of skill acquisition, the inherent shifts in teacher knowledge and practice and the necessity of aligning professional learning to the skill acquisition stage of teachers as the needs of the novice beginning teacher can differ markedly to that of the expert teacher.

Factors impacting on professional learning and professional development

Given the complexities of professional learning, development and professional change as discussed above, any evaluation of professional learning should take into account the range of factors impacting on professional learning. Timperley et al. (2007) have analysed the literature on teacher professional learning and development. The authors mapped their findings onto a theoretical framework consisting of two contexts: the wider social and policy

context and the professional learning context which is influenced by the wider context. Teachers work in a political context of governmental policies which affect educational goals and practices (Troman, 2000; Gitlin, 2001). These in turn impact on their professional identities as well as the goals, content and form of their professional learning (Sachs 2000, 2001; Troman, 2000; Woods & Jeffrey, 2002).

Categories within the professional learning context refer to the social context within which teachers work, the content of the professional learning and development, the activities constructed to promote learning, consequent learning processes and responses to the diverse teacher learners. According to Timperley et al. (2007), when connections are made between these categories teaching practices change, resulting in improved outcomes for diverse student learners. Timperley et al. (2007) have developed these connections into a framework for analysing the effectiveness of professional learning experiences. The core assumption of this framework is that effective professional learning and knowledge and skill development is pivotal to successful, long term learning for both teachers and their students.

Underlying this framework lie a number of key principles that integrate to form cycles of learning and action within professional learning and development. The first of these principles is a focus on valued student outcomes (Timperley, 2008), the ultimate goal of education. The major challenge is to unpack the gap between professional learning and valued student outcomes. Cardno (2005, p. 298) explains: "at the heart of any effective professional

development programme is the means by which we get to know what needs to be improved and why before we set about the task of deciding how we will do this." Such a focus can provide teachers and schools with the rationale for and the value of the professional learning prior to understanding the links between particular learning activities, how the students respond to these and what the students actually learn. In this way it can form part of an ongoing, multi-method approach or framework to professional learning for teachers and the institution. Hargreaves (1994, p. 436) sees this as a dual process: "to improve schools one must be prepared to invest in professional development; to improve teachers their professional development must be set up within the context of institutional development." This initial principle also begins the process of ownership, providing opportunities for critical professional dialogue around teaching practice, what it looks like in our school and what do our students need. In this way it "increases the opportunity (for teachers) to connect it (the rationale and purpose) to specific conditions of their schools" (King & Newmann, 2001, p. 86).

The second principle ensures that the content and activities of the professional learning develop the skills and knowledge that have a positive impact by being consistent with evidence-based principles of teaching effectiveness and these skills and knowledge are translated into teachers' own teaching context (Timperley, 2008). This is in direct comparison to traditional methods of professional development. King and Newmann (2001) define traditional professional development as that which presents material teachers see as irrelevant to student learning in their own schools, brief

workshops or courses that provide no feedback of follow up and an almost exclusive reliance on outside experts, thus negating peer collaboration. Content is dictated by for example the school management or the MoE without teacher input, broad or general categories of information are shared or 'outputted' and teachers are then mandated to return to their schools and 'input' into practice.

Professional theories and practices should be integrated (Timperley, 2008). If teachers' understanding of the theory is limited, their theoretical understandings cannot be used as the basis for making ongoing, principled decisions about identification. Borko and Putnam (as cited in Bolam & McMahon, 2004, p. 49) concur and surmise that the expansion and elaboration of teachers' professional knowledge base is pivotal to professional growth:

> Successful professional development efforts are those that
> helped teachers to acquire or develop new ways of thinking
> about learning, learners and subject matter, thus
> constructing a professional knowledge base that will enable
> them to teach students in more powerful and meaningful
> ways.

Developing theory within the practice context allows teachers to problem solve in ways that are related to specific situations. Adey (2004, p. 18) argues: "if you want to change what happens in schools, you have to get into

schools. Coaching in teachers' classrooms is a sine qua non of effective teaching."

For professional learning and development to be effective, teachers should be exposed to many and varied opportunities to translate new knowledge into practice (Timperley, 2008). This learning needs to occur in a trusting yet challenging environment where teachers' existing knowledge and perceptions are engaged alongside new, possibly challenging ideas and understandings (Smylie, 1995). Indicators of formal professional learning occurring revolve around three core themes: a degree of flexibility that enables teachers to adapt to the demands of the job, an increased capacity for accountability that enables teachers to justify why they were doing what they were doing and an increased sense of control that enables teachers to feel they were being effective (Clement & Vandenberghe, 2000). In traditional professional development activities have often been seen as irrelevant to teachers, their specific school settings and their learners (King & Newmann, 2001) or tedious, recurring and dependent tasks (Ruohotie, cited in Day & Sachs, 2004). As a result teachers were discouraged from professional learning.

The professional development environment should also include collegial interaction that is responsive to student needs. Researchers (King &Newmann, 2001; Sachs, 2001; Smylie, 1995) purport that effective professional learning is most likely to occur when teachers from within and outside schools have strong systems of peer collaboration and sustained opportunities to study, experiment and receive feedback on their practice.

This contrasts with traditional professional development with its brief workshops, conferences or courses, its heavy reliance on external expertise and materials without forging and integrating collegial communities and no provision for follow up or feedback in the professional development process (King & Newmann, 2001). External expertise is necessary for new learning as teachers' existing knowledge and perceptions, including biases or predominant school cultures, can prevent them from examining the effectiveness (or ineffectiveness) of their practice (Timperley, 2008). Such expertise should encapsulate the complexities of teaching.

Blasé and Blasé (2000) and Timperley (2008) concur that school leaders should participate actively, manage teacher engagement, develop realistic visions, support the professional growth and help to translate teacher talk about professional practices into everyday practices and processes or school capacity. This stance is supported by international research and experience (Bolam, Dunning & Karstanje, 2000; Centre for Educational Research and Innovation, 2001) which sees the management of professional learning as a central component of a principal's role when managing school capacity and change. School capacity ensures that changes are supported by the school's organisation and are sustained long-term, particularly when external expertise is withdrawn (Timperley, 2008). In its turn active leader participation assists with building school capacity by addressing three dimensions: knowledge and skills of individual staff members, a strong school wide professional learning community and programme coherence. Again this differs from traditional

professional development where only the dimension of teacher knowledge and skills has been addressed (King & Newmann, 2001).

A cycle of inquiry is required to assist individual teachers to develop self-regulatory skills and sustain professional learning (Sparks & Hirsh, 1997; Timperley, 2008). Smith, Petty and Day (2008) conclude that professional development programmes without an inquiry cycle of follow up and coaching will result in weak results regardless, consequently school capacity in this area would also be diminished.

In-depth knowledge and skills are required to enable primary school teachers to identify gifted students. As Timperley et al. (2007) have argued a theoretical understanding must be developed within which problematic discourses can be challenged. The knowledge developed must be consistent with current research, policy and recommendations of professional bodies. The following section explores the theoretical and technical knowledge content of professional learning that primary school teachers require to effectively identify gifted students.

Theoretical knowledge and skills required to identify gifted students

In-depth theoretical knowledge consistent with current research is required to enable primary school teachers to identify gifted students. McAlpine (2004a) explains there is an interactive relationship between the concept and characteristics of giftedness and identification. Understanding and defining the

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concept of giftedness is the first step in developing in-depth knowledge. Defining the term "giftedness" presents a challenge. One difficulty lies in the fact that giftedness acts as a social and cultural construct that exists in the eyes of the definers (Sapon-Shevin, 1987). Freeman (2005, p. 80) explains:

> No conception of talent works in a cultural vacuum… Context is all in the identification of giftedness because 'gifted' is an adjective, a description, so that recognition of individuals who are seen as meriting that term depends on comparison.

Hence deciding to label a heterogeneous group of students represents a decision, not an objective reality. The span of the definition, from exclusively defining to the most liberal stance where every child is gifted, rests on a set of assumptions each with its own set of professional beliefs, theories, practices and implications and these assumptions must be integrated into teachers' existing assumptions about teaching and their professional practice. This is a challenge for professional learning as the concept of giftedness is surprisingly complicated with no one universally accepted theory-based definition (Davis & Rimm, 1989). Indeed Moltzen (2004a) reports that in 1997 one researcher, George, had counted up to 213 definitions. There appear to be at least several points of broad agreement within definitions that can act as a guide for developing professional knowledge as Sternberg (2004, p. xxiv – xxv) outlines:

giftedness involves more than just high IQ; giftedness has non-cognitive (e.g. motivationally driven) components as well as cognitive ones; environment is crucial in terms of whether potential for gifted performance will be realised; giftedness is not a single thing: there are multiple forms of giftedness, hence one-size-fits-all assessments or programmes are likely to be too narrow; measures for identifying or evaluating gifted individuals need to be proposed to operationalise theories and then they need to be evaluated rather than merely assumed to be valid.

A similar challenge for professional learning lies in defining the terms 'gifted' and 'talented.' Some writers use these words synonymously. Others define them as two separate aspects. For example, gifted may mean consistently outstanding achievements, a set point on the IQ scale (Davis & Rimm, 1989) or the top 10 – 15 per cent of a school's population (Education Review Office, 1998). Definitions of talent may refer to above average performances in a specific field such as music, mathematics or the arts or to the potential to be gifted. Again this lack of clarity leaves room for interpretation and misunderstanding when designing professional learning and integrating it into practice. One way to gauge the translation from professional knowledge to practice is to use Sternberg's (2004, p. 25) four stages:

stage 1, whatever measures have been used in the past;

stage 2, latching onto an explicit theory of giftedness and

use that, citing the theorist as their authority; stage 3, able

to defend why they use a particular theory or traditional

techniques not clearly based in any theory; and stage 4,

has a conception of what they value and will then seek an

explicit theory or combination of such theories to help

realise this system of values.

Whatever the definition and terminology a teacher may choose, Passow (2004) advises that the purpose of any definition is to provide direction for the selection and use of identification procedures.

Understanding the characteristics of giftedness is also central to identifying gifted students. The MoE (2000, p. 17) states: "each school must develop a set of characteristics that reflects its own definition of and approach to the concept of giftedness and talent." However, the notion of characteristics is not as simple as it might seem. There is no universally accepted theory-based list of characteristics; rather an ever-expanding diversity of characteristics which can be bound in time and place and change over time or context. To add to the complexity, the gifted are not a homogeneous group. Each child is unique and presents in unique ways. While, in theory, a list of characteristics may be sound, it can be problematic when put into practice (Riley, et al., 2004). The MoE's (2000) suggestion that schools develop their own list of characteristics seems to ignore these dilemmas

and underrate the complexity of the task. Sternberg (2004, p. 16 - 19) again provides some direction by summarising characteristics under five main criteria:

excellence criterion, excellence is relative to peers; rarity criterion, a high level of attribute that is relative to peers; demonstrability criterion, the dimension(s) along which the individual is evaluated as superior must lead or potentially lead to productivity; productivity criterion, the dimension(s) along which the individual is evaluated as superior must be demonstrable through one or more tests that are valid assessments; and value criterion, the person must show superior performance in a dimension that is valued for that person by his or her society.

These criteria can either stand alone or be combined when identifying giftedness. Renzulli and his colleagues (Renzulli, Smith, White, Callahan & Hartman, 1976) caution that teachers require training before using rating scales because of bias and stereotypes.

Gifted theories also need to be integrated into professional knowledge and practice to allow teachers to problem solve in ways that are related to specific situations. The next step in professional learning may be for teachers to adopt a domain or model of giftedness that encapsulates their professional knowledge of conceptions and characteristics. There are three major domain

of theory (Monks & Katzko, 2005) to be considered: a simplified static view of giftedness, a multidimensional view of giftedness and the environmental or sociocultural domain. Gardner's (1993) theory is an example of a simplified static view of giftedness. He expanded his notion of intelligence from a single entity to eight intelligences, defining these as sets of abilities, talents or mental skills that enable students to solve problems or fashion culturally useful products. Renzulli's (1998) three-ring conception provides a multidimensional view of giftedness with its interaction between the three clusters, of above average ability, task commitment and creativity. All three clusters must be present for giftedness. A natural progression from the multidimensional view of giftedness was to distinguish between potential and actual performance. Once this distinction was made, the environmental or sociocultural domain, the third major development, was the logical consequence. Gagne's theory (Gagne, Begin & Talbot, 1993) provides an example of the environmental or sociocultural model. What transforms or impedes the transfer of potential into performance are three clusters of catalysts: intrapersonal catalysts, environmental catalysts and chance (Gagne, 2004). Intrapersonal catalysts are the personality factors such as motivation, perseverance, confidence, organisation or concentration that impact on learning. Environmental catalysts are external and can include the child's milieu or surroundings, significant persons such as family, teachers or friends, provisions that a school, community or culture may or may not make and significant events that can impact on or influence the child. By factoring in these two catalysts alongside the separate definitions of giftedness and talent, Gagne includes the underachiever. Gagne also points out that chance can

have a significant influence: for example, the family's socio-economic or cultural status or the teacher's attitude towards and/or knowledge of gifted education. Chance then influences all the environmental catalysts (Gagne, 2004). At the core of his model is student learning and Gagne makes it clear that students will not progress without the ongoing support of teachers and schools. In this way he puts the onus on professional learning ensuring that schools and teachers understand giftedness in order to develop effective programmes and translate giftedness into talent.

While these domains and theories form the foundation of professional theoretical knowledge about giftedness they can remain unproductive when viewed in isolation. In order to bridge the gap theory and knowledge must be further translated into the practice. Professional learning must assist teachers to develop the technical knowledge and skills required to identify gifted students.

Technical knowledge and skills required to identify gifted students

There are two strategies for identifying gifted students, the formal identification strategy and the responsive environment strategy of identification (MoE, 2000; McAlpine, 2004b). The first is referred to by Plucker and Barab (2004, p. 204) as "find-the-gifted-child," based as it is on the identification process rather than the teaching environment. Identification is usually coordinated by a team and involves a systematic,

school wide data collection. The second strategy is the responsive learning environment approach which is reliant upon the classroom teacher creating an environment in which giftedness can thrive. Moltzen (1995) recommends some basic principles for identification based on national and international research: identification should have a purpose; it should lead to some special provisions for the group involved; the process should be equitable; the search for talent should be ongoing; practice is formalised; it employs a range of methods; and practice incorporates a range of procedures to ensure students are given more than one opportunity to be identified. While sound in theory in practice these principles highlight the professional learning gap. Fraser (2004) summarises the situation succinctly when she comments on the contradictory nature of the research and the unproductive nature of an education system that allows for school communities with fragmented and dubious knowledge to choose their definitions, characteristics and identification strategies. This critique is just as relevant when examining identification tools.

Making sense of multiple sources of identification information, for example a standardised test, rating scale of characteristics, parent nomination and teacher observation, leaves the door open to levels of subjectivity (Riley et al., 2004). Similar problems exist with teacher-made tests and authentic assessments using portfolios, performances and auditions. Teacher subjectivity is a negative factor with student work and performances as is the reliance upon student performance and productivity (Riley et al., 2004). There are potential difficulties of increased costs, teacher training, time

required for collection of assessment tools and data, determining the appropriateness, validity and reliability of each tool individually and as a total information package and the final weighting given to each for decision-making.

Teachers lack professional learning and development in the area of test taking (Riley et al., 2004). They are neither aware of biases nor do they understand psychometrics, how to interpret the scores or evaluate tests. It seems unlikely that there are many teachers who read about or understand the terms reliability and validity. Similarly tests tell very little about gifted students mainly because they examine behaviour out of context (Plucker & Barab, 2004). Consequently tests are selected for use in the identification process without the necessary thought or applied knowledge as to what they measure and what they do not. While this may be unintentional, it does leave many gifted students completely out of the loop

Use of parent/caregiver or whanau nomination highlights another teacher-driven barrier to the identification of gifted students: distrust, possibly even disdain, of parent knowledge and ability to identify giftedness. Keen (2004) reports parents of gifted students feel that they have a wealth of information to share but schools are not interested. This appears to stem from teachers assuming all parents think their child is gifted. He also reports that over 50 percent of parents feel uninformed about their school's practices in gifted education. This represents an interesting dichotomy given the MoE's

(2000) principle of open communication and the knowledge gap of many primary school teachers.

While Bevan-Brown (2004) sees the responsive environment as culturally supportive this approach is reliant on classroom management providing challenging opportunities that enable students' giftedness to surface (McAlpine, 2004b). It is entirely dependent on the professional knowledge and skills of the teacher and, as McAlpine (2004a) and the MoE (2000) concede, teachers with large classes, limited experience and/or negative attitudes present a barrier to its effectiveness.

With a paucity of research and a disparity between theory and practice (Riley et al., 2004) it is difficult to determine whether the multi-method approach is either being implemented or more effective. Therefore enhancing teacher's knowledge and understanding of their role through professional learning and professional development is pivotal to ensuring gifted students are identified.

Conclusion

As the diversity of learners continues to grow in New Zealand primary schools so too does the need for ongoing professional learning. Teachers may benefit from an effective professional learning programme that enhances their professional knowledge of giftedness and identification as evidenced by the literature on professional learning. This could enable teachers to overcome possible barriers to identification and to effectively identify the diverse range

of gifted learners in their own schools. The aims of this research were to investigate this further. The research design was selected to examine the knowledge and perceptions of the participants around the issue of identification of gifted students, the ways in which teacher knowledge and perceptions impacted on the identification of gifted students and the place of professional learning in the identification process. This research design is described in the following chapter.

CHAPTER THREE

RESEARCH METHODOLOGY AND METHODS

Introduction

The most appropriate approach for this research was the adoption of a qualitative methodology with a descriptive research focus. The context of the study was the knowledge base and perceptions that primary school teachers hold when identifying gifted students while examining the relationship that exists between that knowledge, practice and professional learning. In order to gather and analyse data about teachers' knowledge base and perceptions descriptive research methods were used involving interviews and focus groups. Both the interview and focus group data were analysed question by question and links were made to the theory base and research questions. The issues of validity, reliability and research ethics within the research process were also addressed in this chapter.

Overview of educational research

Bassey (1999, p. 38) defines research as a "systematic, critical and self-critical enquiry which aims to contribute towards the advancement of knowledge and wisdom." It has a structure that involves the planning and integration of design, process and outcomes (Morrison, 2007). Educational research is an enquiry conducted in educational settings to inform and

improve educational knowledge and practice by examining educational problems.

Keeves (1997) argues that educational research is quite unique. It integrates knowledge from other disciplines such as the social sciences to strategically acquire new knowledge. That acquisition I see as strategic (Patton, 1990), providing a framework or "basis for action" (Husen, 1997, p. 20) leading to change and improvement in educational settings. Middlewood, Coleman and Lumby (1999) assert, while it will impact minimally on professional learning, it may also underpin major changes such as national policy development and school culture. If that is so, then there must be a subsequent impact on professional learning.

Alternately, research in the field of education can present challenges. Researchers carry philosophical assumptions about the world into their research. Fundamental to any methodological approach is the researcher's paradigm and assumptions, the way the researcher views the world. The paradigm determines the criteria with which one selects and defines inquiry problems and how one approaches those criteria theoretically and methodologically (Husen, 1997). It is important to openly acknowledge this as part of what Wellington (2000, p. 41) calls the "Education Uncertainty Principle: the researcher influences, disturbs and affects what is being researched in the natural world."

Applying this principle is part of my role and responsibility as a researcher: being reflexive by questioning assumptions, values, ideas, knowledge, motivation and bias in undertaking the research, the assumptions, subcultures and underlying values of the schools being studied and the language used when discussing an educational issue. Such reflexivity is also important in determining how my research is conducted to ensure honest disclosure and respect for others (Wilkinson, 2001). It is both an ethical and methodological consideration. Ethical considerations are intertwined throughout each stage of my research process, from planning to reporting. Following ethical guidelines ensures my research responsibilities are foremost to the participants, the teaching profession and the research community.

There are three main approaches to research design: quantitative, qualitative and mixed methods, a mixture of the previous two. Within this Creswell (2002) advises that the research designer needs to consider three framework elements: philosophical assumptions, strategies of inquiry and the procedures of data collection, analysis and writing. He (2002, p. 23) further explains: "the choice of which approach to use is based on the research problem, personal experiences, and the audiences for whom one seeks to write." Cohen, Manion and Morrison (2001, p. 91) succinctly assert: "the notion of 'fitness for purpose' reigns here; the research design must suit the purposes of the research." The choice of a qualitative approach with a descriptive focus is 'fitness for purpose' in this study. "The commitment to get close, to be factual, descriptive and quotive constitutes a

significant commitment to represent the participants in their own terms" (Lofland, 1971, p.4).

Insights into the real dynamics of situations, events and people can be exciting and enlightening. Lincoln and Guba (2000) see descriptive research as permitting not only the voice of a real researcher into the text; it also allows the research participants to speak for themselves. In this study I have explored the problem though the eyes of the participants. I have captured what classroom teachers and principals know and perceive about giftedness, what they perceive as barriers to identifying gifted students and the professional learning and development they have experienced in this field.

The integration of theory to practice provides the basis for effective professional learning that impacts substantially on student outcomes (Timperley et al., 2007). I believe that my research could impact on practice by offering insights to classroom teachers, primary school managers and other educational professionals with an interest in gifted education who could reflect on the information and determine whether the information and insights could be utilised in their own educational setting with respect to professional learning and development and educational practices.

Qualitative research enables the researcher to respond, to be more interactive with the data-generating process and to leave room for alteration as the process develops (Bouma, 1996). This was the approach taken in

designing the research as it aligns with the qualitative methodology, descriptive focus and the aims of the research. My research design consisted of two data collection tools: interviews and focus groups.

Interviews

The first stage of data gathering involved interviews. One advantage of this approach was to begin with a wide, open, objective field of focus, countering the criticisms of selectivity, bias and subjectivity. Another was that the early use of a reasoned tool assisted in establishing tentative relationships or concepts so that the subsequent focus groups elaborated on these to provide greater understanding. The interviews included six classroom teachers and their principals in three schools. They were semi-structured in that the interview guide was prepared prior yet flexibility allowed the participant to determine how they might reply, to speak for themselves (Lincoln & Guba, 2001). While all of the questions were asked, there were times when participants' comments prompted additional questions.

The interview guide (see Appendix 1) was prepared with the research study questions in mind. Potential questions were brainstormed, added to and deleted before critical questions were selected. Open ended questions were carefully worded to ensure the participants' significant perspectives were to the fore in relation to professional development and learning and identifying gifted students. In this way the questions were bounded (Krueger & Casey,

2000 yet still allowed the participants to select their own way of wording their responses. I chose to use two 'teacher' friends in schools other than my own to pilot the interview schedules but not be involved in the actual interviews. They were chosen because they had both participated in professional learning on giftedness within the previous twelve months. I requested that they give critical feedback about the wording or clarity and openness of the questions. Their feedback was useful as it revealed problem areas which enabled me to critically examine the questions and make changes. It also confirmed the open nature of the questions, ensuring participants' voices would be heard and that some of the questions challenged professional thinking and knowledge.

Participants were consulted regarding times and settings for the interviews and confirmation of arrangements sought prior. At the beginning of each interview consistent background information about the purpose of the study was shared with the participants in order to minimise tacit assumptions and begin the session in a focussed way by providing clues as to how and in what manner they might respond (Krueger & Casey, 2000). In one case the recording was incomplete and distorted in another. With the permission of the participants the interviews were repeated and both the original and secondary transcripts included in the data analysis. Once all the interviews were transcribed I listened to the interviews for a second time, checking the transcripts to ensure they were accurate. Where necessary, amendments were made.

Each interview was recorded on a digital voice recorder and, once completed, transferred to the computer for transcription. I started to transcribe and undertake some preliminary analysis as soon as possible after the interviews. Transcription involved three simultaneous processes: transcribing the actual interview in sequence, transferring each interview and question to their own files and developing preliminary codes or categories. This approach of moving from whole to fragment and back to the entirety again ensured my data became more manageable (Jenkins, 1999) and analysis was not fragmented.

In so doing, it was important to follow Merriam's (1998) advice by remaining focused on the purpose and parameters of the study, undertaking progressive focussing and trying out themes and ideas on subjects. Data analysis required ongoing reference to literature so that it too informed the research process. At times this meant interrupting the data analysis process and referring back to the literature so that the research aims and questions were to the fore and the organisation of information was linked to the aims and questions. Simultaneously I used the constant comparative method (Merriam, 1998) by taking information from the first source, comparing it with the next and so on throughout the interviews.

The analysis developed and the coding led to summary tables so that each individual's responses could be compared in order to get a picture of whether there was a pattern of responses within each question. During the transcribing, more columns were added to ensure a complete picture. Relevant comments from the participants were added to support the

categories. This categorising also led to the development of themes around which further summaries were organised. The use of tables organised my data so that it was more manageable (Jenkins, 1999) although I also referred back to interview scripts when further clarity was required.

Focus Groups

The second data gathering method was focus groups with the same classroom teachers who had participated in the interviews. This process was based on the principles of self-disclosure within a comfortable environment, using a specific type of questioning and clearly established focus group rules (Wilkinson, 2001). The benefits of having focus groups after the interviews were that a tentative relationship had already been established during the individual interviews and this was another opportunity to gather information about how teachers think, to explore and confirm their perceptions and to triangulate the information. One disadvantage was that focus groups can deliver less data than one-to-one interviews.

The focus groups involved asking groups of classroom teachers a series of bounded questions (Krueger & Casey, 2000) that further explored the aspects under research. Initially there were three groups of six teachers for each focus group, but one teacher left Totara School during the term so the third group was reduced to five participants. The focus group questions were semi-structured in that the guide (see Appendix 2) was prepared prior

yet flexibility again allowed the participants to speak for themselves (Lincoln & Guba, 2001). The focus group guide was prepared with the research study questions in mind, a series of questions brainstormed and several drafts written. Reference was made back to the interview questions, interview data and the literature to clarify what information had already been gathered, what new information might be required and what questions would best capture the intent of this research study (Krueger & Casey, 2000) before the guide was completed.

At the beginning of each focus group consistent background information about the purpose of the study was again shared with the participants in order to minimise tacit assumptions and begin the session in a focused way by providing clues as to how and in what manner they might respond (Krueger & Casey, 2000). The focus groups followed the structure of an introduction to the topic prior to moving the conversation into round robin questions around the key focus areas driving the study. The questions were generally of an open-ended nature as this advantaged the researcher. What is on the interviewee's mind was revealed rather than assumptions being made. The participants added more or less information depending on what had already been said. While all of the questions were asked, there were times when participants' comments prompted additional interview questions or clarification. There were also times when chairing the focus group meant waiting for an appropriate moment to refocus the participants on the question while still encouraging them to respond openly.

A conceptual mapping activity around methods for identifying gifted and talented students, their advantages and disadvantages was utilised. The gain in this strategy was that it ensured all members shared, minimised the "me too" response and provoked a discussion of specific practices and perceptions around these, bringing the participants' real world into play (Wilkinson, 2001). A further advantage of this method was that, while time consuming, it was inexpensive, stimulating, flexible (O'Connor & Madge, 2003) and provided opportunities to see social processes in action as interviewees responded and re-defined their thoughts to make meaning together. The reliance was on the group's' interaction rather than the interaction with the interviewer. This yields insights that may not occur in interviews (Cohen et al., 2001). As with the other methods it aligned with the methodology while reliability and validity were further enhanced through ongoing triangulation.

Appropriate times, settings for the focus groups and confirmation of appointments were arranged through the principals who consulted with their teachers. In two schools the focus groups had to be rescheduled due to illness and lack of availability. The focus groups were also recorded on a digital voice recorder and, once completed, transferred to the computer for transcription. Transcription involved the same ongoing, simultaneous processes used in the interviews, the constant comparative method and ongoing reference to the literature, research aims and questions. Once all the focus groups were transcribed I listened to them a second time, checking the transcripts to ensure they were accurate. Where necessary,

amendments were made. Summary tables were also developed and added to, which, in some cases, led to the development of new codes and affirmation of the themes.

Reliability and validity

Keeves (1997) defines replicability as the ability to repeat the findings under the same or slightly different conditions to confirm the strength of that research. The use of interviews and focus groups was a step in this direction. However the bulk of the judgement was made with respect to planning for validity and triangulation. A suitable method for establishing generality and validity of findings as confirmation was through multiple methods of investigation so that different perspectives provided support for the research findings and observed relationships (Keeves, 1997). It was indeed a factor I took into consideration when employing this particular design.

Sampling is another design factor that determines the quality of the research (Cohen et al., 2001). The style of research influences choices while factors such as time, expense and accessibility are also considered (Cohen et al., 2001). Patton (1990) differentiates between quantitative and qualitative approaches. The former typically focuses on large, statistically representative samples, randomly selected and its purpose is generalisation. The purpose of qualitative sampling is to select information-rich cases from which one can learn a great deal. In this research study

selecting a qualitative convenience sample met the accessibility, time and expense constraints while staying true to the qualitative methodology and the descriptive research focus.

I also recognised reflexivity in the approach to my research study as a limitation in terms of reliability and validity. Reflexivity "carries the connotation that researchers should be reflective about the implications of their methods, values, biases, and decisions for the social world they generate" (Bryman, 2004, p. 500). I was aware that I had chosen this research topic because of my personal and professional experiences and therefore had to guard against bias and subjectivity when conducting and analysing the interviews and focus groups. I had to reflect upon what I did, why I did it and how I did it (Davidson & Tolich, 1999).

Ethical issues

Ethical considerations were intertwined throughout each stage of the research process from planning to report. Reflexivity has been discussed previously. Diener and Crandall (1978, cited in Bryman, 2004) draw attention to the other main areas of ethical principles that received attention throughout all stages of my research: harm to participants, informed consent, invasion of privacy and deception. The Unitec Application for Ethical Approval for a Research Project Form A outlines some further considerations: respect for property ownership, avoidance of conflict of

interest and research design adequacy. There are commonalities between all of these principles and my answer lay in reflexivity.

An important ethical consideration in my study was gaining entry into the schools. I required the permission of key people such as the principal and the organisation before determining the teacher participants. The modes of communication included a personal approach to each principal, followed by a preliminary meeting to discuss the purposes of the research. After initial agreement from the principal I attended a staff meeting at each of the schools, again to discuss the purposes of the research. At each of these six meetings I responded openly to questions regarding the purpose of research, my role as a researcher and the production of this thesis. There was no conflict of interest as my relationship with the schools and the participants was as researcher and fellow professional.

The principle of informed consent was pivotal to meeting any of the other principles. Taking such actions as seeking written permission from participants, sharing information openly and honestly at and about the various stages of the project, treating participants with respect and consulting with them concerning the research and its implications met my obligations to these principles. At each stage of the research, participation was renegotiated and participants were aware that they could withdraw from the research at any time. The confidentiality of individuals and the school was also revisited at each stage of the research. While renegotiating consent may seem to be time-consuming, it reflected a

partnership approach to research that practically deals with accountability and consent (Davidson & Tolich, 1999). It also enabled the participants to continue to make informed decisions about potential harm, invasion of privacy and deception, thus sharing the power between researchers and researched.

I was aware of the fact that teachers are busy people and included information about the time frames for the interviews and focus group at the meetings with principals and staff as well as in written form. The timetable for the interviews and focus groups was determined by consulting with each teacher or principal so that it fitted best with what they were doing. At times sessions had to be rescheduled, sometimes several times, because of unforeseen circumstances. When this occurred staff and schools were again consulted, either individually or as a group depending on who was affected, to ensure that the sessions did not interfere with their other obligations, personal or professional.

For data gathering and analysis purposes each of the three schools and its participants were allocated fictional names. The following chapter will introduce the participants, review the research activity and present the analysis of the data. The analysis will be contained within two contexts: the professional learning context and the professional knowledge and practice context.

CHAPTER FOUR

RESEARCH FINDINGS AND ANALYSIS

Introduction

This chapter provides an analysis of the data gathered during the interviews and focus groups from three selected primary schools in the greater Auckland area. It is presented in four parts: a review of the research activity, a presentation of the data collected during the interviews, a presentation of the data collected during the focus groups and an outline of the significant issues emerging from the data collected.

Review of the research activity

This research used interviews and focus groups to explore the professional learning experiences and the professional knowledge and practice of primary school teachers when identifying gifted students. The 21 individual interviews took between 15 and 25 minutes to complete while the focus groups took between 40 and 55 minutes. Both the interview and focus group guides (see Appendices 1 & 2) comprised of two categories of questions: professional learning (Part A) and professional knowledge and practice (Part B). In reporting the findings from the data I presented the responses questions by question under those categories. This was followed

by a discussion on the findings with quotes from the participants to illustrate.

The research was undertaken in three New Zealand primary schools. The first, Kowhai School was a seven teacher primary school catering for Year 1 to 8 students in a semi-rural area with a roll of 128. Rata School, the second school, was situated in a town with a population of around 7 500 and catered for both town and rural students from Years 1 - 8. There were 18 teachers and 333 students. The third school, Totara School, was an urban, multi-ethnic school with a roll of 302 and 22 teaching staff. In each of the three schools six classroom teachers including senior management and the principal participated in the research as detailed below.

Table 4.1 Research participants

	Kowhai School	Rata School	Totara School
Principal	John	Patrick	Grace
Classroom teachers	Joyce * Anne Tim Becky Cecilia Agnes	Bethany* Elizabeth Wayne Patience Christine Claire	Mana* Matariki Te Awhina Katarina Helen Georgia

The asterisk denotes a senior management position. The principals participated in the interviews. All of the classroom teachers participated in both the individual and focus group interviews with the exception of Georgia who left Totara School prior to the focus group interview.

Interviews

The interviews comprised of seven questions. Four of these related to professional learning (Part A) and three to professional knowledge and practice (Part B). Timperley's (2008) key principles have been woven throughout the analysis to determine whether effective cycles of learning and action have occurred in the participants' professional learning.

Part A: Question one

The first question required the participants to provide a rationale for identifying gifted students. This question linked the wider and policy social context which influences the professional learning context. It also determined whether the framework for professional learning, the rationale and value behind the identification of gifted students was part of the participants' discourse. Participants gave multiple answers and the summary of information elicited was as follows.

Table 4.2 Rationale for identifying gifted students.

Responses	Number of responses
Equity	6
Classroom management	6
Reach their potential	9
Differentiated programme	10
Meet student needs	11
Student self esteem	3
Contribute to society	2

All of the participants agreed that it was their professional obligation to identify gifted students. Most answers integrated national discourses of

inclusion: equity, students reaching their full potential, contributing to society and responding to students' needs. Other answers related to the classroom context: if students' needs were not met behaviours such as boredom and disruption would result, identifying students was integral to providing a differentiated educational programme and students' self esteem would be enhanced through identification. With this level of agreement it could be assumed that the participants had incorporated national discourse and the rationale and purpose for their professional learning into their professional discourses.

Within the responses however references were also made to the myths that impede acceptance and identification of giftedness. For four classroom teachers giftedness was something that applied to every child.

> I actually believe every child is gifted in some way or
> another, not specifically academically (Helen).

Six teachers recognised that gifted students have their own set of needs and equity lay in meeting all students' needs. However four of these teachers expressed doubt about whether they could meet those needs as these comments illustrate.

> But I think their needs are harder to cater for. To actually hone in
> on what they need we don't have the resources in the classroom
> (Joyce).

A gifted child who remains in his classroom is going to be bored out of this mind and he's just going to lose all interest in school work. He's not going to excel. It's trouble (Georgia).

For one teacher her major emphasis was teaching the students who were struggling to achieve. She echoed the myth that gifted students succeed without identification and ensuing support.

The kids that are struggling, that's really important to me to get them up and working whereas these guys are going to cope anyway (Agnes).

Four teachers thought gifted students were easily identified either by their classroom work and four teachers by their personalities as these comments illustrate.

I guess as an experienced teacher and what have you and by the time you collect your data and what have you there are students who stand out academically that within your classroom that you cater for (Patience).

The advantage in a small school is that it's very hard to hide in a small school, a child with ability… it's very hard for them to suddenly decide I'm going to hide my light under a bushel (John).

Well you can have gifted classroom drongos (Agnes).

I've had a lot of high achieving students but I would probably say about five who were gifted in some sort of area and interestingly enough these five would be labelled perhaps eccentric, geeks, odd balls… socially inept (Bethany).

Often their school work's absolutely messy, very messy. They don't… they can't organise their gear sometimes. Mind you it depends on their personality, their personality too and gifted students have certain types of personalities (Christine).

These comments illustrate a potential dichotomy between the participants' espoused rationale for identification of gifted students and the value of professional learning to identify gifted students. They also allude to the possibility that the professional learning approach has been traditional as participants' existing knowledge, perceptions and bias remain unchallenged. The references to myths of giftedness illustrate negative attitudes and stereotypes which have no basis in theory and act as barriers to the identification of gifted students (McAlpine, 2004b).

The next two questions identified forms of professional development that teachers had undertaken in their teaching career and the benefits of that professional learning. Forms of professional learning and development are strategies used to promote change (Richardson & Placier, 2001) by introducing new knowledge and ideas within academic, school or classroom contexts (Eraut, 1994). The purposes of these questions were to determine whether the participants had been involved in professional development sessions, whether this had occurred in the academic, school or classroom contexts (Eraut, 1994) and whether the participants perceived the professional learning had a positive impact on their ability to identify gifted students.

The context for Initial Teacher Education was academic. The following comments illustrated the degree of professional learning undertaken in gifted education.

> They said it in a general kind of if you've got students who you can
> see are in need of extending beyond the work you're giving them
> in class then they could be classed as gifted and talented (Anne).

> None specifically. The odd one or two comments like throughout
> teachers college like you might get gifted students in this… but
> nothing specific (Te Awhina).

As these comments highlight none of the teachers received pre-service training in identifying gifted students although one teacher noted that an elective was offered. It was not however her preferred option.

When discussing forms of in-service professional development two thirds of the teachers experienced at least one form with one third experiencing more than one form. One third received no professional learning in the area of gifted education. The following table illustrates the contexts of professional learning (Eraut, 1994) in total while the forms and benefits are related through the participants' comments.

Table 4.3 Contexts of in-service professional development

Contexts of in-service professional development	Number of responses
Academic	4
School	9
Classroom	1
No professional development	7

Only Elizabeth could relate extensive school and classroom-based professional development around identifying gifted students in a school in the United Kingdom. It began with professional development on the multiple intelligences and teachers identifying the strengths of the students in their own classes. This identification process involved students, teachers and parents. All students were acknowledged on large display boards. Every child in the school was on at least one board and "the teachers used this as a way of acknowledging these children and identifying them and perhaps

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channelling them into things that they would feel good about themselves, but could also help others with." This professional learning experience "completely changed my thinking" (Elizabeth).

The most cited form of professional development was school-based staff meetings facilitated by an external expert. Nine of the participants had been involved in this type of professional learning. Bethany, Cecilia and Agnes attended school-based workshops facilitated by an external facilitator and left feeling they didn't have the "nitty gritty" of what constitutes a gifted child. Agnes said she thought they had two sessions "trying to define… gifted and talented cause that's quite hard to define". Katarina remembered an externally facilitated session involving "a long, drawn out discussion over what was gifted and… in my mind it kind of went nowhere. So we ended up not knowing what a gifted child was." As part of their school professional development programme John related that they had two to three staff meetings followed by staff discussions about what the terms gifted and talented meant. "We sort of got bogged down in the discussion about what gifted meant and realised we possibly had some difference of opinion with the MoE over that" (John).

External facilitators were also part of long term, school-based contracts around gifted and talented. Grace relates that in 2004 her school was involved in a Gifted and Talented contract. Early in the year the facilitator became sick and the contract stopped. When asked whether there had been any discussion about a replacement facilitator, Grace replied, "No...

We didn't pursue it but neither did they." Joyce related a similar experience in a previous school.

A further form of academic professional development was access to university courses. Four of the participants had been involved in university courses. For Patience her learning from a university paper was "probably reflecting on how we, actually how I identify gifted and talented students. That it's more than just an academic thing" but, as a school, "we haven't really clarified that (identification). It was more how we deliver programmes within a classroom context." Wayne walked away from his paper with the knowledge that there was no definition of gifted and talented and that the MoE had left that up to individual schools to create.

Patrick was the only participant who mentioned attending a Gifted and Talented Conference. From that he talked with his staff "a lot about doing things really simple like doing Bloom's taxonomy. You know, just incorporating that somehow into, incorporating it into your planning." Patrick's priority was catering for gifted students in the classroom rather than identification.

These interviews highlighted the frequency of short term, school based professional development practice and the necessary use of external experts. Two participants recounted benefits of their professional development experiences but only Elizabeth could relate this directly to a

change of professional knowledge and practice resulting in the identification of gifted students.

Question four

Professional learning occurs both on and off the job (Eraut, 1994). This question asked teachers where else their ideas about giftedness came from to elicit other forms of professional learning. Participants offered more than one source. The results were summarised as follows.

Table 4.4 Origin of teachers' ideas about giftedness

Origin of Ideas	Number of responses
Professional development	7
Educational readings	7
Other readings/sources	8
Teaching experiences/observations	19
Personal experiences	8
Professional dialogue	6
Assessment information	1

Teaching experiences and observations of students were cited by nineteen teachers as sources of their ideas about giftedness. The two who did not mention teaching experiences had been teaching for less than six months. "Learning on the job, I suppose" is how Claire saw her ideas on giftedness developing although she also thought it was "an airy, fairy teacher discretion sort of thing."

Seven participants stated that professional development contributed in some way to their ideas about giftedness. Wayne mentioned his university paper as a catalyst for his thinking but later related "I don't know where I sit with all of it… without a lot of professional knowledge behind it." Elizabeth again acknowledged the impact of her professional learning in the United Kingdom.

Seven of the participants acknowledged professional readings such as the Education Gazette, teacher library texts, television documentaries and newspapers as a source for their ideas. MoE documents were seen as vague and waffly by four teachers. Cecilia talked about being influenced by readings that hadn't "flowed out of the education system but is pertinent to it. I would have read a lot of texts with an underlying spiritual basis and probably would have read stuff from divergent thinkers." As a trained psychologist Georgia saw her ideas coming from her readings in that field. All other references were generalised by the participants as personal reading. Agnes noted that she hadn't "done that much reading on it cause I'm not that interested in it… These guys (gifted students) are going to cope anyway."

Four of the participants had family members or personal acquaintances whom they considered to be gifted and these experiences contributed to their ideas about giftedness. Three teachers from Totara School related their ideas to their own childhood school experiences. Matariki talked about a Children with Special Abilities group that received extra technology

lessons: "But you were never given the opportunity unless you were good at it straight away." She saw this as unfair as other students were never "given the chance to develop a gift." Te Awhina related that when she was at intermediate school "there was always the brainy class and the dumb class… and maybe (we) didn't call it gifted and talented but that's where it started from I reckon." Tim's ideas of gifted and talented came from his own sporting background, an area in which he could be considered gifted.

The participants have been involved in many differing forms of professional learning and the examples given illustrate how personal factors and history, needs and perceptions of professional development all play a part (Baird, 1988). With the exception of Elizabeth these professional learning experiences have had little impact on the development of their professional knowledge or practice with respect to identifying gifted students. Rather it illustrates the fragmented nature of the professional learning and, for some teachers, negative perceptions of personal experiences that could result in bias and hinder identification of gifted students.

Part B: Question five

Teachers were asked two questions exploring their professional knowledge of the theory of giftedness as theoretical knowledge must be developed in order to make ongoing, principled decisions about identification (Timperley, 2008). The purpose of these questions was to explore whether teachers had developed a professional knowledge of theory. The first question

required the participants to define the terms gifted and talented. Some teachers gave more than one response. The results were as follows.

Table 4.5 Teacher conception of gifted and talented

Conception	Number of responses
Academic versus performing arts	10
Performance versus potential	1
Gifted is higher form of talent	5
Genetic versus learned	4
Unsure or don't know	11

50 per cent of teachers and two thirds of the principals were either unsure or didn't know of any theories or theorists indicating a significant gap in their professional knowledge. Cecilia was quite unique in that she hadn't really thought about her conception and commented: "it's probably not wildly satisfying either, thinking about gifted and talented."

50 per cent of the teachers were able to share definitions that could be linked to domains of giftedness. Some saw giftedness as being academic and talented as the performing arts. Elizabeth summarised these teachers' conceptions when she stated, "I look at gifted students as students that strive in academic areas whereas talented students strive in more practical things like sport, music, art." Anne's conception was of potential and performance where giftedness was having the knowledge above the expected level and talented was having the skills or practical ability to apply that knowledge. Four of the teachers saw giftedness as a higher or exceptional form of talent although they varied in their opinion regarding whether giftedness was genetic, a learned talent or a combination. Joyce,

Christine and Matariki thought the two terms were synonymous as being gifted in an area also meant you were talented in that area.

While 50 per cent of the teachers were able to respond with theory-based conceptions of gifted and talented these varied within schools leading to questions about whether there had been any sustained collegial interaction around identification theory and professional knowledge in their professional learning. At the same time 50 per cent of the participants indicated uncertainty, bringing into question whether the content and activities of their professional learning enabled them to develop theoretical knowledge.

<u>Question six</u>

The second theoretical question asked teachers to distinguish between a gifted child and a bright child. 50 per cent of teachers thought that a gifted child performed at a much higher level than a bright child although only Wayne quantified that difference using standardised test scores as an example. For others the difference in performance related to motivation and the ability to learn concepts effortlessly. To Tim the bright child: "does things cause the teacher says so... They don't really care about why things happen" whereas gifted children "care about why things happen or not… It comes with that thirst for knowledge." Joyce, Christine, Georgia and Patience agreed. Anne expressed this: "the bright child is able to grasp a new concept but still needs just as much learning as the other students… whereas the gifted child is presented with a new idea and gets it just like

that." Teachers used cognitive and motivational characteristics of giftedness to describe the difference between bright and gifted students.

The teachers' transcripts were analysed to determine which of Sternberg's components were included in their perceptions of the definition of giftedness. The results were as follows.

Table 4.6 Components of the definition of giftedness

Components	Number of Responses
Giftedness involves more than just high IQ	9
Giftedness has non-cognitive and cognitive components	3
Environment is crucial in terms of whether potential for gifted performance will be realised	0
Giftedness is not a single thing	0
Excellence criterion	5
Rarity criterion	6
Productivity criterion	0
Demonstrability criterion	0
Value criterion	0

50 per cent of the teachers differentiated between gifted and talented as including aspects such as the performing arts or social characteristics such as leadership. Motivational components (or characteristics) were mentioned by three teachers as "that thirst for knowledge" (Cecilia) or being "sort of self driven" (Patience). One third of the teachers saw giftedness as having the knowledge or skills and "gifted is just sort of more of a step up" (Mana) whereas for the other five teachers giftedness fitted the excellence criterion: "I would think gifted means they have a real special, special skill in one particular area that's well above their chronological age" (Claire). The other

five criteria were not included in teachers' definitions. Teachers tended to describe perceived characteristics of gifted students or distinguish between innate, genetic gifts and learned gifts or talents when defining giftedness.

This indicates further knowledge gaps within their professional learning. The participants may not have transferred the theoretical knowledge to their present knowledge base, classroom context or have been exposed to opportunities to translate new knowledge from professional learning into practice.

Question seven

The final question asked the participants to identify what they saw as the barriers to identification of gifted students. Most participants responded with more than one barrier. The responses were grouped into three broad categories: professional learning, resourcing and parents.

Table 4.7 Barriers to the identification of gifted students

Barriers	Number of Responses
Professional learning	21
Resourcing	13
Parents	3

Lack of effective in-depth professional development was seen by all participants as the major barrier. Reasons included the lack of professional learning, the lack of professional knowledge and the lack of support from the school or other agencies. Tim felt there were "not enough readings

about." He would also like "a checklist for saying what a gifted and talented student, what this is… simple and clear." This feeling was mirrored by Christine: "not knowing enough in enough detail… Those sorts of things that I haven't had any in-depth professional development on… Lack of knowledge I suppose." Patience concurred, surmising: "it's probably one of those things like professional development because I think… even since I did that paper things have changed." Matariki saw gifted education "as a specialised field and I think a lot of us know very little about it." Christine stated: "if I was in charge of gifted and talented I suppose we'd have to have procedures set in place but I wonder what they would be?" Patience cited school policy as a barrier although she was not clear about how that acted as a barrier. Katarina took a wider picture, commenting on the MOE as "being so good at coming up with these ideas. You should do this. You should do that. They don't tell you how to identify these kids." Helen concurred: "it's the system that is my barrier." Elizabeth was concerned about "the fact that you have a huge range of students (in your class) and in New Zealand we don't have a culture that… goes through and does something about identifying these students." Grace highlighted the role of professional development: "it's staff understanding of gifted and talented and I think before we even start any kind of programme there needs to be a fair amount of professional development for teachers looking at gifted, looking at talented, looking at how do we identify those kids." Patrick took a slightly different stance: "I think one of the barriers to meeting the needs of gifted children is teachers often perceive it as something extra that they have to do on top of so it's easier not to identify them as gifted because

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then it becomes more work." Within this question principals also revealed that each school had policies for gifted students and professional development but none had identification procedures.

For teachers resource issues included aspects such as class size, time, resources and parents. "When… you've got lots of children you want to spend lots of time with someone you believe is gifted but you can't take their morning tea. That's a punishment" (Becky). Matariki commented on class size and time: "learning time. I think behaviour management cuts into that and you don't have a lot of time to actually sit one on one with students" while Claire wondered "how do you bring it out of them and still run a normal classroom programme?" Bethany concluded: "gifted and talented are almost like the last on the list in that we do so much for our special needs kids who are identified as really low but our gifted children don't often get that identification specifically and I think that's a barrier."

Parental perceptions were listed as the third barrier. Tim noted: "they like to think their children are gifted or talented… and sometimes the child is just bright." He also noted that some parents "just cannot be bothered taking the time out to help and pursue the child's interests." Mana saw parental and societal pressure as further barriers. Children would be pressured by parental expectations: "if you're labelled like that you would have to keep that, up to that level."

The responses in the interviews were indicators of the gap between professional knowledge and practice as a result of the ineffectiveness of the participants' professional learning experiences around identifying gifted students. The focus groups explored these issues further using Timperley's (2008) key principles throughout the analysis to determine whether effective cycles of learning and action have occurred in the participants' professional learning.

Focus groups

The focus group guide consisted of four questions. Two of these related to professional learning and development (Part A) and two to professional knowledge and practice (Part B).

Part A: Question one

External support or expertise is necessary to acquire knowledge and translate those ideas into the teaching context (Timperley, 2008). Hence the first question asked teachers what external support was available to assist with identifying gifted students and how helpful that support had been. Six of the participants mentioned external facilitators and three others mentioned the Resource Teachers of Literacy or Behaviour and Learning. However they expressed doubt about the level of support.

But it's very difficult because there's so few of them (Anne).

I don't know whether the Resource Teacher of Literacy would do that

or not but I suspect that probably not cause I think their time would be

just consumed (Cecilia).

They, I mean they offer their service for a day which you have to

pay for. Money talks (Bethany).

The remaining teachers responded that professional development and

professional reading were more accessible forms of support and it was their

responsibility to locate these forms. Overall teachers did not perceive that

there was external support available for them.

<u>Question two</u>

The second question asked the teachers to identify the important principles

underlying a school's approach to identifying gifted students. The purpose

of this question was to explore whether theory had been translated into

teachers' teaching context. Their answers were collated and compared with

Moltzen's (1995) principles as follows.

Table 4.8 Basic principles underlying a school's approach to identification

Principles of identification	Number of Responses
Identification should have a purpose	0
Identification should lead to some special provisions for the group involved.	0
Process should be equitable.	0
Search for talent should be ongoing.	3
Practice is formalised.	3
Employs a range of methods.	2
Incorporates a range of procedures to ensure students are given more than one opportunity.	3

There were no comments regarding the first three principles and only two of the three focus groups mentioned employing a range of methods. Focus groups did universally agree that the identification practices needed to be formalised and revisited using a range of procedures to ensure students were given more than one opportunity to be identified. These findings indicate that theory has not been translated into the context of practice

Part B: Question three

The second question had two parts. The first part asked teachers to identify the theories or theorists of intelligence that helped them to define and understand giftedness. The second part asked them to explain how those theorists helped them to understand and identify giftedness. The purpose of this question was to examine teachers' professional knowledge base and explore whether the theory might have been integrated with practice (Timperley, 2008). Some participants offered more than one theorist. The results were as follows.

Table 4.9 Theories of intelligence

Proposed theorists/theories	Number of responses
Glasser: choice theory	2
Ryan: thinkers' keys	2
De Bono: thinking hats	4
Gardner: multiple intelligences	5
Bloom: Bloom's taxonomy	3
Piaget: developmental theory	2
Montessori: Montessori method	1
No knowledge	10

Ten of the participants (almost fifty per cent) acknowledged that they had no information in this area: "I don't think I have enough professional knowledge in that particular, yes" (Wayne). This highlighted the pivotal role ongoing, effective professional learning plays in developing professional knowledge and practice for teachers. Five of the participants noted multiple intelligences as a theory of intelligence and named some of the intelligences in their responses. Mana mentioned Gardner's name in conjunction with his theory. Other responses highlighted thinking strategies or developmental, educational and behavioural theories.

Only three of the participants responded to the second part of the question explaining how theory helped them to understand and identify giftedness.

> I guess just that there are different levels in different areas particularly when you look at multiple intelligences. It's not just academic. It could be music or art or… and that if you tap into each of those it might, you know, give you information (Patience).

I mean I sort of look at gifted as a tree with many branches

and I think that the theorists give us the base to look at

whether they're kinaesthetic, whether they're creative,

whether they're higher level learners, what the giftedness is

so it's like you've got your gifted child here and this theorist

is saying this and this one is saying this and you can pull

out what you need to fit the giftedness you're looking for

(Bethany).

I don't know that the theorists have identified any or many

areas that I can think of. They've given us the processes

and… but as for actual areas that we can consider for

identifying these children I'm not so sure about that

(Christine).

Theorists or theories were seen as potential sources of information. How they might be used to identify forms of giftedness was not made explicitly clear. This lack of theoretical knowledge forms yet another barrier to identification of gifted students.

Question four

The final question had two parts. Part one asked what tools teachers used in their classroom to identify gifted students. Part two involved a conceptual

mapping activity whereby the group collectively determined the advantages and disadvantages of identification tools and ranked their top three preferred methods. This question sought to explore professional knowledge and practice within the classroom context (Eraut, 1994). Their responses to the first part of the question were summarised as relating to the formal data gathering strategy, the responsive environment strategy or whether teachers were unsure of how they identified gifted students in their classrooms.

Table 4.10 Approaches to identifying gifted students in the classroom

Responses	Number of responses
Formal data gathering	16
Responsive environment	3
Unsure	2

The formal data gathering strategy was prevalent in most responses. Gut instinct was reported in all of seven teachers' responses as their primary indicator for initially identifying gifted students. This was classified in the table as a formal data gathering tool as it was linked to observation in the teachers' responses. Bethany's perceptions mirrored the responses: "a lot of it is instinct when you have your assessments… and sometimes you just have that feeling through observation that there is more there than the tests are actually telling you." Of the two teachers who were unsure, Cecilia found "this whole area of gifted and talented difficult… (because) each child is gifted in a way." Wayne just didn't know: "I don't have an answer for you."

The responses for formal data gathering were further analysed to determine which methods were most frequently used. The results were as follows.

Table 4.11 Formal data gathering methods

Methods	Number of Responses
Teacher observation and nomination	12
Characteristics	6
Psychometric, aptitude or achievement tests	6
Teacher made tests	3
Portfolios	0
Auditions and performances	1
Parent or whanau nomination	1
Peer or self nomination	1

Teacher observation and nomination was reported as the most commonly used method by two thirds of the participants with characteristics and/or tests also supplementing teachers' decisions. Teacher made tests were used by three classroom teachers. Portfolios were not suggested by any of the participants while performance and nominations were only mentioned once by three different teachers.

The second part of the question asked the focus group to discuss the advantages and disadvantages of each tool and rank their preferred three. Sixteen participants ranked teacher observation as their most preferred tool as it was easy to do and occurred in an authentic context. It allowed for students who found tests difficult and alerted teachers to possibilities. The disadvantages included the subjective nature and inconsistent methods of observation, teachers' lack of professional knowledge or bias and the child's behaviour or reaction if he/she knew about the observation.

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A further fifteen ranked psychometric, standardised or achievement tests as their second or third preferred. Teachers saw this type of testing as concrete information that could be measured or compared against national norms thus providing proof of a child's abilities. It either affirmed teacher judgement or provided a starting point for teacher judgement. Each of the focus groups noted that these tests were limited in the kinds of information the results provided as they did not include creativity or personal qualities.

Intuition was the third preferred method as it was usually their first indicator and it was easy to use. The advantages included their perception that intuition was a collaborative process; it built on teachers' prior knowledge and experience; it was often right and could be easily acted on. The disadvantages were teacher and/or institutional bias, teacher self doubt and intuition was difficult to substantiate.

This question revealed that teachers have some knowledge of the formal data gathering strategy. It is unclear whether they have knowledge of the responsive environment strategy although only three teachers identified this as a strategy. Teachers chose observation, testing and intuition (which was closely linked to observation) as their three most preferred tools. Each of these is subject to bias and requires training which these teachers do not appear to have had. Hence the strategies and tools which the participants identified could impact negatively on the identification process.

Conclusion

The principals and primary school teachers who participated in this study have acknowledged issues around the identification of gifted students. They have highlighted the inadequacy of their professional learning experiences and a lack of professional knowledge, both of which impact negatively on identification practices. Hence this study has revealed the following two key intertwined findings. The first is the ineffectiveness of professional learning and development practices. The second key finding is the gap between theory and practice created by the ineffective professional learning and development practices. The following chapter is a discussion of these findings.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

Introduction

This chapter presents a discussion of the research findings which isolates two key, interconnected issues: the ineffectiveness of professional learning and development practices and the subsequent gap between teacher knowledge and practice which impacts negatively on the identification of gifted students. Conclusions are drawn from these findings.

The findings are discussed below. The discussion supports an interpretation of previously presented research findings.

Professional learning and development in identifying gifted students

A key finding in this study is the ineffectiveness of professional development and learning teachers received both within the wider social and policy context of pre-service training and within the professional learning context of in-service leading to ineffective practices for identifying gifted students.

Research evidence supports a strong correlation between Initial Teacher Education and the quality of teaching (Cochran-Smith & Zeichner, 2005;

Cochran-Smith, 2001; Darling-Hammond, 2000a, 2000b; Rice, 2003). Student achievement is dependent "substantially on what teachers know and can do" (Darling-Hammond, 2000b, p. 11). Teacher preparation qualifications have long been criticized for their failure to establish meaningful links between theories and practice (Korthagen & Kessels, 1999) and this criticism can be equally applied to gifted education in pre-service training (Keen, 2004). Kane, Burke, Cullen, Davey, Jordan, McMurchy-Pilkington, Mansell, MacIntyre, Scrivens, Simpson, Stephens, Waiti, Butler, and Godin-McKerras (2005) reported a notable absence across all graduate profiles of explicit reference to graduates having the knowledge and understanding of how to respond to the needs of gifted or talented students. Further explicit attention given to inclusion theory and practice was variable at best or apparently absent from most qualifications. To add to this Titone (2005) identified how some teacher education programmes contribute to the barriers for students in schools by not meeting the needs of their pre-service teachers. Beginning teachers are entering New Zealand schools with little or no knowledge of how to identify gifted students and are consequently ill equipped to support national or school policy. Yet the MoE takes neither action nor responsibility for contributing to this barrier.

The in-service professional development activities reported by the participants aligned closely with traditional professional development principles rather than effective professional learning (King & Newmann, 2001). Teachers were presented with brief workshops or courses that provided no feedback or follow up. While the participants were able to articulate their rationale for

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professional learning to identify gifted students, the content and activities of their professional learning sessions did not develop the professional skills and knowledge required to effectively identify gifted students.

Within the reported professional learning sessions, there appeared to be a singular reliance on the expertise of the external facilitators rather than building the capacity or understanding of teachers and schools. The information shared was at times confusing for the participants with little or no retention of theory. Given their confused knowledge of definitions of giftedness, theory or theorists of intelligence and processes of identification that the participants recounted, it raised questions as to what participants found meaningful and explained the lack of transfer from theoretical knowledge to practice.

Rather teachers reported either a melee of information around definitions and characteristics of gifted students that left them feeling "bogged down" or the sharing of broad categories of information with an emphasis on providing for gifted students without the precursory professional learning about how to identify. Aside from one participant, Elizabeth, the three indicators of formal professional learning, namely flexibility to adapt to the demands of the job, an increased capacity for accountability and an increased sense of control, were absent from teachers' recounts of the benefits of professional learning and from their perceptions of the professional learning sessions. Their perceptions of other forms of support available to assist with school-based professional learning were that there were few 'experts', they were difficult to contact (or

locate in the case of professional readings) and the cost of 'experts' was prohibitive.

Following short term professional development workshops some teachers and principals were charged with the responsibility or mandate of returning to their schools and translating the information into practice. Because of the short term nature of the professional learning and development teachers were not presented with opportunities to translate new information into practice. The activities did not appear to provide for strong systems of peer collaboration and sustained opportunities to study (King & Newmann, 2001; Sachs, 2001; Smylie, 1995), professional dialogue around giftedness, what it looks like in teachers' own schools and the specific needs of their gifted children or coaching in teachers' classrooms (Adey, 2004), factors which the research (Timperley et al., 2007) concludes are effective in changing and sustaining teaching practices and have a positive impact of student achievement. Consequently whatever new knowledge or skills were gained from the professional learning were not transferred to the classroom context (Eraut, 1994).

External expertise is necessary for new learning and to challenge teachers' existing knowledge, perceptions and biases. The research participants recounted their misperceptions and bias indicating that they did not examine the effectiveness or ineffectiveness of their own discourse or misperceptions (Timperley et al., 2007) in their professional learning sessions. Nor was the complexity of the identification process examined. The lack of an inquiry cycle

of follow up has resulted in weak results and limited school capacity with respect to giftedness (Smith et al., 2008).

Research shows that effective educational leaders create a culture of learning that supports professional growth (Blasé & Blasé, 2000). Lack of leadership and inconsistent support for change is seen as a significant barrier to change (Fullan, 2000; Hackman, 2002; Sarason, 1990). While some of the principals participated in professional learning their knowledge and skills in identifying gifted students remain limited. As their professional learning was short term and hence unsupported they have not developed the knowledge or skills to begin to engage their teachers, support teacher professional growth, learn alongside their teachers or help translate teacher talk about identifying gifted students into everyday practices and processes (Blasé & Blasé, 2000; Bolam et al., 2000; Timperley et al., 2007). This lack of ongoing professional development support has hindered their professional growth and impeded their ability to support their teachers, enhance school capacity and put into practice a realistic vision of how to identify gifted students.

While the school leaders could articulate a rationale for identifying gifted students consistent with national discourse their approach to the process has been piecemeal, given that any professional learning and development provided has only addressed the dimension of knowledge and skills. The dimensions of programme coherence and strong, school wide professional learning communities (King & Newmann, 2001; Timperley, 2008) have been

ignored and, as a result, the schools' capacity in terms of identifying gifted students has not developed.

Teacher knowledge and perceptions when identifying gifted students and the impact on identification

Despite the fact that providing for gifted students has been mandated in all New Zealand schools since Term 1, 2005 a key finding of this research has identified a gap not only between schools' theory and practices when identifying gifted students but also between national and school practices. New Zealand's Gifted and Talented Education policy is based on the premise that gifted learners are found in every classroom and across all socio-economic groups and cultures (McDonough & Rutherford, 2003). Identification of gifted students is therefore the responsibility of all classroom teachers and all schools. However, the translation of this national policy and curriculum into school policy and practice cannot be assumed. Riley et al. (2004) reported a crevice in schools between theory and practice when identifying gifted students for a variety of reasons. These included lack of awareness or use of theory and research as a result of lack of professional development.

Teachers and principals who do not have an in-depth knowledge of the theory and research surrounding the identification of gifted students would be unable to develop or implement effective identification policy, process and procedures. Folsom (2006, p. 87) concurs, explaining that: "pedagogy

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including curriculum differentiation, higher order thinking, and inquiry-based teaching outlined in reforms (that connect to the principles of gifted education) requires an understanding of the intellectual conceptual knowledge that forms the foundation of these practices." In order to support national policy and ensuing national expectations, teachers and principals need the requisite knowledge and skills or this complex task becomes impossible. The next section explores the findings of the participants' knowledge base and perceptions when identifying gifted students.

A key finding in this study is that teachers' lack knowledge of the theory of giftedness and subsequent misperceptions have a negative impact on the identification process. While all of the research participants recognised the right of gifted students to receive an education that meets their needs or assists them to reach their potential, mirroring the national discourse of egalitarianism (Persson, 1998), their comments indicated a dichotomy between the participants' espoused rationale for identification of gifted students and the value of professional learning to identify gifted students. In their discourse some classroom teachers perceived that it was not their responsibility to provide for gifted students because of inadequate resourcing, while others referred to the myths that impede acceptance and identification of giftedness. These negative attitudes and stereotypes have no basis in theory and act as barriers to identification of gifted students (McAlpine, 2004b).

Integral to the identification process is the interrelationship between concepts, characteristics and models of giftedness (McAlpine, 2004a). Generally there was confusion around defining giftedness with only four of Sternberg's (2004) nine components mentioned. Uncertainty dominated understanding of the difference between bright and gifted students for many teachers while bewilderment surrounded their knowledge of theories and theorists. As a result only three teachers could give any form of explanation as to how that knowledge helped them identify gifted students. The explanations were broad and did not relate to the theory. Again this lack of conception or framework hinders their ability to effectively identify gifted students.

Professional learning must not only assist teachers to develop their theoretical knowledge of giftedness but also their technical knowledge and skills; that is the strategies and tools required to identify gifted students. When exploring the strategies and tools of identification several aspects were of note. The first was that teachers were unable to articulate the basic principles underlying a school's approach to identification (Moltzen, 1995). The second notable aspect was the teacher preference for the formal data gathering strategy when identifying gifted students with little or no awareness of the responsive environment approach and little or no awareness of the advantages and disadvantages of data gathering tools. This mirrors yet another teacher knowledge gap with a consequential negative impact on identification.

Teacher observation and nomination was touted as the most preferred method of identification yet it is also reported as more troublesome, (Davis & Rimm, 1994; McAlpine, 2004b) as it subject to bias, stereotyping and misperceptions. This was clearly illustrated by the participants' perceptions of the personalities of gifted students. The second preferred methods were use of characteristics and use of psychometric, aptitude and achievement tests such as the PATs that are widely used in New Zealand primary schools. Teachers lack professional learning and development in the area of test taking (Riley et al., 2004). Endepohls and Ruf's (2005, p. 219) research showed that the use of such tests disadvantaged "gifted underachievers, children with low achievement motivation and gifted girls." Teachers are neither aware of these biases nor do they understand psychometrics, how to interpret the scores or evaluate tests of this kind. The participants were also unable to clearly articulate the advantages and disadvantages of testing.

Making sense of multiple sources of identification information such as a standardised test, rating scale of characteristics and teacher observation leaves the door open to levels of subjectivity (Riley et al., 2004). Similar problems exist with teacher-made tests and authentic assessments using portfolios, performances and auditions. Teacher subjectivity is a negative factor with student work and performances as is the reliance upon student performance and productivity (Riley et al., 2004). There are potential difficulties of increased costs, teacher training, time required for collection of assessment tools and data, determining the appropriateness, validity and

reliability of each tool individually and as a total information package and the final weighting given to each for decision-making. Teachers appeared unaware of the issues raised by using multiple sources of information, reinforcing the lack of professional learning in this area.

Resource issues and professional development were perceived as the major barriers and this echoes the findings by Riley et al. (2004). Professional learning and development is the crucial factor that influences the gap between national and school policy and the gap between theory and practice. Theory and practice need to be integrated (Timperley, 2008) to successfully identify gifted students. Endepohls and Ruf (2005) conclude that teachers with personal experience and training in teaching a gifted child have more realistic and precise concepts of gifted students. What the research findings in this study clearly articulate is that the teacher knowledge gap caused by ineffective professional learning experiences impedes the identification of gifted students.

The following chapter will build on this section by discussing the gap that has been developed as a result of ineffective professional learning and development, thus negating the ability of schools or teachers to translate theory into school practice.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The motivation for this research came mainly from my personal and professional experiences. In my professional experience I have found that the schools in which I have worked struggle to develop a robust identification process for gifted students and inevitably place the task in the "too hard basket." Furthermore school approaches to identification in professional learning and development programmes appeared ineffective in promoting and sustaining professional growth and change due to either a piecemeal approach or a "too hard basket" attitude. Hence this study examined teachers' professional learning, knowledge and practice when identifying gifted students to determine whether that explained the ineffectiveness of school practices and professional growth. The literature review focused on issues related to professional learning and development and to the theory of giftedness as both influence professional learning and growth and school practices.

The following three research questions formed the basis of the research study.

1. What knowledge and perceptions do primary school teachers use to identify gifted students?

2. How does this impact on the identification process?

3. How can professional learning and professional development better inform teachers to address the barriers to identifying gifted students?

The most appropriate approach to answering these questions was the adoption of a qualitative methodology. In order to gather and analyse data about the knowledge base and perceptions of primary school teachers descriptive research methods were used involving interviews and focus groups. This process involved six classroom teachers and their principals in each of three primary schools. Bassey (1999, p. 38) defines research as a "systematic, critical and self-critical enquiry which aims to contribute towards the advancement of knowledge and wisdom." It has a structure that involves the planning and integration of design, process and outcomes (Morrison, 2007). Educational research is an enquiry conducted in educational settings to inform and improve educational knowledge and practice by examining educational problems in order "to provide a basis for action" (Husen, 1997, p. 20). For this to occur the research results need to be shared and subsequent action needs to be underpinned by educational values and supporting research evidence (Bush & Bell, 2002).

This research captured rich descriptive data as it revealed the perceptions, misperceptions and limited knowledge base that the participants used to identify gifted students. It also examined the professional learning in which

they had participated and determined that this was the major cause of insufficient theoretical and technical knowledge and skills, thus hindering the identification of gifted students. This research could impact on professional practice by providing insights into teachers' perceptions and knowledge base while utilising the determinants of effective professional development could lead to developing a sound knowledge base and effective identification processes for gifted students. It may cause national bodies such as the MoE to institute more effective pre-service and in-service programmes for primary school teachers and their leaders.

The research findings in this study raised two key issues, namely the ineffectiveness of professional learning and development practices and the gap in teacher professional knowledge. The study highlighted ineffective professional learning and development (both pre-service and in-service) as the catalyst for these gaps and for schools and teachers having ineffective identification processes. It also confirmed that the support provided by the MoE through literature and professional learning and development was perceived by teachers and schools as insufficient to successfully develop those identification processes. This lack of effective professional learning and development needs to be addressed at the individual, school and system level in order that teachers and senior management can address the identification of gifted students. This, then, is the call for educational action.

Overall findings

Senior managers and primary school teachers are lacking the knowledge to effectively identify gifted students. Hence ongoing school-based professional learning and development programmes which look specifically at the knowledge required for effective identification of gifted students have a pivotal role to play. Teachers require a theoretical understanding and support to translate knowledge to classroom practice. Having a robust theoretical foundation and the opportunity to integrate that foundation into practice would sustain inclusive identification and teaching practices for gifted and talented students, thus forming an essential component of the professional learning programme.

Strategies and tools of identification would be crucial content in the professional learning programme. Developing diagnostic competence requires an understanding of the advantages and disadvantages of the various identification tools. Teachers need to develop a clear understanding of the tools they use to ensure that gifted students are not overlooked. Based on their research Endepohls-Ulpe and Ruf (2005, p. 227) recommended: "personal experience in teaching gifted children obviously results in more precise and realistic concepts of giftedness. Deliberate contact with gifted children and training in teaching the gifted should therefore definitely be part of the primary school teacher training". Hence a third integral component of an effective professional learning programme would be to provide direct, deliberate contact with gifted students with simultaneous training in how to

identify and teach gifted students. This would provide teachers with the opportunity to develop more precise, realistic concepts of giftedness and practical identification and teaching strategies thereby integrating professional knowledge in their professional practice. That in turn would enable teachers to develop a responsive environment in their classrooms which could potentially lead to greater identification of gifted students.

Senior managers must participate in and lead the professional learning programme. Research shows that effective educational leaders create a culture of learning that supports professional growth (Blasé & Blasé, 2000) yet senior management, by their own admission, are lacking the theoretical and practical understanding required to create a culture of learning about giftedness. A change is essential at this school level. A professional learning programme should be put in place to support senior management so that they can play an influential leadership role in the identification and subsequent school processes and practices. Stronger external agency connections and greater availability are required so that senior managers and teachers can access appropriate resources.

There is a lack of effective professional learning and development at the pre-service level to ensure beginning teachers enter the profession equipped with the professional knowledge and skills to identify gifted students. Currently professional learning is optional, an elective which trainee teachers may or may not choose to take. In order to address this barrier, teacher education providers and the MoE need to rethink their policy and practice and provide

an integrated approach to inclusion, including the identification of gifted and talented students, throughout all aspects of the teacher training programme.

This research study had both strengths and limitations.

Strengths and limitations of the study

One of the strengths of this study was the rich descriptive data gained from the interviews and focus groups making it feasible to complete and develop recommendations from the study. The participants were willing to volunteer their time in order to engage in the research. Pilot testing the interview ensured that the questions uncovered teachers' knowledge base and perceptions. Another strength of this study lay in the fact that "two or more methods of data collection in the study of some aspect of human behaviour" (Cohen & Manion, 1994, p. 233) were used to triangulate the results. This increased the reliability of the data and the research findings. The use of three schools added to the reliability while asking the same questions of each of the eighteen teachers and the three principals provided a variety of perspectives which added to the richness of the data. A limitation of this research was selecting the three schools using a convenience sample rather than a probability sample. The choice of this sampling strategy was to select information-rich cases from which one can learn a great deal (Patton, 1990) and was therefore in line with the methodological approach. Nevertheless it signified a limitation as the sample did not represent the wider population and could therefore "demonstrate skewness or bias" (Cohen et al., 2001, p. 99). A

probability sample which draws randomly on the wider population has less risk of bias and therefore the research findings can be used to make generalisations. Had a probability sample been used it would have enhanced the generalisability of the research findings in this study.

There are four main recommendations arising from this research that need to be addressed at different levels, namely the personal professional level, the school level, the system level and further research.

Recommendations

I recommend that individual principals and primary school teachers consider what forms of professional learning would have a positive impact on their professional knowledge and practice when identifying gifted students and what strategies they can use to enhance their own professional learning when identifying gifted students.

<u>At the school level</u>

I recommend that a school-based professional learning and development programme be developed for primary schools as "the most beneficial learning activities are those that are embedded in the work that educators do" (Brown Easton, 2008, p. 757). The programme would provide senior management and teachers with the following: a robust theoretical understanding of giftedness, diagnostic competency to identify gifted students, a theoretical understanding of teaching strategies suitable for gifted students and authentic

opportunities to interact with gifted students and apply their theoretical understanding of appropriate teaching strategies. The professional learning and development programme should be based on the key principles outlined in this research study.

<u>At the system level</u>

I recommend that pre-service training consider more seriously the educational principle of inclusion and how this can be integrated into beginning teachers' practice. Beginning teachers need to begin their careers armed with a theoretical understanding of giftedness, strategies and tools of identification. The recommendations listed above (at the school level) apply equally to pre-service training. A further component of this professional learning would be that this learning is interwoven into all areas of initial teacher training so that training teachers have an integrated understanding that they can clearly translate into their beginning teacher practices from day one.

In order that teachers can access external expertise to support them in their professional learning external agencies need to be more readily available and prepared to work within the schools' learning and teaching contexts. This may require the MoE to consider an increase in the number of expert facilitators in order to meet the need until such time as schools have embraced this within their culture and identification practices are sustained.

<u>Further research</u>

I recommend that further research is carried out to gather data about the knowledge base and perceptions of primary school teachers including senior management when identifying gifted students, a national pre-service professional learning and development programme for trainee teachers and professional learning and development programmes for primary school teachers that focus on and result in identifying gifted students. Further research into the knowledge base and perceptions of teachers and senior management when identifying gifted students could widen the research base to inform school leaders about their role, the implications for professional learning and development and school identification strategies and tools. It could ensure an evaluation of present processes and strengthen school practices. The adoption of a probability sampling strategy could allow the research findings to be generalised. Research into effective professional learning and development programmes for identifying gifted students may act as the nexus for ensuring that gifted students are recognised nationwide. A national pre-service programme could ensure teachers entering the profession have the theory base and professional experience from which to identify gifted students and, over time, strengthen the profession's capacity as a whole to do the same.

Conclusion

This research study has identified the importance of professional learning as the catalyst for teachers to develop the professional knowledge and practice required to identify gifted students. The need to maximise professional learning at individual, group, school and systemic levels in conjunction with an appropriate learning culture or community (Law, 1999, p. 69) has been highlighted. Nowhere is this more evident than within gifted education.

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Interview Guide

Part A: Professional Learning

1. Why do we, as professionals, identify gifted children?

2. What forms of professional learning have you had in your training and teaching career around identifying gifted children?

3. What were some of the benefits of your professional learning?

4. Where else do your ideas about giftedness come from?

Part B: Professional Knowledge and Practice

5. What do the terms gifted and talented mean?

6. How does a gifted child differ from a bright child?

7. What do you see as the barriers to identification?

Focus Group Guide

Part A: Professional Learning

8. What support is available to assist us in identifying gifted children and how helpful has that support been?

9. What would you say are important principles underlying a school's approach to identifying gifted children?

Part B: Professional Knowledge and Practice

10. What theories or theorists of giftedness do you know? How does that help you, as a professional, to understand and identify giftedness?

11. What tools do you use in your classroom to identify gifted children? What are the advantages and disadvantages of these?