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IDENTIFYING GIFTEDNESS IN EARLY CHILDHOOD CENTRES

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ABSTRACT

This study investigated current understanding of giftedness as it relates to NZ early childhood centre settings, in order to produce a teacher-friendly identification tool and to explore the effect of identification on curriculum provision for young children displaying gifted behaviours.

Analysis of international research literature provided an initial source of indicators that could be used by teachers within the specific context of NZ early childhood centres in order to identify gifted behaviours in young children. Academics involved in gifted education and early childhood teachers experienced with gifted young children critiqued an identification instrument based on these indicators. Modifications based on these critiques resulted in an instrument of indicators of gifted behaviours considered relevant to NZ early childhood settings grouped under headings of cognition and language, approach to learning, creativity and social competence. Seventeen early childhood centres, involving a total of 167 children selected on the basis of age, gender, and ethnicity only, trialled the instrument. Seven centres participated in a training workshop previous to trialling the instrument, 10 centres received no pre-trial training.

Focus group interviews revealed that using the instrument increased teachers' understanding and recognition of gifted behaviour, but that participation in a short training session did not increase success in identifying giftedness. Teachers did not show clear understanding of giftedness relating to diverse cultures or negative behaviour. A further phase of the research used unstructured interviews in six individual centres over one month to investigate the impact of identification on provision for gifted children. Teachers expressed a need for support services to assist in catering for gifted young children. The research demonstrated that while the identification instrument was useful to teachers, there are needs for further professional support and extended pre-service and in-service training regarding both the diversity of giftedness and the provision of differentiated programmes for gifted young children.

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CHAPTER 1: INTRODUCTION

Gifted education in New Zealand early childhood settings has so far received little attention from researchers. This should be surprising, given the wide acceptance of the importance of the early years for setting the developmental and educational pathways to children's futures. However for many years there has been a belief that gifted children have no need for special provision and do well enough without it, that in fact they are advantaged (McAlpine & Moltzen, 1996). International research has shown that gifted children do need additional educational support to succeed, and achievement is increased through such intervention (Barbour, 1992). In order to obtain this additional support, it is necessary for the gifted child to be identified. Within early childhood, overseas research has established behavioural indicators which teachers can use for identification and appropriate provision for gifted young children. However their appropriateness for the New Zealand early childhood context cannot be assumed.

1.1 Objectives of the Study

There were two main objectives of this study. The first objective was to devise an appropriate identification instrument for the use of New Zealand early childhood teachers as a first step in planning appropriate programmes for young gifted children in their care. As such, this study is intended to contribute to practice. The lack of official support services for New Zealand early childhood centres for young gifted children necessitated the provision of an instrument that early childhood teachers can readily use with understanding and confidence. There is a paucity of research on giftedness in the New Zealand early childhood context and although the international literature provides evidence of common characteristics that can be used to identify gifted young children, the relevance of these to the New Zealand early childhood context needed to be investigated.

A secondary objective of this study was to analyse teachers' perceptions of the impact of identification of gifted children on programme provision for these children. The importance of identifying gifted children and then providing an appropriate programme

as early as possible to avoid underachievement and to stimulate motivation to learn has been well established. The responsive nature of the early childhood curriculum as detailed in *Te Whaariki* (NZ Ministry of Education, 1996b), with its emphasis on planning based on individual characteristics and needs, means that teachers should be able to provide appropriately for identified young gifted children within their usual programming processes.

1.2 Terminology

“Children with special abilities” is the preferred terminology used in New Zealand to refer to those identified in the international literature as children who are gifted and talented (McAlpine, 1992). This usage is seen by some as reflective of inclusion, by others a reflection of a New Zealand “obsession with egalitarianism” (Moltzen, 1996a, p. 47). The term used in this study is “young gifted children” in keeping with the international literature.

“Early childhood” is the term used to refer to the early years, birth to five years, the period preceding legal school entry age in New Zealand, and the age of participation in early childhood education and care settings. The term “young children” has been used in this research to refer to children between approximately three and five years of age, in accordance with the terminology of *Te Whaariki* (New Zealand Ministry of Education, 1996b), the New Zealand early childhood curriculum document.

1.3 Defining the Young Gifted Child

Defining the gifted and talented has involved much discussion in the international literature over the years. In highlighting the range and history of concepts of giftedness, McAlpine (1996b) concluded that due to the constant change in social and educational thinking, discussion will always continue, but that there are two specific themes that dominate current concepts. The first theme is the emphasis on a multi-category approach and the second is that of sensitivity to multicultural values. The approach taken in the current research aimed to reflect these themes. In doing so, the widely used United States Office of Education (1972) definition guided the categories of giftedness

focused on and provided the philosophical basis for the consideration of giftedness in general. This definition and the more recent 1993 federal Javits Gifted and Talented Education Act (U.S. Department of Education as cited in Brooks, 1998) were aimed at broadening the approach to giftedness to include this awareness of multiple categories and cultural values.

In view of the unique characteristics of the early childhood context and stage of development, the following definition from Harrison (1995) articulates the philosophical basis of the current research on young gifted children :

A gifted child is one who performs or who has the ability to perform at a level significantly beyond his or her chronologically aged peers and whose unique abilities and characteristics require special provisions and social and emotional support from the family, community and educational context. (p. 19)

This definition allows for a focus on providing for the current needs of young gifted children within their specific sociocultural context, using a responsive, supportive, differentiated programme. Thomas and Chess (1977) and Lewis and Coates (1979) demonstrated that the responsive environment is critical to the growth of intelligence, and development in general. Lerner (1982) emphasised the importance of goodness of fit, which is implicit within this definition. The emphasis on the sociocultural context contributes to a specific interpretation of peers, as those children who share the same “cultural, economic, physical, or psychological backgrounds or characteristics” (Karnes & Shwedel, 1983, p. 475). This definition recognises that ability may not be matched by performance, and it allows for individual differences in ability and characteristics.

The literature supports the breadth of definition required for the early years in recognition of the need for a focus on the whole child, along with consideration of potential rather than functional giftedness (Fatouros, 1993; Harrison, 1995; Karnes & Shwedel, 1983). This concept of giftedness in early childhood provides an appropriate means to investigate giftedness in early childhood in New Zealand because it reflects the characteristics and philosophy of New Zealand early childhood curriculum and practices.

Because gifted children are found in all age, ethnic and socioeconomic groups every early childhood teacher will have had gifted children in their centre (Kitano, 1982). Some of these children will be recognised; those who display the more obviously recognisable traits such as advanced language and understanding of complex concepts, or adult-like musical performance, for example. However those who display their giftedness in areas less associated with cognitive advancement, such as everyday problem-solving or social leadership, or who have potential for gifted aesthetic performance but have not had exposure to opportunities to display this potential, are in danger of going unnoticed. Worse, if giftedness has gone unnoticed and the environment is such that children are unable to find positive means of challenge, they may develop negative and manipulative behaviours and be labelled as problem children, reducing further the possibility of being identified as gifted (Ehrlich, 1986; Karnes, 1983; Mills, 1992).

Young gifted children encounter unique difficulties developmentally, due to the mismatch of their cognitive ability and the limitations imposed by under-developed physical skills, preventing them from producing the performance their ideas conceive (Kitano, 1982, 1989; Silverman, 1994). Uneven development, characteristic of young children, is particularly significant for gifted young children (Harrison, 1995; Piirto, 1994; Roedell, Jackson & Robinson, 1980) because it can lead to false expectations on the part of adults. For example, advanced verbal skills exhibited by a child can create the expectation that the child is able to use verbal skills in socially appropriate ways, which will not be the case for children who are not also gifted in the social domain. Articulating an understanding of conflict resolution strategies may demonstrate cognitive advancement in a young child, yet the actual performance of these is dependent on social and emotional advancement, which may not accompany the cognitive skills. Also young children's physical needs for rest or exercise may interfere with their social and emotional response as well as their cognitive performance at different times of the day.

In most cases, both the physical growth needs and the physical limitations of the gifted young child tend to be more like other young children than gifted older children. For this reason extension in the less structured and more nurturing environment of early childhood education settings is more appropriate than that provided by structured school

classrooms. However if teachers are unaware of the unique characteristics of giftedness in young children, a common reaction is to ignore the need for extension and focus only on the perceived deficit (Wellisch, 1997, 1999). Another reaction is to fail to accept the evidence of giftedness in the belief that giftedness is a uni-dimensional concept, displayed in all developmental domains simultaneously, perhaps putting the gifted behaviour down to evidence of parental pushiness, not to be encouraged (Wellisch, 1997). Thus many young children displaying gifted behaviors remain unidentified by teachers.

The earlier that gifted potential is identified and appropriate programming provided, the more chance there is of developing that potential fully (McAlpine, 1996a). The need for a means of identification that teachers can use within their normal assessment process to assist with planning individually appropriate programmes has been recognised overseas, particularly in the US, resulting in some observation based tools for young children. The reliability of current work attempting to determine whether giftedness can be detected in infants (Freeman, 1995; Robinson, 1987) is not yet demonstrated. Reliability of indicators for young children three to five has been found to be acceptable, although there are particular difficulties because often children have not had the experiences needed to develop and demonstrate their abilities (Karnes & Johnson, 1987). Consequently, attention must be given to qualitative differences in performance as well as advanced performance. Kanevsky (1992) demonstrated that gifted children differ from their nongifted peers both quantitatively and qualitatively in their cognitive processing. This implies that appropriate practice for gifted children may differ from that for other children, to take account of their developmental differences. Therefore, early childhood teachers need to be particularly observant of the behaviours children manifest and ensure their programme provides a variety of challenging opportunities for gifted behaviours to emerge. Teachers need to be aware of the characteristics of giftedness so that they can recognise and respond appropriately, and avoid preconceptions based on socioeconomic or ethnic stereotypes.

Identification must be linked to programme provision for two reasons. Firstly the purpose of identification is to ensure that gifted behaviours exhibited by an individual child are matched to challenging curricula opportunities (Roedell, Jackson & Robinson, 1980). Secondly, in order for the process of identification to be effective, programme

provision needs to provide the child with opportunity to demonstrate gifted behaviours in the regular daily environment (Karnes & Johnson, 1986b; Roedell, Jackson, & Robinson, 1980; Schwedel & Stonebrunner, 1983). In New Zealand, the early childhood curriculum provides open-ended and self-selected creative, cognitive, physical, social and language play opportunities through a range of media. As such, there are multiple opportunities for giftedness to be exhibited, providing a responsive environment approach to identification through careful and informed teacher observation (McAlpine, 1996a). Therefore any identification process should reflect this choice, in terms of the type and content of instrument used and the way in which it is used. Thus, observation-based checklists and rating scales, with indicators reflective of the full range of developmental play opportunities are most appropriate.

1.4 Government Policy and Gifted Children

In New Zealand, gifted children have been almost invisible in terms of recognition that they might have need for specific support or provision in education programmes. The absence of national policy on gifted students and the lack of official recognition by the Specialist Education Service (formerly Special Education Service, hereafter referred to as SES) of New Zealand reinforce this popular view. Although the early years are seen to be critical years developmentally, and while it is seen to be important to identify and intervene with regard to areas of special needs, this practice is seldom extended to the gifted. For the children who continue to be unrecognised or unsupported during their early years, the future often is one of underachievement (Whitmore, 1986b). SES is called in for help in managing extreme behaviour problems and sometimes these are found to be associated with giftedness. However due to the limits of its role, SES is seldom able to do more than give some information about giftedness and some initial ideas for extension, along with strategies for managing the presenting negative behaviour. Funding is not available for early intervention support workers, specialised equipment, or ongoing Individual Planning (hereafter referred to as IP) meetings with SES advisors for children whose special need involves extraordinary ability. It is only for those with disability, although the lack of such support can have similar negative educational consequences.

The Education Review Office (ERO) (N.Z. Education Review Office, 1998b) drew attention to the fact that schools commonly misunderstand the concept of equal educational opportunities although Government expects them to deliver this equity. ERO gave suggestions of how schools could meet the needs of these students, including through policy development, identification processes, examples of what some schools are currently doing, and professional development. That the concept of equal educational opportunities had to be specifically linked to gifted children through this document, demonstrates the urgent need for specific Government policy for gifted children in education settings, such as that provided for children with special needs. The expectation on schools to produce policy specifically for gifted children when the Government itself has none, highlights the invisibility of gifted children within the education system. Moltzen (1992) drew attention to this lack of policy in stating:

Consider that at the 1989 World Conference on the Gifted and Talented Children of the twenty-six countries attending it was reported that New Zealand was the only one that did not have a national policy for the gifted and talented. (p. 3.)

In early childhood this invisibility is even more pronounced. There was no reference at all to gifted children in early childhood settings in the aforementioned ERO document. A single official attempt at provision for the early years has been in place since 1992, with the Correspondence School offering individual programmes for pre-school gifted children, when referred by SES (Holden, 1996). However there is no systematic screening process of all young children leading to this referral. There is also no recognised centre-based source of support. Possibly, the “good practices currently occurring within early childhood settings which incorporate differentiated programmes for all children, including youngsters with special abilities” (Holden, 1996, p. 147) are assumed to be adequate. The Draft Guidelines for Gifted and Talented Students currently being written for the Ministry of Education will not address early childhood services either (T. Riley, personal communication, December 9, 1999).

1.5 New Zealand Early Childhood Philosophy and Practice

The New Zealand early childhood education and care sector is non-compulsory, receives government funding subject to regulatory compliance, and consists of a diverse

range of providers, both home-based and centre-based. There are non-profit-making through to wholly profit-making providers, some driven from very clearly defined philosophies which influence their practices in every detail, to those less defined philosophically. The sector caters for children from birth to school-age, and despite the non-compulsory nature, there is an apparent high level of participation (89 per cent of 3 year olds and 100 per cent of 4 year olds in 1994, according to Ministry of Education statistics) (N.Z. Ministry of Education, 1999). All early childhood services value play to varying degrees, as a medium for learning and development, in a socially constructed context with adults, peers and other young children. They also value the family context of the young child, and close communicative relationships between the provider and the child's family/whaanau.

The 1996 New Zealand early childhood curriculum statement document *Te Whaariki* (He Whaariki Maatauranga moo ngaa Mokopuna o Aotearoa: Early Childhood Curriculum), provides guidance for high quality curriculum for young children. The starting point is "the learner and the knowledge, skills and attitudes that the child brings to their experiences" (p. 9). With its holistic, sociocultural, and integrated approach to curriculum provision for the early years, a stated child-centred approach, *Te Whaariki* draws attention to a need for responsive programming provision with an emphasis on the individual child.

Activities will be . . . developmentally appropriate. . . . An Individual Development Plan . . . will be developed for any children who require resources alternative to or additional to those usually provided within an early childhood education setting . . . *Te Whaariki* is designed to be inclusive and appropriate for all children. (p. 11)

This statement clearly includes children who are gifted. Despite the lack of a national New Zealand policy on giftedness, the early childhood curriculum document refers to children with special needs, "assumes that their care and education will be encompassed within the principles, strands and goals set out here for all children in early childhood settings" (p. 11). That giftedness implies the existence of special needs is widely supported in the literature and is clearly accepted officially: "the New Zealand School Curriculum Framework states: The school curriculum will recognise, respect, and respond to the educational needs...of all students (including) students with different abilities" (N.Z. Education Review Office, 1998b, p. 43).

The guiding principles of *Te Whaariki* are those of empowerment/whakamana, holistic development/kotahitanga, family and community/whaanau tangata, and relationships/ngaa hononga. The strands, which include several related goals each, are those of well-being/mana atua, belonging/mana whenua, contribution/mana tangata, communication/mana reo, and exploration/mana aoturoa. The document emphasises the right of all children to a programme that meets their individual needs. This forms a central theoretical justification for teachers to identify and plan for the gifted young child's strengths, interests and needs, as much as for every other child. Barbour (1992) has identified that there are shared key elements of best practice between the fields of early childhood education and that of gifted education:

- Individually and developmentally appropriate practice
- Teachers with warm, nurturing style of interactions, as well as flexibility in planning for varying abilities
- Importance of early intervention
- Integrated curriculum based on real life interests and concerns of the young child
- Importance of play as medium for learning, with opportunities for exploration and manipulation of materials
- Planning based on observational methods of assessment, using multiple sources of input
- Parent involvement in assessment and programming

These shared principles demonstrate that identifying and providing for gifted children within all early childhood settings in New Zealand is appropriate. These same principles are used to justify the inclusion of children with special needs. However, while additional support and advice is already provided to assist teachers in meeting the divergent needs of these children, gifted children receive no similar provision.

The Revised Statement of Desirable Objectives and Practices (DOPs) (N.Z. Ministry of Education, 1996a) requires licensed centres to provide a curriculum consistent with *Te Whaariki*. However, legislation is not enough to ensure appropriate curriculum provision for each child. Teachers need to be equipped with knowledge about

identification and provision for the range of special needs, including giftedness, that children may exhibit. They also need knowledge and skills to support the advanced cognitive abilities of young gifted children. Harrison (1995) states that for gifted children, observation indicates a need for opportunities to learn at a faster pace, practice with higher thinking processes, and an opportunity to generalise learning across a diversity of subjects. These practices form the basis of programme differentiation, and teachers may need additional support and advice to implement them.

Te Whaariki Principles, Strands and Goals are stated in open-ended language and demonstrably link to the essential skills and learning areas within the New Zealand Curriculum Framework (N.Z. Ministry of Education, 1996b). However, their open-endedness may unwittingly limit the curriculum provided with respect to young gifted children. It is possible for centres to demonstrate to themselves that they provide for the goals, while failing to recognise that the level of the content they provide is inadequate for individual needs of gifted children. A similar criticism suggested by The Education Review Office concerns the inclusiveness of *Te Whaariki* giving “equal weight to a range of different objectives, experiences and activities” leaving educators unclear about how “to ensure they are contributing positively to young children’s educational development” (N.Z. Education Review Office, 1998a, p. 4). The Office expressed concern that “many early childhood providers do not consistently articulate or pursue high quality expectations, especially in respect of children’s cognitive capacities (due to) the lack of clear expectations in *Te Whaariki*” (p. 5). Few early childhood centres were “linking *Te Whaariki* to the essential skills and learning areas of the national curriculum statement for schools” (p. 12). The Office suggested this could be either because of the tenuousness of the links between the two documents or because within *Te Whaariki* there is little suggestion of early childhood being also pre-school education. However, the nature of teacher training may also contribute. This is an issue particularly relevant to the needs of gifted young children, and will be discussed in the literature review. How curriculum provision for gifted children was affected by the open-endedness of early childhood curriculum was explored in the current study.

CHAPTER 2: LITERATURE REVIEW

2.1 Theories of Giftedness

A major shift in thinking has occurred with respect to giftedness during the last twenty years. This shift has been from seeing giftedness as a uni-dimensional, biologically determined, fixed, high intellectual ability identified through Intellectual Quotient (IQ) tests, to recognition of the complex interplay of biology and environment producing a multifaceted combination of culturally defined, high level abilities. Identifying giftedness based on this new paradigm can no longer depend on IQ tests. However the earlier view of giftedness brought about the predominance of research on cognitive indicators due to sampling based on IQ, and the work on identifying behavioural characteristics of giftedness other than intellectual is still in the early stages.

Terman carried out the most significant research beginning in 1921 with 1528 children aged between 3 and 19 (average 11) years, who had been nominated by teachers and then tested by IQ measures. The most recent review occurred in 1995 when the subjects were in their 80s and 90s (Holahan & Sears cited in Freeman, 1998). However, his findings about the characteristics of giftedness are treated with caution today. Firstly, because he used only IQ test results to provide his sample, it included only a narrow range of those whom we recognise today as gifted. Also there was no realisation at that time of the built-in weighting against non-white, non-middle-class, students who may have been disadvantaged by the nature of the test and its administration. For example, DeHaan and Havighurst (1961) raised doubts about the fairness of verbal tests of intelligence for children from working-class homes. Terman's subjects were mostly children of white, university staff. Thirdly, the retrospective nature of the data gathering raises questions of reliability of the respondents as sources of objective information (A. W. Gottfried, A. E. Gottfried, Bathurst & Guerin, 1994). Nevertheless the research carried out under the old paradigm established the base from which new theories grew, and Terman's work was significant in creating a more tolerant attitude toward the gifted (Moltzen, 1996b; Vialle, 1995).

In New Zealand, Parkyn (1948) carried out a six-year study involving approximately 850 Dunedin children from whom, on the basis of IQ tests, the top 5 per cent were selected for ongoing study. Like Terman, Parkyn at that time did not recognise forms of giftedness existing separately from intellectual giftedness, or the normative nature of his sample, which therefore produced similar results to Terman's. However, Parkyn did notice differences in the levels of home environmental support for valuing education and intellectual inquiry for the children being linked to academic outcomes over the six years. He maintained the view of giftedness being genetically endowed, but discussed the need for an environment at school and home which is supportive of children's interests and inquisitiveness in order to ensure realisation of potential. He drew attention to the need for schools to also ensure they are challenging children's thinking from the earliest years:

bright infants . . . capable of carrying on more sustained and deeper thinking than the school can provide occasion for. . . . One of the main reasons for the lack of intellectual activity of very intelligent children (and others) in the infant classes . . . is premature systematic and formal instruction in subjects not related to the child's intellectual interests. . . . A curriculum which fails to provide varied incentives to questioning and opportunities for thought and discussion at the young child's level of interest will not be successful in stimulating intellectual development. (Parkyn, 1948, pp. 141-143)

This urging of teachers to focus on children's interests as a means to extend thinking rather than to emphasise formal instruction, is seen in today's early childhood curriculum strategy. Parkyn's discussion of the role of the environment in supporting giftedness anticipated an emerging acknowledgment over the following three decades that the expression of intelligence may be dependent on more than genetics. New theories about the nature of intelligence and the form of giftedness emerged.

The concept of creativity as a form of giftedness was also investigated. Hollingworth (1942) found that unusual creativity was not necessarily linked with intellectual giftedness in her sample. This led her to suggest the need for investigation as to whether it was a quality only associated with intellectual giftedness. She queried whether it might be dependent on specific supportive conditions for its emergence. Hollingworth had focussed on children with high IQ, consistent with the uni-dimensional view of giftedness dominating at that time, and searched for creativity within them. Twenty years later Getzels and Jackson (1962) attempted to separate out empirically the

characteristics that accompanied creative giftedness when unaccompanied by high measures of IQ. They pointed out that repeated studies over the years had shown that IQ did not correlate with creativity. They questioned whether other intellectual qualities not measurable by intelligence tests might also be representative of giftedness. They referred to the 1954 call of the American Association for Gifted Children to include wider conceptions of giftedness other than IQ in defining the gifted individual. Their sample was made up of 449 children from middle and upper middle income, well-educated backgrounds, in the sixth grade through to senior year of high school. They found that those who were in the top 20% for creativity but below the top 20% for IQ (N=24), nevertheless were equally superior in scholastic performance as measured by standard achievement tests. They report that Torrance replicated this aspect of their study producing the same results. Their findings were significant because they demonstrated an empirical basis for viewing giftedness, expressed in terms of performance, based on a wider concept than IQ alone. A review of the literature on giftedness in early childhood by Casey and Quisenberry (1976), reports similarly that IQ was not related to creativity across ten different measures of creativity in a study of 35 kindergarten boys (Biller, Singer, & Fullerton, cited in Casey & Quisenberry, 1976).

The first significant challenge to the uni-dimensional concept of intelligence came from Guilford (1967), who introduced a multifactor concept. He also provided an empirical basis for creativity as an important factor of intelligence. In accordance with his argument supporting the susceptibility of intelligence to education, he stated the need for selecting testing procedures that relate to the programme educational philosophy and then for linking identified aptitudes to course content.

The US Office of Education (1972) provided official recognition of multiple categories of intelligence contributing to concepts of giftedness, in its definition:

Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programmes and/or services beyond those normally provided by the regular school program in order to realise their contribution to self and society.

Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:

1. General intellectual aptitude
2. Specific academic aptitude
3. Creative and productive thinking
4. Leadership ability
5. Visual and performing arts
6. Psychomotor ability. (p. 2)

Psychomotor ability was dropped from the definition in 1978. This definition gave social policy recognition to a multi-dimension approach to giftedness (Morelock & Feldman, 1992), and is representative of the diversification of concepts of giftedness that arose from changes in theories of intelligence. Taylor's (1978) multiple talent totem pole represents one extreme concept of intelligence. This included a very broad range of talents, indicating most children have special talents if we look closely enough and we need to identify and cater for these. However, he did not explain how these talents arise, or where giftedness fits. In 1986 The New Zealand Department of Education hosted a Lopdell Centre policy review from which was issued a draft policy statement on children with special abilities. The statement reflected a very broad approach, listing 18 areas of special abilities (McAlpine, 1992). However the Lopdell definition does not appear to have found favour in New Zealand. For example, the Education Review Office (N.Z. Education Review Office, 1998b) report "Working with Students with Special Abilities" uses the US Office of Education definition, referred to above, although the report does not bear any official implications for New Zealand centres or schools.

In rethinking the concept of giftedness, Renzulli (1985) argued for removing the emphasis from "being gifted" and instead, to focus on the display of gifted behaviours. He favoured an operational definition of giftedness in order to identify those who have high potential for benefiting from special programming. Renzulli aimed to give educators a means for "providing better services to our most promising young people" (p. 17). Renzulli's (1977, 1985) three-ring conception of giftedness suggests that the components of giftedness consist of the combination of above average ability, creativity and task commitment. He argued against the inclusion of IQ measures in determining giftedness. In doing so he used Terman's own conclusions from detailed analysis of the

most successful and least successful men in his 30 year study, as evidence of the poor correlation between intellect and achievement. Renzulli (1985) applied his definition to “any potentially valuable area of human performance” (p. 11). His definition has been criticised for its emphasis on task commitment, because this ignores those children who are unmotivated, gifted underachievers (Gross, 1993).

While Renzulli focussed on the operational benefits of a broadened approach to intelligence in terms of identifying and supporting giftedness, Sternberg (1985) investigated the nature of intelligence itself. In explaining the variance in the expression of superior intelligence through gifted achievement, he also rejected the uni-dimensional, IQ interpretation of giftedness, demonstrating that IQ tests accounted only for what he described as “componential intelligence.” This aspect of intelligence is about differences in mental processes in approaching the same sorts of problems; this is the nature of IQ tests. Componential intelligence “deals with intelligence in relation to the internal world of the individual” (Sternberg, 1985, p. 44). It does not account for those highly successful individuals who have the ability to deal with widely differing problems and situations, or those who succeed through “playing the game” despite lower IQ test results.

Sternberg (1985) proposed a triarchic theory of intelligence, suggesting there are three aspects of intelligence, each of which an individual exhibits in varying relative degrees. Contextual intelligence is associated with the external world of the individual and accounts for “street-smarts”, or the ability to adapt to or manipulate the environment to the best advantage of the individual. Experiential intelligence accounts for creative and insightful thinking, and componential intelligence accounts for academic and analytic abilities (Trotter, 1986). In applying his triarchic theory of intelligence to the concept of giftedness, Sternberg argued that intellectual giftedness is shown by superior performance on standard intelligence tests because of their superior componential skills. In addition, superior contextual skills allow an individual to excel in the world without necessarily having other intellectual skills. He argued that the most significant point of distinction in giftedness is superior insight skills. He provided preliminary empirical demonstration of the importance of insight using subjects who had been identified as gifted or not gifted through IQ test scores, Torrance creativity test scores, teacher, and parent nominations. The experiment supported the prediction that superior insight skills

distinguished the gifted from the non-gifted. Sternberg recommended the qualitative measurement of insight skills as an approach to assessing giftedness, especially as it did not rely heavily on prior knowledge, or speed of processing, factors which disadvantage those not from standard middle-class backgrounds. As his sample consisted of upper middle class suburban school pupils, his premise could not be substantiated.

Sternberg (1985) insisted that “intelligence can not be completely understood outside a sociocultural context and may in fact differ for a given individual from one culture to the next” (p. 48). However, he did not demonstrate that the exhibition of insight skills independent of standard testing would result in identification of superior ability. Indeed, he supported the continued use of such tests, albeit as part of a battery, and used in a way that takes account of the implications of his triarchic theory.

Tannenbaum (1983, 1997) also included consideration of sociocultural and psychological factors in his conception of giftedness, but he further considered how the various factors involved combine to account for the relationship between potential and achievement. His psychosocial “starfish” model requires the combination of general intelligence or IQ, specific ability, non-intellective factors such as intrinsic motivation and self-concept, environmental factors, and chance factors. The potential for outstanding performance or achievement is fulfilled only through the overlap of all five factors, which form the “critical center mesh” of the starfishlike design he used to illustrate his model. In this way, he explains the reasons for unfulfilled potential, and he draws attention to the importance of the roles of parents, teachers, and society in supporting giftedness in children. He emphasises that in considering giftedness in children, all that can be said is that they are potentially gifted, and that maturation and wise nurturance will determine the outcome (Tannenbaum, 1997, p. 40). Tannenbaum’s theory is significant for guiding practice in early childhood settings, particularly in New Zealand, because of its fit with the ecological theory of human development of Bronfenbrenner (1979) which is at the heart of the early childhood curriculum, *Te Whaariki*.

The effect of sociocultural factors was also a point of discussion in Gardner’s theory of multiple intelligences. Gardner (1984) proposed his broad-ranging theory of multiple intelligences (MI) also in response to dissatisfaction with the traditional uni-dimensional

concept of intelligence. In his theory he attempts to take account of the full range of abilities expressed within different cultures and areas of human life. His goal in revising the ideas of what is intelligence is to open the way to “more appropriate ways of assessing it and more effective ways of educating it” (Gardner, 1984, p. 4). He sees intelligences as “ways of knowing” (Gardner, 1984, p. 285). These are present in all areas of human activity, and “entail the ability to solve problems or fashion products that are of consequence in a particular cultural setting or community” (Gardner, 1993, p. 15). The ways of knowing include linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal, naturalist, and spiritual preferences for learning and operating. Gardner believes it possible, through a process of observation over a month or so, to identify for any individual, of whatever age, the intelligences that are established, those that have extraordinary potential for performance, and those with which the individual might be experiencing difficulty. Gardner sees the role of education to be developing these intelligences to enable individuals to reach life goals appropriate to their specific combination of intelligences. In particular, the early years are a time when rich opportunities for exploration and immersion in activities related to a range of intelligences should be emphasised, so that children can discover their own interests and abilities.

According to Gardner (1993), the key for identifying a gifted individual in any domain of intelligence is the exhibition of “genuinely problem-solving or problem-fashioning skills ...across a range of materials” (p. 31). Assessment should be through meaningful and contextualised activities, developmentally appropriate, and integrated within the regular programme, using “instruments that look directly at the intelligence in operation” (Gardner, 1993, p. 87). Such an approach is consistent with individual, naturalistic observation carried out during the regular free-choice integrated curriculum context of New Zealand early childhood settings.

There have been criticisms (White, 1998) of the nature of Gardner’s originally seven, now possibly nine, categories of intelligences, the criteria used to identify them, and the previous theories on which Gardner based his own theory. Nevertheless his broadening of the traditional concept of intelligence to take account of diverse culturally valued abilities, and the recognition of the need to measure these abilities in intelligence-fair ways which are not reliant on traditional logical-mathematical methodologies, has

assisted the breakdown of stereotypical attitudes. The traditional attitudes had worked against the provision of opportunity for all children, regardless of ethnic or social origin, to demonstrate giftedness. MI theory has encouraged a focus on the strengths and differing developmental pathways of individual children.

2.1.1 Implications for education

These theories have led to the modern view of intelligence, which recognises that biology alone cannot account for differences in development and learning or achievement. It is now accepted that cultural, class and gender differences are significant in terms of future individual outcomes. Research also has shown that the early years' experiences have a major impact on development and learning, especially in influencing under-achievement in the adolescent years, and future adult outcomes (Karnes, 1980; 1983; Weikart, Epstein, Schweinhart & Bond, 1978; Whitmore, 1980). Freeman (1998) discusses recent moves towards a view of identification by provision. This has resulted in part from recognition of Vygotsky's ideas (Wertsch, 1990) regarding the zone of proximal development (ZPD), whereby a child learns faster through being scaffolded by adult guidance and language support. For young children, guided play provides a rich context for the development of the ZPD in exploring new learning situations. Freeman refers to a study by Kanevsky exploring children's learning in the ZPD, which she said showed that where children with high IQ were offered the same curriculum as their age-peers, rather than challenges set within their ZPD, their learning deteriorated. This demonstrates that educational provision affects intelligence and therefore the expression of its highest level as giftedness.

In line with MI theory, Treffinger and Feldhussen (as cited in Freeman, 1998) advocate for recognising and developing giftedness through specific provision of support and facilities in an ongoing way, within the subject areas of children's individual interests and strengths. To ensure full identification, these appropriate activities and experiences need to be provided for all, children cannot demonstrate gifted behaviour in an area in which they have had no experience. For example, children who always have things done for them in their everyday life will be unable to demonstrate their potential in problem-solving ability. In early childhood settings therefore it is necessary to ensure

plenty of problem-solving opportunities are provided for children to practise their skills and thereby reveal their potential.

As with intelligence in general, giftedness is no longer seen to be demonstrated by a single attribute. Instead it is viewed as a set of skills and abilities exhibited as gifted behaviours influenced by culture, language and environment (Kitano, 1990; Lewis, Feiring, & McGuffog, 1986; Lewis & Louis, 1991; Maker, Neilson & Rogers, 1994; Vialle, 1995). Current research and theory demonstrate that individuals can exhibit giftedness in one or several areas of performance, which may not necessarily be cognitively based, but can include personal skills such as leadership and creativity, performance in arts and other areas. Interaction between the child's behaviour and the response of the environment is significant in whether the gifted child will emerge as a gifted adult (McGuffog, Feiring and Lewis, 1987; Perleth, Lehwald & Browder, 1993).

Vialle (1995) argues that recognising individual differences leads early childhood teachers to nurture each child's intellectual development, and that Gardner's MI theory provides "the opportunity for non-test takers to demonstrate their potential" (p. 8). Her model of assessment based on teacher observation in a regular early childhood setting, used indicators linked to activities related to each of Gardner's areas of intelligence. Using this model she was able to identify gifted African-American pre-schoolers. She replicated it in Tasmania with children who were economically disadvantaged, and has gone on to apply this approach with children of non-English speaking backgrounds in other parts of Australia. Maker, Nielson, and Rogers (1994) also comment on the power of MI theory-based assessment to encourage teachers to look at children's individual strengths. Equitable percentages of giftedness can be identified in students from various cultural, ethnic and socio-economic groups, using another assessment process, DISCOVER. This involves engaging children in problem-solving activities; each of the activities calls on a different intelligence. Children carry out these activities in the regular classroom setting, in small interactive groups. Teachers participate and observe each child using checklists of observable behaviour and analyse these and the children's work to come up with a profile of each child's strengths across the intelligences.

The research studies by Vialle (1995), Maker et al. (1994), and Maker and King (1996) each involved the successful use of identifiers of gifted behaviours based on the MI framework to achieve equitable percentages. Using multiple criteria to identify giftedness is well supported, according to Shore, Cornell, Robinson and Ward (1991) in an extensive review of gifted literature. The incorporation of indicators reflective of a range of areas of intelligence would be relevant in developing an identification instrument for gifted behaviours in New Zealand early childhood centres. This is because of the cultural and socio-economic diversity, and the diverse curriculum opportunities that are provided.

2.2 Indicators of Gifted Behaviour

2.2.1 Research methodologies

Research investigating specific gifted behaviours spans most of the century, although until recently much of this work has focussed only on intellectual forms of giftedness, consistent with early definitions of giftedness. Much of the literature of characteristics of gifted behaviours is not adequately based on empirical work (Urban, 1997). Most is case-study work, there have been a small number of experimental studies, and a fewer number of studies involving other, usually qualitative, methodologies. There have been few studies of a longitudinal nature, particularly involving young children. In general, research samples have been small and often did not include adequate control groups. (Perleth, Lehwald, & Browder, 1993; Robinson, 1993; Tannenbaum, 1992). These are factors common to most research in gifted education, primarily due to the lack of major funding in this field. Buchanan and Feldhusen (1991) report that recent analyses of articles related to gifted education appearing in the literature show that less than thirty per cent reported original research and that 79 per cent of major articles and 92 per cent of others received no external funding. Most have involved school-age children, usually identified as gifted on the basis of IQ tests. As such, relatively strong evidence for behaviours that are associated with giftedness in cognition and language has been found. Increasingly evidence for creative giftedness has emerged, and more recently that for affective and social giftedness. However, because most studies involved school-age children, investigating early indicators of giftedness has meant researchers have

relied on retrospective parental description based on memory and selective written anecdotal records.

Case studies, the most common form of research on giftedness, have been particularly reliant on retrospective methodology (Buchanan & Feldhusen, 1991). The work of Terman and Oden (1947) and Hollingworth (1942), involving longitudinal case studies, have been followed by other forms of case studies. Bloom (1985) and Pendarvis, Howley and Howley (1990) carried out retrospective case studies of adults, selected for notable performance rather than IQ. They studied anecdotal records about their subjects' childhoods. As these studies only included individuals who had achieved highly, their conclusions about childhood indicators do not differentiate against other children who may also have displayed similar behaviour but did not achieve highly as adults. Other case studies focussed on children still in their childhood years, requiring parents to recall more recent events than is the case for those whose children had long since left childhood behind. Examples include Feldman and Goldsmith (1991), Gross (1993), Hauck and Freehill (1972) and Winner (1996). Each differs in the specific case study methodology. Feldman and Goldsmith, and Winner selected their samples on the basis of precocious performance, not IQ and demonstrated that children can be extremely gifted in music or art without having exceptional overall IQs. This substantiates Getzel and Jackson's (1962) findings discussed earlier, which were derived from experimental methodology. Gross selected on the basis of IQ and carried out a longitudinal study that is still ongoing. Hauck and Freehill brought together a collection of 10 individual case study reports by experienced teachers, psychologists, and researchers. The case studies were of children from a range of socio-cultural backgrounds and manifestations of giftedness, from prodigy to delinquent underachiever, from supportive enriched family settings to disinterested and dysfunctional.

Retrospective and other forms of case study which follow gifted children over a number of years, can provide a source of grounded theory for common characteristics of giftedness when taken together (Buchanan & Feldhusen, 1991). Jackson and Klein (1997) suggest that the most reliable source of information would be major longitudinal studies tracking children's behaviour, using very large samples of unselected children to gain enough data to generalise about early indicators. These are prohibitively expensive and complex.

One longitudinal study of a reasonably large sample of unselected children is the Fullerton Longitudinal Study (Gottfried et al., 1994) which started with a birth cohort of 130 children in 1979. The children were observed and tested regularly in their homes and educational settings, in order to identify the distinguishing behaviours of those who emerged as gifted and the conditions that supported this emergence. The Fullerton study focussed on identifying intellectual giftedness, defined by IQ score, so provides information relating to intellectual giftedness only. Although IQ itself was not a parameter of selection, the sample was deliberately selected as middle-class and English-speaking so findings may not provide an adequate picture of giftedness confounded by sociocultural factors. Another longitudinal study following several smaller birth cohorts at different times, conducted in a similar way, was the Harvard Preschool Project (White, Kaban & Attanucci, 1979; White, 1985) involving several hundred children during their first 6 years of life, between 1965 and 1978. The Harvard study, did not focus on giftedness specifically but shared a similar purpose to the Fullerton study with respect to identifying the conditions that supported individual children to make the most of their potential. It took a broader focus than the Fullerton, to include social competence as well as cognitive and language abilities. Researchers deliberately attempted to cover all socioeconomic levels of society, but equally deliberately excluded diverse ethnicities and children whose primary home language was not English. Both these studies contributed to knowledge about giftedness, including the importance of a supportive, interactive and enriched environment in the fulfilment of a child's potential in these early years. However neither fully met the conditions suggested by Jackson and Klein (1997).

While case studies give insight into the commonly held exceptional characteristics of some gifted children they lack control subjects matched for socioeconomic and educational conditions that could influence findings (Freeman, 1998). Experimental studies have attempted to do this, however even these often involved small samples of similar rather than diverse populations, inadequate control groups and involved the highly selective samples of counselling centres, rather than naturalistic contexts. An example of a substantial experimental study that was carried out in children's natural settings and compared gifted groups of children with non-gifted groups was that by Freeman (1979). It involved 210 subjects, and investigated the differences in behaviours

of children designated gifted by their parents compared to two different control children who had not been designated as such. Children selected from the records of the National Association for Gifted Children (NAGC) of Great Britain were matched with two control children each, with one match for ability, age, sex and school class, while the other match was only for age, sex and school class. Freeman carried out her study in the children's homes and schools, employing a battery of tests and interviewing the children, parents and teachers. The results highlighted the limitations of studies based on samples recruited through counselling centres and support organisations, which is more typical of experimental gifted research. For example, behavioural indicators popularly associated with giftedness such as early walking, a poor sleep pattern or social adjustment problems, were not linked to intellectual giftedness as measured by IQ, but were independently characteristic of social adjustment problems. However in other studies early walking and poor sleep patterns appear to be linked with exceptionally gifted children (IQ 180 plus) (Gross, 1993; Silverman, 1998) who were not represented in Freeman's study.

Freeman's (1979) experimental study relied on retrospective reports to investigate the early years' behaviour of intellectually gifted children. Barnett and Fiscella (1985) and Lupkowski (as cited in Wolfle, 1990) used comparative experimental studies to investigate social play of gifted and non-gifted young children. In their review of the research on differential behaviour indicators of giftedness in young children, Perleth, Lehwald and Browder (1993) point out that experimental studies involving gifted children younger than 8 or 9 years of age are infrequent, except in connection with infant studies.

Interest in the earliest signs of giftedness has focussed on IQ rather than any other form of giftedness. In an early study involving a large number of subjects, Willerman and Fiedler (1974) carried out a retrospective analysis of participants in the Collaborative Perinatal Study at two Boston hospitals. The participating children born in those hospitals over the previous 12 years had been given batteries of psychological tests at 8 months, 4 years and 7 years. One hundred of these who had obtained IQs of 140 or more at age 4 years had also been administered the research version of the Bayley Scales of Mental and Motor Development. Willerman and Fiedler found this group was indistinguishable from the total population at 8 months, thus their future precocity was

not predictable by testing in infancy. Lewis (1976) also found IQ tests in infancy were unable to predict later precocity, however, he did find that infant attentive behaviour was more stable. Lewis's finding led to a continuing small body of research investigating specific infant behaviours as predictors of later IQ. Gelbrich (1998), Lewis and Michalson (1985), and Tannebaum (1992) comprehensively reviewed this research.

Both Lewis and Michalson (1985), and Willerman and Fiedler (1974) found the interaction of the child with the environment affects the emergence of giftedness although in Willerman and Fiedler's study, while boys were exceptionally responsive to environmental influences, inexplicably this was not the case for girls. White (1985) also discusses the significant role of experiences particularly between 6 months and 3 years in predicting future achievement. He describes four sources of evidence: work involving testing of the development of abilities in the first years of life, educational programming experiences, psychiatric studies in mid-1940s on the vulnerability of the first few years of life, and research on human development processes. The importance of environment in the early years was demonstrated by the Harvard Preschool Project (Gottfried et al., 1994) and the Fullerton Longitudinal Study (White, Kaban & Attanucci, 1979).

The role of motivation in the exhibition of infant cognitive abilities has added further complexity to the question of giftedness in infancy and the link to giftedness in early childhood and later years (Yarrow & Pedersen, 1976). Silverman (1997) cites a number of studies that indicate "parenting to be the most potent factor in the development of giftedness, creativity, and eminence" (p. 385). Other studies have shown the impact of environmental support in the form of parental interaction, in affecting the quality of children's cognitive activity (Fiese, 1990; Fowler, 1993; Klein, 1993; Moss, 1990; Tamis-Le Monda & Bornstein, 1994). Although such work is suggestive, there is not enough research taking into account the complexities of the interaction of the infant's genotype with the environment, to enable confident classification of much specific infant behaviour as indicative of giftedness. Despite this, Silverman (1998) reports extremely advanced behaviours in early infancy cases from her own clinical work at the Gifted Development Center, and gives examples of other studies that suggest advanced behaviours are apparent from as early as 18 months of age. This agreement of results from differently structured studies highlights the importance of understanding and responding to the nature of giftedness in the early childhood years.

Getzels and Jackson's (1962) research, discussed in an earlier section of this chapter, was an experimental investigation of creativity. Torrance (1962) built on this work, carrying out cross-cultural studies to identify differences in the valuing of creativity within different cultures. Having demonstrated that social values and income levels affect performance on creativity tests, he found indicators that would overcome these biases. He used samples of 1000 students 5-13 years of age in each country, using native examiners and the preferred languages of the students. Through this and subsequent work, Torrance provided a range of assessment tools to assist in identifying creatively gifted children. These have been used in over 1000 published research studies, and they "show little or no racial or socioeconomic bias when used with preschool children" (Torrance, 1983, p. 517). They have contributed significantly to our understanding of the indicators of giftedness in diverse sociocultural settings. Torrance produced a Checklist of Behavioural Indicators of Creative Strengths (Torrance, 1983, p. 516-517) and recommended that consistency of display of these behaviours by preschool children would indicate creative giftedness.

Bernal (1974), one of the early researchers who added to our understandings about cultural differences in displaying gifted behaviours, used documentary analysis and interview methodology. He used a cross-cultural literature survey of gifted children to provide descriptors and then through 300 interviews with members of three Chicano communities in Texas provided behavioural indicators of gifted Chicano children. This expanded the currently recognised behavioural indicators for culturally diverse populations to include additional aspects of social qualities. The subsequent work of other researchers investigating behavioural indicators specific to diverse populations is extensively reviewed by Frasier (1995). New Zealand research conducted by Bevan-Brown (1993) also used documentary analysis of an extensive range of sources for traditional views and practices. This provided a means of triangulation for data obtained from informal, exploratory interviews with 33 Maaori kaumatua, educators, and significant others, to explore the identification of Maaori children with special abilities at preschool and school. Bevan-Brown found that there were some significant concepts relating to giftedness that are particularly relevant to identification of gifted Maaori children.

2.2.2 Research-based indicators

The range of methodologies used by the preceding and other research studies has resulted in identification of behavioural indicators associated with giftedness in young children. Some behaviours have been repeatedly identified, others have derived from only a few studies. Usually this is due to the nature of the sampling technique, often based solely on IQ test results, producing indicators only relating to this aspect of giftedness. Consequently, the information we have about indicators of giftedness is likely to be incomplete. The indicator behaviours found through research can be grouped according to themes as follows:

Cognition and language

Cognition and language indicators include; quick understanding, retentive memory, long attention span and concentration ability, precocious speech, mature and sophisticated language use, unusual interests, advanced mathematical skill, early reading ability and interest, preference for complexity, cultural knowledge and skills, interest in languages, superior problem-solving and abstract thinking abilities, understanding of complex concepts.

Indicators relating to this area have been derived from a variety of methodologies, but usually samples selected for IQ and reliant on retrospective parental description for early indicators. However infant habituation studies have also confirmed the indicators associated with memory and attention span. Also Lewis and Louis (1991) carried out a review of research findings relating to giftedness in children 2 to 6 years and noted that early language, early or superior memory abilities, abstract thinking, and curiosity are characteristics commonly agreed upon in both scientific and parental views as indicators of giftedness. The predominance and variety of studies focussed on intellectual giftedness has meant that teachers often have knowledge of many of these indicators of giftedness.

Approach to learning

Indicators relating to how children approach learning include; independence, self motivation, perfectionism, insatiable curiosity, persistence, intense concentration, enjoyment of original projects, responsiveness to the concrete and the kinesthetic, ability to make connections between areas of learning, advanced reasoning ability,

tendency to argue, ability to predict events, objective criticism, sensitivity to discrepancy, stubbornness, uncooperativeness, dislike of routine, questioning, problem centredness.

Again, indicators in this area derive from a variety of methodologies. While many were associated with some intellectually gifted children (Hollingworth, 1942, Freeman, 1979), they were also found to be associated with children who displayed creativity and social giftedness in the absence of high IQ, for example Torrance (1983). The socially challenging nature of many of these indicators has meant that children have been unrecognised, or denied as gifted.

Creativity

Creativity indicators include; a keen sense of humour, verbal and artistic inventiveness, imaginative treatment of topics, divergent thinking, creative problem solver and finder, asking unexpected questions, improvisation, role playing and storytelling, creative in movement, dance, music, rhythm, and rhyme-making, keenly observant.

Most of these indicators accompany creative giftedness even when unaccompanied by high IQ (Getzels & Jackson, 1962), and their exhibition is not subject to cultural or socio-economic conditions (Torrance, 1983). Humour has proven to be a controversial indicator for young children. While Hollingworth (1942), Hauck and Freehill (1972) and other case studies have found this to be a relevant indicator, both Barnett and Fiscella (1985), and Freeman (1979), comparative experimental studies, found no differences in humour, in terms of joking, telling funny stories or laughing at the funny stories of others. Whether humour is a culture dependent indicator, as suggested by Freeman, or whether it is not an indicator of giftedness, is not well established. It may in fact be further evidence of the limitations of IQ testing in differentiating gifted children, as both the Freeman and the Barnett and Fiscella gifted samples were selected only on this basis. In contrast, Getzels and Jackson (1962) established humour as an indicator that differentiated those who are only creatively gifted from those who are only intellectually gifted. Torrance (1983) also established humour as an indicator of creative giftedness independent of intellectual giftedness.

Affective and social skills

Indicators relating to affective and social skills include; ability to obtain and hold adult attention and use adults as resources, early interest in moral and justice issues, share ideas and knowledge freely, intense emotional responses, non-verbal fluency and flexibility, advanced group skills and play patterns, service to others, leadership, interpersonal communication and negotiation abilities, intuitive sensitivity to others, preference for older playmates, good social emotional self concept.

Most empirical work relating to social and affective characteristics of the gifted relate to those who have been identified high in IQ; there are few studies related purely to those specifically gifted in this domain only. Robinson and Noble (1991) located only 136 articles since the 1985 publication of a review by Janos and Robinson (as cited in Robinson & Noble). "Only a fraction reported research results, the remainder mainly constituting case reports, impressionistic descriptions of very small populations, reviews, and position papers" (p. 58). Additionally, most have focussed on older age groups than the young child, and the variance in results from study to study highlights the complexity of socio-cultural influences as confounding factors, particularly when there are so few studies to compare in this domain. Winner (1996) suggests our lack of knowledge in these respects is a cultural decision.

Betts and Neihart (1988) proposed six profiles that distinguish gifted children, to assist educators and parents in identifying the gifted and understanding their feelings, needs, and behaviours. These profiles make up a theoretical model based upon observations, interviews, and reviews of literature carried out by the authors. While some of these profiles are more relevant to middle and high school children, there are those which are relevant to the early years with behaviours recognisable in the case study literature. Betts and Neihart argue that it is not possible to separate out emotional development from intellectual or physical, and the gifted differ widely in emotional profile dependent on life experiences and genetics, they cannot be seen as one group. "every aspect of personality and development influences and interacts with every other aspect. Giftedness should be examined as a construct that impacts on personality" (p. 248). However, they consider it vital to be aware of the different manifestations of needs and behaviours of gifted children to ensure identification and appropriate provision.

Silverman (1998) also argues that temperament and personality vary widely amongst the gifted and that providing the best support for gifted children requires an understanding of how these differences manifest in the behaviours of these children. By being aware of the range of behaviours that combine with giftedness, teachers will be less inclined to under-identify. Giftedness can be masked by behaviours which teachers and others might construe as negative, or naughty. This is particularly the case for the creatively gifted. For example, Torrance (1981) talked about the difference in the way teachers treat children dependent on whether they see them as being naughty or as creating ideas for being naughty. He also suggested that there are times when lying by young children needs to be recognised as an indication of creative talent in need of guidance in positive, constructive ways. Kitano (1989) pointed out behaviours that can appear as negative and result in failure to identify giftedness and Clark (1983) provides a detailed list of contra-indicators matched to positive gifted characteristics.

2.2.3 Extension of the research

Overall, the research directed at establishing behavioural indicators associated with giftedness is clearly uneven in its coverage of areas of intelligence, and in its methodology. That which focuses on indicators for the early years is even less substantial, the major part derived from retrospective accounts of the early behaviour of individuals identified later in their childhood or even adult years. Recognition of the inadequacies of formal testing and the sparsity of appropriate research on indicators of early precocity prompted the development and testing of checklists in association with gifted programmes for young children. These checklists were based in part on the psychometric and theoretical research literature relating to the early years existing at the time and on research of parent observations. In addition, they drew on the experience of specialist teachers and researchers working with gifted young children, and the selective use of literature on older children. The Astor (Ehrlich, 1980), Seattle (Roedell, Jackson & Robinson, 1980), Retrieval and Acceleration of Promising Young Handicapped and Talented (RAPYHT) (Karnes & Johnson, 1986a; 1986b) projects were significant initiators of this move towards the use of checklists and are discussed in depth later in this chapter. The indicators that emerged from the Astor, Seattle and RAPYHT projects have been tested over time in the naturalistic early childhood setting and can be considered valid for the early years, at least in the US. These indicators have been reviewed and listed in checklists in journals aimed at early childhood teachers (Kitano,

1982; Wolfle, 1989) and also appear in books directed at parents and teachers (Chitwood, 1992; Harrison, 1995; Mares, 1991; Morelock & Morrison, 1996).

There is an absence of any reported research specifically directed at establishing indicators of gifted behaviours in young children in New Zealand, apart from that of Bevan-Brown (1993) for Maaori children. US research-based checklists can provide a starting point for establishing a similar tool for teachers to use in New Zealand early childhood settings, in order to identify and then provide for giftedness.

2.3 Identifying Giftedness

The literature regarding gifted education has advocated the importance of identifying gifted children early and then providing an appropriately differentiated programme, in order to avoid underachievement and to stimulate motivation to learn (Clark, 1983; Harrison, 1995; McAlpine, 1979; Morelock & Morrison, 1996; Tannenbaum, 1992; Whitmore, 1985; Wolfle, 1989). The use of IQ testing has long been stated as especially inappropriate for young children because of their uneven development (Chance, 1990; Mares & Byles, 1994; Morelock & Feldman, 1992; Powell & Sigel, 1992; Shore et al., 1991; Tannenbaum, 1992). Also, many traditional tests are not designed for children below primary age. As described earlier in this chapter, tests have been increasingly questioned as means of obtaining accurate, non-biased, relevant information that can be used effectively in the education context. Ballard (1987) points out that once traditional test information is obtained it still tells very little that helps in teaching the child. Chance (1990) like Renzulli (1985) suggests that given the greater limitations of IQ tests, identification based on behavioural characteristics may be the best tool available for early identification.

Shwedel and Stonebrunner (1983) state the use of "observation or rating scales from established lists of characteristics of the gifted appear to hold more promise" (p. 27). They cite studies that found parent ratings and teachers trained in use of rating scales are successful in identifying giftedness even in early childhood. The best results are achieved by adults who have ongoing contact with the child and a level of in-service training on the use of the scale and characteristics of the gifted. The use of rating scales

and checklists of behaviours is an inexpensive and naturalistic way to help provide relevant programming for gifted children, and so is appropriate for the New Zealand early childhood context. McAlpine (1992) favoured this strategy as part of a “responsive environment” approach. He listed four advantages; firstly, offering professional responsibility to teachers in assessing children’s abilities and, secondly, involvement in identification generates interest in programming. The third advantage listed was the improved quality of the total programme due to the embedded nature of identification in daily activities of the regular setting, and fourthly that identification is strongly linked to the programme objectives. The use of standardised tools for identification supports the reliability and validity of teacher identification processes.

Martinson (1981) promotes the value of rating scales for teacher use based on economy of time, acknowledging teacher time is limited. She points out however that scales should consist of items which are clearly understood by teachers, and include qualities and traits readily identified in the particular setting. She emphasises that items should be based on direct observation of behaviour rather than inference, and that the content requires discussion in teacher groups to help teacher understanding.

Renzulli and Hartman (1971) developed one of the earliest rating scales for teacher use. This was based explicitly on the findings of others’ research regarding the behavioural indicators of giftedness. It can be used with children of all ages, although it was designed for use with school-age children. Research by Malone (cited in Malone and Moonan (1975) has supported the validity of this instrument for assessing pre-school creativity (Torrance, 1983). However, it emphasises the positive and “mainstream” concepts of giftedness within a classroom setting. As such, it does not always accommodate for the culturally and socially diverse, or the unique environment of the early childhood centre setting. McAlpine and Reid (1996) devised a similar rating scale for New Zealand school settings. The literature on gifted and talented provided the initial descriptors of behaviour, which were then assessed for application in the New Zealand context by recognised New Zealand experts on gifted education and selected classroom teachers. The revised instrument resulting from this critique was then tested nationally by teachers. The results of this trial were used to further edit the instrument. Relevant to school contexts, many of the indicators are not applicable to or observable in children in New Zealand early childhood settings. The importance of early

identification of giftedness highlights the need for a similar resource for the early childhood setting.

Silverman and Waters produced a parent checklist applicable to a wide age range. They based their indicators on the results of their own research and clinical observations at the Gifted Child Testing Service and tested and refined it through research with parents (Silverman, Chitwood & Waters, 1986). The descriptors were selected on the criteria that they represented the majority of the children tested, they applied to a wide age range, were generalised to a wide socio-economic range, were easily observable at home, and were brief and clear. The indicators arose from 95 parents' response to a questionnaire, given to them when they brought their child in to the centre for testing, asking them to describe the early indicators that led them to suspect giftedness. Testing revealed that 75 per cent of these children had IQ scores of 132 or higher, another twenty per cent had 120 or higher and only five per cent were below this score, demonstrating high reliability of parental judgement. The reliability of parents, as identifiers of giftedness in their children is verified within the literature (Ciha, Harris, Hoffman & Potter, 1974; Jacobs, 1971; N.M. Robinson & H.B. Robinson, 1992; Roedell et al., 1980; Silverman, 1993). This is often because of the intimate knowledge parents have of their children (Roedell, 1989), combined with early emergence of speech, concentration, and memory. However, parents have limited experience of the range of children's behaviours and this can lead to either false identification or non-identification by them. Some studies indicate that parents underestimate rather than overestimate their children's giftedness (Silverman et al., 1986). The Silverman and Waters checklist, and that of Renzulli and Hartman (1971), formed the basis of a number of checklists of giftedness, applicable to all ages, which are readily available in the literature.

Wolfe (1990) suggests that as children are individuals they may not exhibit all characteristics on a particular list. This can be due to the opportunities provided in the context in which they are observed, or limitations in the experiences they have been exposed to. Consequently, lists should be combined to provide the widest range possible of relevant behaviours. It is particularly important to adapt the expression of traits to fit minority, disadvantaged, and culturally diverse populations. Both these suggestions

could guide the compilation of an identification instrument tailored to New Zealand early childhood settings.

Research that specifically related to identifying giftedness in young children under five years of age only began in the seventies. The seminal work of the Retrieval and Acceleration of Promising Young Handicapped and Talented (RAPYHT) programme, was initiated in 1975 at the University of Illinois, serving three to five year olds (Karnes & Johnson, 1986a; 1986b). Indicators from the gifted literature, published research, and the experience of teachers who had worked with gifted young children, were combined with critique from academic experts of gifted education. The combined data were used to compile a Parent Questionnaire and Teacher Checklist. The reliability and validity of the revised versions of these instruments were established (Karnes & Johnson, 1986b). The RAPYHT model research involved an intervention and comparison population of 450 children with special needs, aged 3 to 5 years, for whom a parent questionnaire and teacher checklist were completed and scored. This resulted in identification of approximately the top ten to twenty percent in each of 6 areas of talent based on the US Office of Education (1972) definition. The purpose of identification was for eligibility for the application of the RAPYHT programme within their regular early childhood setting, and involved further screening by a multi-disciplinary team, followed by completion of a curriculum-based assessment instrument for the purposes of programming for areas of strength and weakness. Findings relating to the project included the positive effects of programming for strengths and talents on children's self-concept and cognitive functioning, on parents' skills in working positively with their children, and also on teachers' attitudes and work with all children in their class, gifted and non-gifted. A follow-up of children who had gone on to school showed that the positive effects for children were sustained. This project was replicated in many other sites across the US. It involved only gifted children and teachers in education programmes specifically for children with special needs, providing intervention within the child's regular special education setting. However, the positive outcomes of identification based on characteristics of gifted behaviours, and subsequent programming based on areas of individual strengths as well as weaknesses, suggest useful means of providing for gifted young children in regular early childhood settings.

Karnes and Johnson (1987) report on the BOHST (Bringing Out Head Start Talents) project which modified the RAPHYHT model within a Head Start programme for disadvantaged and culturally diverse children who are potentially gifted. Twenty-four children were identified as potentially gifted within the selected programme, and another 18 in a comparison programme. The identification was made through use of a teacher checklist, parent checklist, and talent identification summary. Positive results with respect to teacher attitudes and programme development were experienced, similar to those of the RAPHYHT project. Additionally, the exposure of all the 234 Head Start children involved in the intervention to programming that emphasised higher level thinking resulted in significant gains over a comparison group of 212 Head Start children.

Another early and significant study was the Seattle Research Project (Child Development Research Group), begun in 1974 by H. Robinson, through the centre he founded for research and curriculum development in the education of gifted preschoolers (H. Robinson, Roedell, & Jackson, 1979; Roedell et al., 1980). The project sought to find out if giftedness could be identified in under 5 year olds (Roedell, 1989). Like RAPHYHT it used the research literature about specific behaviours exhibited by young gifted children to formulate parent questionnaires that elicited anecdotal descriptions, upon which to base predictions of giftedness of that child. These were found to be more reliable predictors of cognitive giftedness than test performance, at the younger age. The subsequent indicator instrument they produced was based on the fifty-three young children who displayed highly gifted abilities in the original project. However, one of the limitations of the research noted by the authors was the marked predominance of white middle class children in the sample. This was due to the socioeconomic composition of the location of the project. The indicators found to be valid and reliable were used to develop "an informal observation guide to help teachers expand their awareness of the many different ways children may display advanced abilities in the classroom" (Roedell et al. p. 67). Although they note that it is not comprehensive, the instrument has been subjected to rigorous statistical analysis to confirm its validity with young children (confirmed by Silverman et al., 1986).

Roedell et al. (1980) discussed many of the difficulties associated with compiling checklists as part of their research report. For example, some of the items may not in

fact differentiate gifted from the general population, and sometimes items are so non-specific or evaluative that they are open to interpretation by the administrator. Roedell et al. emphasised the importance of ensuring that only behaviours that are relevant to the content and goals of the programme and that are likely to be displayed in everyday activities should be included. Additionally any scoring system should not lead to strong performances in one area being over-ridden by a low score in another. They also caution against reliance on a single source of information, thus checklists should always be used in combination with other observations, anecdotal information about the child's everyday behaviour from parents and other close family or associates of the child, and samples of the child's work where relevant. Additionally more than one teacher should use the checklist, and it should be used on several occasions over a period of time. For older children peer nomination can be a valid source, but in the early years developmental characteristics of the young child preclude this as a reliable source. These points would need to be taken into consideration in identification processes in New Zealand early childhood settings.

A third significant early programme that provided a research-based source of indicators of gifted behaviours was the Astor Program for Gifted Children, New York, for three to seven year olds (Ehrlich, 1980). This also employed parent questionnaires in the initial stage of identification, and was a precedent in using culture-specific and generic behavioural indicators within its identification processes. Consequently, this programme identified a student group reflective of the demographic make-up of the city of New York. In the process they were able to confirm by statistical analysis a number of significant behavioural indicators that correlated with giftedness as measured by formal means. Once children had progressed through the parent questionnaire and checklist stage of the identification process, children were observed and tested with a battery of formal instruments. All material was then used to determine eligibility selection into the programme, with the youngest and those with highest IQs first to be accepted. One limitation of this work is that the purpose of identification was for entry into a special programme for a limited number of children, thus IQ scores were the ultimate determinant, rather than just need for a differentiated programme. In addition, the initial sample identified was only 29 children. However, the results of the work on the initial screening parent questionnaire and behavioural checklist have contributed to the validation of indicators particularly relevant to minority populations.

The RAPHYHT, Seattle, and Astor programmes used a combination of formal and informal tests, parent and teacher checklists and interviews and anecdotal observations in identifying young gifted children. In doing so, they contributed valuable empirical information to the field on the characteristics of gifted young children. Many checklists have subsequently appeared in the literature for use by parents and teachers (Clark, 1988, 1995; Karnes & Taylor, 1978; Karnes, Steinberg, Brown, & Shwedel, 1983; Kitano, 1982; Mares, 1991; Meador, 1996, Porter, 1997; Roedell et al., 1980). These have been based on the results of the above projects and other research studies such as those discussed in the previous section on indicators of gifted behaviours.

Studies focused on identification of giftedness in early childhood, especially giftedness defined in terms broader than a consideration of academic ability, make up a small proportion of the total research base. Consequently, compilation of a broad-based identification instrument necessitates an inclusive approach in choosing indicators, especially where diverse social and cultural populations are to be involved. The literature frequently states that checklists need to be adapted when considering children from minority and culturally diverse groups to ensure indicators of skills and performance highly valued in their culture are not ignored. For example, as already described, Bevan-Brown (1993) provided a unique study of what a Maaori perspective of giftedness comprises. The indicators discussed in the findings of this unique study should be included in any New Zealand instrument intended for use in settings which include Maaori children, given the paucity of further studies of either a confirmatory or contradictory nature. However, their exhibition will be dependent on “the teaching and valuing of Maaoritanga (as) an integral part of preschool life. . . . Educational provisions for Maaori CWSA should not isolate them from their culture” (Bevan-Brown, p. 159).

2.4 Identifying Socioculturally Diverse Groups

One of the widely discussed issues associated with identification of giftedness is the inability of traditional methods to identify disadvantaged and culturally diverse gifted children (Clark, 1995; Frasier, 1991; Kitano & Kirby, 1986; Maker, Nielson, & Rogers, 1994; VanTassel-Baska, 1998; Vialle, 1995). Although the gifted can be found in all

classes and cultures Frasier (1991) identified three key factors affecting the identification of gifted disadvantaged children that are widely agreed to: “(a) experiential deprivations, especially in early childhood; (b) limited language development; and (c) socioeconomic or racial isolation” (p. 235). Thus these children may not be identified by traditional means because of lack of experience and knowledge-base relating to the culture of the test, and limited language. Despite this, Kitano and Perez (1998) report that Project Excel’s case-studies indicated the characteristics of young bilingual children from low-income homes are similar to those reported in the literature for mainstream gifted children. However the existence of characteristics that are culture or environment specific was demonstrated in the Astor programme (Ehrlich, 1986). Teachers unfamiliar with these characteristics may fail to identify gifted minority children. Shwedel and Stonebrunner (1983) discuss the problem of identifying pre-schoolers from atypical populations, suggesting one way being to ask the question “What can these kids do?” and “How well can they do it?” They suggest that “any child who functions adequately in the face of adversity” can be considered to be showing gifted potential. An example could be those for whom English is a second language, yet whose English oral expression is equivalent to age peers who have English as their home language. Limited language is significant not only in terms of socioeconomic or cultural experiences. Silverman (1986) demonstrated that reliance on language-dependent test items in formal testing excluded underachievers who had suffered chronic ear infections.

Besides the need for non-language-dependent indicators (Freeman, 1985) there is a need for indicators related to exceptional performance of skills and abilities valued within minority cultures (Cropley, 1995; Kirchenbaum, 1989). Winner (1996) points to the Pueblo residents of New Mexico who place special value on linguistic ability, possession of cultural knowledge, ability to create with one’s hands, and compassion, self-sacrifice, and empathy. Maaori also highly value these qualities and both groups place value on these gifts only when used for the benefit of the community. While it is increasingly recognised that what constitutes gifted behaviours is culturally bound, there is a limited research base of either indicators or valid and reliable instruments for identifying giftedness in culturally and socio-economic diverse children (Frasier et al., 1995). On this basis, Frasier et al. justify the use of “speculative opinions and conclusions derived from practice or experience” (p. 2) because of the important

insights they provide to understanding these groups. Torrance generalised some of the potential characteristics through extensive work with culturally different gifted children (Kirschenbaum, 1989; VanTassel-Baska, 1998). Other research that has contributed understanding of giftedness in different cultural groups includes that of Bernal (1974), Gay (1978), and for New Zealand, Bevan-Brown (1993). Consequently, the use of checklists and rating scales that include culture-specific indicators is recognised as one aspect of best practice in identification of the gifted (Maker & Shiever, 1989; VanTassel-Baska, 1998).

This is significant to any identification process used in New Zealand as it is generally acknowledged that gifted Maaori children are not identified or catered for adequately. Bevan-Brown (1993) discusses reasons for this as evidenced in the New Zealand gifted literature. She identifies the common element in suggestions that have been made to address this as being “focusing on and valuing diversity in identification methods and educational programmes” (p. 12). Cathcart and Pou (1992) and Reid (1990) highlighted the need for reliable indicators for identifying giftedness in Maaori children, and Cathcart and Pou, and Milne (1993) give lists of possible indicators of giftedness in Maaori children. Bevan-Brown carried out the first empirical research to investigate a Maaori concept of giftedness, and her recommendations regarding identification included that this be

based on a Maaori concept of special abilities. This would include:

- Catering for a wide range of abilities and qualities including spiritual, cognitive, affective, aesthetic, musical, psychomotor, social, artistic, intuitive, creative, leadership and cultural abilities and qualities.
- Taking into account the service to others component of special abilities.
- Placing emphasis on a range of valued personal qualities and providing contexts in which they can “surface” and develop. (p. 159)

Such an approach is at odds with formal testing methods but supportive of using informal, observation-based methods based on multiple areas of intelligence. Bevan-Brown found a supportive environment that also provides culturally appropriate practice is necessary. While this can most readily be found in Te Kohanga Reo and Maaori immersion early childhood settings, all early childhood settings are required to ensure their programmes, processes and resources are culturally appropriate for both Pakeha and Maaori.

McAlpine and Reid (1996) cite the lack of cultural appropriateness of US derived rating scales in use by New Zealand schoolteachers as the incentive for them to develop “a comparable measure more appropriate for New Zealand use” (p. 1). *Te Whaariki*, the New Zealand early childhood curriculum document, requires that cultural appropriateness, along with developmental and age appropriateness, is considered in curriculum provision for all young children. Therefore, any identification process used in New Zealand early childhood centres must be one that is adapted for this sociocultural context.

2.5 Assessment and Evaluation

Identification processes should be integrated with centres’ standard practices for assessing children’s learning, as the first step toward appropriate curriculum provision. However Wilks (1993) found that assessment of children in early childhood in New Zealand was not given much attention in either research or practice. Wilks investigated current assessment practices in a sample of kindergartens and childcare centres and compared these to recommended practices in assessment literature. She found that centres recognised the values of assessing children and were implementing and trialling new assessment procedures in response to current knowledge. However, the purposes and methods employed needed further development. She found that many assessments were done for record keeping rather than to guide action to the benefit of the children involved. Assessment frequently involved attention only to some aspects of the child’s development, and did not consistently include all children. In addition, methods of assessment and the sources of input to the assessment were often restricted, in need of a variety both of approaches and of people, including parents, to contribute to the picture of the child. Of especial concern to gifted children were results that showed that assessment was often used to identify gaps in development or attend to difficulties in development or learning, rather than to identify strengths and the means to extend these. The results of Wilks’ study were significant for all children in early childhood, but in light of the principles of practice espoused by both gifted and early childhood literature which were discussed in the introduction, they imply a double jeopardy for the gifted young child.

The publication of the draft edition of *Te Whaariki* (N. Z. Ministry of Education, 1993) in the same year as Wilks' (1993) study called further attention to the role of assessment in curriculum provision. In order to determine what would be the appropriate means of meeting the curriculum goals for each child, *Te Whaariki* (N. Z. Ministry of Education, 1996b) promotes planning. It defines this as:

a continuing process, involving careful observation, identification of needs and capabilities, provision of resources, assessment, and evaluation . . . planning will usually begin from observations of the children's interests, strengths, needs and behaviours. . . . Assessment of children's learning and development will be part of the information needed to evaluate the programme. . . . It is essential that assessment and evaluation are based on the goals of each strand of the curriculum and that the principles of the curriculum are always applied. (p. 28 - 29)

Considering this statement in relation to the child exhibiting gifted behaviours, the strand most susceptible to neglect in the process of assessment is contribution/*mana tangata*. This strand states "Children experience an environment where there are equitable opportunities for learning, irrespective of gender, *ability*, age, ethnicity, or background" (emphasis not in original text; p. 16). Children are seldom likely to be identified as gifted due to lack of teacher knowledge regarding the indicators of gifted behaviours (for example Gear, 1978; Taylor, 1995; Wellisch, 1999). Even when teachers may suspect a child is gifted, differentiation of the regular programme, though required, is infrequently applied. Without this strand adequately addressed, assessment and evaluation can cover only content, not level, of programming provision. To assure equitable learning opportunities for the child who is gifted, the level of content will need to be beyond the range normally available for age peers. This is because this child's zone of proximal development for learning will likewise be beyond the early childhood range.

The process of assessment and evaluation called for by *Te Whaariki* is encompassed within the principles included in Wilks' (1993) recommendations. These were that assessment be worthwhile (benefit the child), integrated, holistic, systematic, incorporate self-assessment (child perspective), a variety of approaches, be ecological, include parents, and used to promote learning (pp. 125-127). The process is supported

by the concept of authentic assessment (Grenot-scheyer, Schwartz & Meyer, 1997; Puckett & Black, 1994). This is defined as:

the process of observing, recording, and otherwise documenting the work that children do and how they do it as a basis for educational decisions that affect those children . . . it assigns priority to the needs and accomplishments of the individual learner. (Puckett and Black, 1994, p. 22)

Authentic assessment calls for informal strategies which are nevertheless reliable and valid through being “teacher mediated, child centred, embedded in the curriculum, ongoing and cumulative, and based on multiple theories of human growth and development” (Puckett & Black, 1994, p. 174).

Authentic assessment is the basis of the position statement on assessment issued by the NAEYC (National Association for the Education of Young Children, 1988). It has guided the identification and programming for gifted young children in mixed ability groups by Kitano (1990) in her Developmental Model programme and by Maker and King (1996) in the DISCOVER projects. These are “for gifted children from diverse cultural, ethnic, and linguistic backgrounds” based on multiple intelligence theory (p. 13). These programmes reflect best practice for young children (Grenot-Scheyer, Schwartz & Meyer, 1997) and are consistent with *Te Whaariki*, comprising “integrated curriculum, use of manipulative, attention to thinking processes, incorporation of individual learning styles” (Kitano, p. 27). They demonstrate that identification and programming for young children could be successfully incorporated into mainstream New Zealand early childhood settings, provided teachers were familiar with the observation and recording of indicators of gifted behaviour.

2.6 Teachers and the Gifted

Because of their exposure to the full range of children’s behaviour and ability, teachers are in the best possible position to be able to identify when a child is exhibiting gifted behaviour. However, the research evidence indicates teachers are poor judges of giftedness, often seeing good behaviour and high achievement as fundamental to the concept of giftedness. They fail to recognise those children whose behaviour is at all

divergent from these precepts. While acknowledging this research evidence, Martinson (1981) argues in favour of teachers being involved in screening for gifted behaviours as a means of valuable inservice which would lead to increased teacher interest and awareness of gifted children and their needs. DeHaan & Havighurst (1961) suggest a bonus in using teacher observation is the increased sensitivity to all children's individual differences that develops with this method. Nevertheless, research suggests that without training in the characteristics of gifted young children, teachers have little understanding of gifted behaviour (Gear, 1978; Roedell et al., 1980; Wellisch, 1997). For example, Wolfle (1990) found that teachers were sometimes able to recognise advanced cognitive behaviours but not advanced creative behaviours as indicative of giftedness. This results in failure to identify many gifted children, while wrongly identifying others as gifted (Gear, 1976; Roedell et al.).

The international literature on gifted children has shown that frustration or boredom, often expressed in negative ways, can be misunderstood and exacerbated by teachers lacking the tools or training to address the situation appropriately. A pattern of misbehaviour and or under-achievement can then develop. A recent Australian study (Wellisch, 1999) found that misunderstanding of negative characteristics, such as lack of social skills and behaviour problems, was common among teachers lacking training about giftedness, but that such specialised training about giftedness appeared to reverse negative impressions. Harrison (1995) suggests that knowledge of characteristics of giftedness can help prevent teachers from placing a 'ceiling' on expectations, which can result from a norm-focussed view of developmentally appropriate behaviour. For example, she suggests denial or misinterpretation of giftedness can lead to teachers believing that early reading results from intense parental training rather than indicative of exceptional ability. Likewise, teachers may believe that social isolation or preference for solitary play indicates social immaturity rather than an outcome of absence of mental-age peers.

Wellisch (1997, 1999) explored the knowledge base and beliefs of Australian early childhood teachers regarding gifted young children. She identified several themes in these teachers' thinking significant to this current study, including:

- Gifted children are pushed by their parents

- The open-endedness of early childhood programmes naturally results in developmentally appropriate practice suitable for gifted young children
- Outstanding ability in one area is indicative of other developmental lags
- A consultant would be a helpful support.

Other research has shown that where negative behaviours are apparent, teachers are unlikely to recognise these as possibly masking giftedness (Ehrlich, 1986; Richard as cited in Kitano, 1990). Therefore, discussion of negative behaviour indicators needs to be included when preparing teachers to identify giftedness. Clark (1983, pp. 91-99) provides possible contra-indicators associated with gifted behaviours. Social class and ethnicity of children has also been shown to distort teacher recognition both in the U.S. and New Zealand (Moltzen, 1992). Moltzen's subjects predicted IQ of fictitious students, given only names to judge by, in accordance with their perception of student ethnic and socio-economic origin.

The international research has shown that lack of information on giftedness can be addressed in a number of ways, including pre-service and in-service training and supply of an identification instrument listing observable indicators. With reference to identification of gifted children who also have special needs, Karnes and Johnson (1986b) state that special educators are rarely trained in gifted education, and tend to focus on weaknesses of children with special needs. They found that a short period of training in the RPYHT programme, discussed earlier, was inadequate, so this was extended to a nine-month period. Twelve to fourteen visits were made to the site to conduct workshops, visit classrooms and demonstrate techniques. Teachers learnt to promote creativity, problem-solving, critical thinking, and talent in all the children, and they became familiar with indicators of giftedness.

Kitano and Perez (1998) discuss the factors they have found critical to effective teacher in-service for identifying and programming for culturally and linguistically diverse gifted children within the Project Excel and First Step projects of San Diego. They include sensitivity to the experiences and backgrounds of the teachers themselves so that training can begin at the appropriate level and build on currently held concepts and skills. As with the RPYHT project findings and those of Gear (1976, 1978), multiple

workshops presented over time and planned peer-coaching visits were more effective than one or two isolated sessions.

The inadequacy of short theory-focussed training divorced from application to real situations has been highlighted in New Zealand early childhood research on teacher practice in general. Bell (1990) revealed the extent to which teacher practice was based on beliefs and values rather than the theory they were exposed to in pre-service training. Her findings reflect those of others in New Zealand (Gould, cited in Carr, 1998). Based on her research findings, Bell advocated the value of providing time and dialogue opportunities to teachers during “practical problems,” in which teachers “identify real dilemmas, explore these collectively, and return to test theory, seeking resolution in practice” (p. 113). Bell suggested this for both pre-service and in-service training. This would allow teachers to examine the beliefs their practices are based on, reform these and refine their practice; for example, to fit the needs of gifted children as illustrated in the research by Karnes and Johnson (1986a) and Kitano and Perez (1998). “It is only when the taken for granted world becomes problematic that we begin to question the adequacy or ‘utility’ of our beliefs” (Bell, 1990, p. 39). Presently there are no published data on New Zealand early childhood teachers’ practice in relation to giftedness. However, Bell’s work suggests that the level of training on giftedness included in teacher pre-service courses would not be adequate to prepare them to identify or work with children displaying gifted behaviours.

While the emphasis of *Te Whaariki* is on the individual, the training early childhood teachers receive has traditionally emphasised developmental appropriateness of curriculum within the normal range of early childhood, and academic study of human development is primarily norm-referenced. This is evidenced by the choice of textbooks used, such as Papalia, Olds and Feldman (1998) and Penrose (1998). Also, provision of curriculum supportive of emergent skills, rather than assisting children in skills they have already developed in literacy, numeracy, and investigation is discussed. Consequently, teachers are unlikely to have the knowledge base of curriculum, or the curricular equipment, to apply *Te Whaariki* effectively for the child considerably beyond the norm. This situation may change with the current development of birth to eight pre-service teacher training and education programmes. However, for teachers

currently in practice, meeting the needs of the gifted child demands knowledge and skills outside their regular training.

McAlpine (cited in McAlpine 1990) found that of 217 student teachers from 2 Colleges of Education, only 37 reported having had courses on gifted and talented, these generally lasting only 1 to 5 hours. When asked how well qualified they felt to teach different groups of children with special needs students they ranked gifted and talented third in a range of eight. They indicated they felt better qualified to teach socially and behaviourally maladjusted, and physically disabled children. Likewise Taylor (1995) found that pre-service training for New Zealand primary teachers regarding gifted children is inadequate and Holden (1996) indicates that this is the case for early childhood teachers also.

Early childhood teachers' desire to increase their knowledge and skills in providing for their gifted children was shown by the attendance at an in-service course in Christchurch (Laing, 1996). The course for all early childhood teachers in the city, held over a period of three nights, focussed on identification and provision for the gifted young child. Despite a cost being involved and it being outside working hours, over seventy teachers from a range of centres attended. This resulted in improved teacher identification of gifted children and a noticeable increase in the number of gifted young children being referred to the SES, including those "who had been labelled as socially inept or behaviourally difficult" (Laing, p. 30).

Tomlinson (1986) investigated teachers' views on the type of inservice in education of the gifted that would best meet their needs. Teachers considered the most beneficial included participant involvement and provision of immediately useable materials. Wood and Leadbetter (1986) discuss the need for staged gifted programme inservice and staff development. They identified seven required stages, the first stage covers definition, identification, characteristics, and needs of the gifted. This stage is "basic to the development of quality programs" (p. 127). The second stage covers mechanics of programme development including goals and objectives, prototypes, principles of differentiation, and formative and summative evaluation. They state that these two stages are necessary for all teachers. In light of the findings of Bell (1990) and Taylor (1995), any work that is to be done with New Zealand early childhood teachers in the

area of giftedness should include inservice work if it is to benefit the children they work with. The inservice should be participatory, conducted in line with Tomlinson's recommendations, with content focussed on stage one of Wood and Leadbetter's model. In addition, the length of the in-service course is a significant factor of success. Wellisch (1999) found that while short courses help raise awareness, longer courses are needed to skill teachers in differentiating their programmes.

The preceding discussion shows there is a demonstrated need for additional training and or resources for working with young gifted children to be provided for early childhood teachers. This need is the same as that required for working with children with special needs that are well outside the normal range. McAlpine and Moltzen (1996) advance "the notion that the regular classroom teacher, with relevant knowledge and strategies, can provide an effective learning environment for many gifted and talented students" (preface). However, if the relevant knowledge and strategies are not acquired during pre-service training, it is unlikely that they can provide that effective learning environment without further training. Early childhood teachers are trained in, and resourced for, working with the range birth to school age. If a child is chronologically three years of age yet cognitively well beyond that age, the normal range of provision in an early childhood setting may not be enough to meet their needs. The ability of teachers to provide appropriate programmes for gifted children is influenced by the level of understanding and knowledge they possess regarding the special needs of these children, especially that of being first identified (Gear, 1978; Wellisch, 1997, 1999). What this means in New Zealand early childhood settings has yet to be established.

2.7 Rationale for the Research

The need for early identification of the child exhibiting gifted behaviours, and appropriate provision for differentiation of the child's educational programme is clearly established in the literature. It is also clear that such behaviours vary according to the socio-cultural context relevant to the child. There is a need to explore what is valued as gifted behaviour in New Zealand, and also to investigate how identification affects programme provision for young children exhibiting such behaviours. The literature demonstrates that teachers require assistance to understand and provide for the special

nature of giftedness. The form this assistance might take has not been investigated in New Zealand, however, the work of Bell (1990) suggests that this needs to be more than the provision of information alone. Casey and Quisenberry (1976) reviewed the research on giftedness in early childhood education and found it to be very sparse. They declared such research to be crucial, concluding:

failure to identify and develop giftedness at an early age has probably resulted in a talent loss of great magnitude in certain segments of the world's population. Priority, therefore, should be given to basic and applied research of children from birth to the age of five with particular emphasis on their intellectual development. (p. 106)

Fifteen years later, the situation was little different. Shore et al. (1991) published an analysis of the gifted literature, in which they cited reviews of the literature, which revealed that most of this addressed practice, but little was research based (pp. 2-3). Two areas they identified as needing further research were firstly the development of identification protocols for early childhood, extending on the work of the Seattle Project using parental identification and behavioural observation by teachers. The second area they identified for research was the follow-up of children who have been identified in their early years, using case-study and programme evaluation methodologies (Shore et al., 1991, p. 48).

While the nature of the current research prevented such a longitudinal approach, these conclusions justify the focus undertaken. Firstly, employing content analysis, this research aimed to devise an instrument based on behavioral observation to be used by New Zealand early childhood teachers while involved in their normal busy day. Lack of cultural relevance to New Zealand of the identification scales available in the literature prompted McAlpine and Reid (1996) to devise a scale for the primary and intermediate school classroom setting, compatible with the New Zealand educational context. The literature review suggests that a similar need exists in early childhood settings to help teachers recognise when a child is operating beyond the norm, taking into account the knowledge, skills and attitudes that are valued in this context. Providing for this need should ensure that curriculum planning for that child will involve the appropriate level of challenge focussed around the child's interests and utilise the child's true abilities. A scale that provides detail of indicators in a range of areas of giftedness will help

teachers identify the unique pattern of giftedness displayed by an individual. As gifted children are not a homogenous group, this understanding will assist in also identifying the individual needs of the child. Thus the first two questions to be addressed by this research were:

- 1) What essential behavioural characteristics within the international literature would be affirmed by a selection of experienced early childhood teachers and experts in gifted education as relevant and appropriate identifiers of giftedness in a New Zealand early childhood setting?
- 2) Are there any variations of essential behavioural characteristics unique to the New Zealand early childhood context?

Secondly, using an instrument that provides detailed description of gifted behaviours rather than a brief list of key indicators, could contribute to an increased understanding of the multi-faceted nature of giftedness and increase teacher awareness of gifted children. This understanding combined with teacher knowledge of the individual child could lead to appropriate differentiation of curriculum to benefit the individual child. So that such an instrument is easily accessible to early childhood teachers wherever they are, it is important the instrument can be used without prior training. Therefore there is a need to establish if there is a difference in identification outcomes when a training session is provided. Thus, two further questions were to be addressed:

- 3) Does the application of a checklist instrument of New Zealand-appropriate identifiers of giftedness by a sample of early childhood teachers increase recognition and awareness of gifted children in the centre setting?
- 4) How does training in general principles of gifted education and use of an identification instrument affect the ability of teachers to identify gifted young children when using the instrument?

Thirdly, all forms of child assessment should contribute to better understanding of the child who is being assessed and lead to benefits for children. To determine if identification is going to be more than a labelling exercise, a final question needed to be addressed:

- 5) How does identification of gifted young children affect programme provision in the early childhood setting?

Te Whaariki promotes curriculum based on the responsive environment, an approach advocated in international literature as most appropriate for the gifted and talented. (Barbour, 1992) Therefore all children in early childhood settings in New Zealand should be experiencing a curriculum suiting their needs, including those with special abilities. Cathcart (1996) makes the simple equity statement: "children with special abilities have the same right as all other children to an education matched to their specific learning needs" (p. 124). Roedell (1989) stated the issues for young gifted children strongly:

Educators (need to) . . . start concentrating on each child's abilities and the immediate developmental need for special programming that these might engender. Four-year-olds who have known all the colors since they were 18 months old, who read at the third-grade level, and who have the vocabulary of an 8-year-old obviously need something different from the usual preschool or kindergarten curriculum. It makes sense to identify and meet those needs. It doesn't really matter how the child developed these advanced abilities – whether it was early teaching, early experience, genetic endowment, or whatever. What matters is that the child's existing level of competence should be matched by appropriate educational experience. (p. 16-17)

The present study arose from a personal interest of the researcher to establish whether such equity is available, despite the lack of resources, training, and apparent Government interest in provision for young gifted children. As provision is dependent on identification, providing a means of identification must be the first step.

CHAPTER 3: METHODOLOGY

This research used a combination of qualitative methodologies to address the research questions. Qualitative research is inductive and concerned with how people see things (Taylor & Bogdan, 1998, p. 7). It is appropriate for the current study because the topic of giftedness in early childhood in New Zealand is still in the exploratory stage of research. The meaning of giftedness, and how it is responded to, within New Zealand early childhood settings has not yet been described. During Phase One content analysis of research literature and expert feedback, as described by McGee-Brown (1995, p. 205) was used. This produced a comprehensive list of behavioural indicators of giftedness in young children that could be observed by teachers in New Zealand early childhood education and care settings. During Phase Two focus group structured interviews were used to evaluate the trial instrument, and explore changes in teachers' perceptions regarding giftedness and the target children. During Phase Three unstructured interviews, combined with case study programme evaluation, were used to explore teacher views on the impact of identification on provision for children.

The overall methodology of this research was evaluation research. Evaluation studies are predicated on goals and objectives (Rossi & Freeman, 1985). In this case, *Te Whaariki* (N. Z. Ministry of Education, 1996b) notes that education and care programmes have been established over the past century "to meet the particular needs of children, parents, and communities as well as those of society as a whole" (p. 7). The literature demonstrates that meeting the needs of gifted young children is dependent on the identification of their giftedness, yet in New Zealand there is currently no policy or widely available support to assist this. In response to this problem, objectives relevant to the aforementioned goal of education and care programmes with respect to gifted children were set. One appropriate objective was to provide a relevant, accessible, teacher-friendly instrument to assist with identification. Another objective was to measure the impact of identification on programming for children identified by means of this instrument. These were the objectives of the current research. Achievement of the first objective was determined by the results of the instrument trial. Achievement of the second objective was determined through analysis of multi-case study interview data

and programme documentation. Rossi and Freeman (1985) identify three foci of evaluation research: “programme conceptualisation and design, programme implementation (monitoring and accountability), and programme utility (impact and efficiency assessments)” (p. 46). Phase One of this research reflects the first of these foci, Phase Two reflects the second focus, and Phase Three the third. Within each phase, different methods were used to gather the data, in order to answer the research questions. The particular methods and justification for their use are addressed in the following section.

3.1 Methodology Justification

3.1.1 Phase One

Content analysis is defined by Rossman and Rallis (1998) as “an overall approach, a method, and an analytic strategy, content analysis entails the systematic examination of forms of communication to objectively document patterns” (p. 148). Qualitative content analysis (McGee-Brown, 1995, p. 205) was the particular approach used, involving generation of categories, in this case behavioural indicators of giftedness, that would be relevant for a New Zealand early childhood informal identification instrument. The content analysis derived from three differing sources, providing a means of “within-method” triangulation (Denzin cited in Jick, 1983, p. 136) of the results of this phase.

Sources analysed were firstly checklists and rating scales available in the English language published literature, primarily those intended for use in early childhood settings that had also been found to be valid and reliable. Further checklists provided additional possible indicators, and reviews and primary sources of research were also searched to locate accepted evidence of validity and reliability for these indicators. A second source for analysis was the critical feedback on the draft instrument resulting from the first stage of analysis, from New Zealand experts in the field of gifted education (hereafter referred to as the academic expert panel). Buchanan and Feldhusen (1991) recommend the use of a panel of experts in gifted education as a source of assistance and also in helping “to establish the validity of newly developed informal instruments” (p. 285). Written correspondence and written notes from verbal face-to-face or telephone interview provided the content. A third source for analysis was the

critique feedback of current early childhood teachers who had worked with gifted young children in their centres (hereafter referred to as the gifted experienced or GE teacher group). The content was provided by audio-taped discussion from an informal focus group interview. Focus groups are useful for exploring problems, and they serve as a source of grounded theory. (Frey & Fontana, 1993). The advantages that come from the group interaction in response to researchers' questions make them valuable for "exploratory queries on interpretations of previously gathered data" (p. 31). As such the use of a focus group with teachers working in the centre context provided a check on the relevance of the indicators and the language used to describe them. The discussion generated between participants in focus groups stimulates more ideas than might otherwise arise from single subject feedback. "These groups can be used to test various questionnaire items for readability, comprehension, wording, order effects and response variation" (p. 23).

The purpose of using informed critique from a range of perspectives was to provide the best possible opportunity for producing a list of indicators that would be widely recognised within the New Zealand early childhood context as likely to be valid, consistent and observable by any qualified early childhood teacher. The range of informed critique would provide a checking device for the researcher's coverage and interpretation of the literature, as it pertains to the New Zealand context. There are precedents for the use of this method in devising informal identification instruments for gifted behaviours in young children (Barbour, 1992; Karnes & Johnson, 1986a, 1986b; Robinson, Roedell, & Jackson, 1979). Further, McAlpine and Reid (1996) used similar methods in devising the only New Zealand instrument available for use in schools. Bevan-Brown (1993) also used documentary analysis to identify traditional concepts of giftedness and then used informal interviews to access contemporary views on both traditional and current concepts in relation to Maaori. Detail of the methods of these two New Zealand studies has been described in the literature review chapter. Thus, the combining of literature analysis and expert informant comment is well established as a means of accessing valid indicators of giftedness for inclusion in informal identification instruments.

3.1.2 Phase Two

The interviews in this phase were more structured than that used to critique the instrument when gathering the data from the academic expert panel and the GE teacher group for content analysis in Phase One. In Phase Two the purpose was to get consistent coverage of key issues relating to the structure and use of the instrument, from a larger group of people. Interviews are well established as means to get insight into particular situations, in this case the useability of the trial instrument. Specific questions were asked, based on a previously constructed interview guide, as suggested by Knodel (1993) and Taylor and Bogdan (1998) and elaboration of responses was prompted where necessary with follow-up questions. This resulted in a level of standardisation that allowed for comparison on the key issues, recognised as desirable in using focus groups (Wolff, Knodel, & Sittitrai, 1993). The comparison of one large focus group interview combined with short individual written questionnaire responses allowed for differences arising from the group dynamics to be reduced; an issue raised by Taylor and Bogdan (1998). The use of one-to-one or one-to-two interviews with the second group of participants removed this issue and helped overcome the problems associated with establishing group rapport, as this group had never met together previous to trialling the instrument. The data from these interviews were also compared with the completed instruments from each centre. The two approaches to structuring the groups used in this phase, contributed to within method triangulation, consistent with “multiple comparison groups” (Glasser & Strauss cited in Jick, 1983, p. 136). In this way, opportunity was provided for both consistencies and differences to be highlighted.

3.1.3 Phase Three

Merriam (1998, p. 19) states that case study “is employed to gain an in-depth understanding of the situation and meaning for those involved.” Multiple case study is “a common strategy for enhancing the external validity or generalizability of your findings” (Merriam, 1998, p. 40). The purpose of Phase Three was to evaluate how identification of giftedness affected both teachers and programmes for the identified children, and as such multiple case study was an appropriate methodology. Case study is particularly appropriate for “studying educational innovations, for evaluating programmes, and for informing policy” (Merriam, 1998, p. 41), all three purposes being relevant to this research. Interviews were chosen over direct observation as a means of data collection for several reasons. Firstly, time constraints restricted the method of data

collection, given that completion of this research was for course purposes. Secondly, the range of teacher perceptions and actions available for analysis is greatly increased when using interview rather than observation. This rationale is supported by Taylor and Bogdan (1998). However, they point out limitations to interviewing in terms of differences between what people say and actually do, and the lack of context to support the interviewer's understanding. Some opportunity to address these concerns was provided by access to centre planning documentation regarding the target child and also carrying out the interviews in the centre environment, although this was during teacher non-contact time. Unstructured interviews were used (Taylor & Bogden, 1998), opening each time with an open-ended question to prompt description from the interviewee regarding events since the previous meeting.

3.2 Methodological Precedents

The use of multiple methods of data collection in qualitative evaluation is acknowledged as a useful means of triangulation for ensuring rigor and supporting validity (Rossi & Freeman, 1985; McGee-Brown, 1995; Greene & Caracelli, 1997). The research methodology literature of both gifted education and early childhood provide support for qualitative approaches, illustrated by the texts of Buchanan and Feldhusen (1991) and Hatch (1995) respectively. For exploration of identification of giftedness in early childhood in New Zealand, this research drew on the descriptions of the few empirical studies that have been reported in the literature, both for models of methodology and also as primary sources of data. These were the RPYHT programme, the Seattle Research Project and the Astor Program, reviewed within the literature review chapter.

The areas of giftedness for the RPYHT Project were those contained in the US Office of Education (1972) definition. The current research also used the 1976 revision of this definition to provide parameters for areas of giftedness, but omitted the area of psychomotor giftedness. This was because in New Zealand there is a strong emphasis on physical prowess, particularly in a sporting context but also in some respects of fine motor, especially for Maori crafts and performing arts. This emphasis and recognition within New Zealand society also means that children who are gifted in this domain tend

to be quickly recognised and encouraged. McAlpine and Reid (1996) excluded this domain from their instrument for similar reasons.

A recent precedent for the methodology, and purpose, of the current research is the Early Assessment Project (Barbour, 1992). This researcher advocates for the increase in on-going child observation as the basis of planning, and developing reliable and valid observation instruments to identify gifted potential in young children. She outlines the process used at Kent State University Early Assessment Project. The aim there was to develop an identification instrument that could be used in a way consistent with the best practices held in common by gifted and early childhood education, through collaboration of specialists and practitioners from both fields. The Early Assessment Project (Barbour, 1992) is the only one of this group which does not use identification to separate children into a specifically structured gifted programme, but incorporates the identification process into their curriculum planning for children in the inclusive environment of the usual classroom setting. An advisory group of academic and practitioner backgrounds from both fields formed three subgroups, which produced:

- (1) a list of identifiers of exceptional potential gleaned from the literature with operational descriptions of examples;
- (2) a needs assessment of regular classroom teachers' knowledge and comfort with gifted assessment and education;
- and (3) a portfolio assessment process for collecting and evaluating observational and self-report data from teachers, children, and parents. (Barbour, 1992, p. 158)

Barbour claims that "the project has resulted to-date in a workable system for assessing all children's performance in early childhood education classrooms as well as an alternative strategy for identifying young children with exceptional potential" (p. 159). The current study was limited to fulfilling only the first of the tasks undertaken by the Early Assessment Project. Similar collaboration with academic and practitioner experts in gifted and early childhood fields was used to produce a relevant assessment instrument for use of teachers in early childhood education and care settings in the current study.

The Texas Education Agency (Shaklee, 1992) has also attempted to replace potentially biased formal tests with a combination of systematic teacher and parent observation measures, including the "Identification Jot Down" table which "reinforces the teacher's

awareness of characteristics of giftedness while teaching. It can be used to “jot” down the names of students demonstrating advanced skills during instruction” (Shaklee, 1992, p. 140). The current research aimed to provide a quick means of recording identified gifted behaviours of individual children in a similar way. Whether it reinforced the teacher’s awareness of characteristics of giftedness was assessed in the current study also.

The Seattle, RPYHT, and Astor programmes included identification as the precedent to involvement in programmes that grouped identified gifted young children together. This is not currently an option in most New Zealand early childhood settings but the identification of giftedness in young children should still lead to a differentiated programme within their normal setting, in line with the implementation of *Te Whaariki*. The Early Intervention programme at Kent was aimed at modifying the curriculum to address the needs of individual children in just such a way (Shaklee, 1992).

The RPYHT project used a combination of training teachers in strategies to support all children’s performance, and familiarising them with indicators of giftedness. This resulted in fewer gifted children being overlooked (Karnes & Johnson, 1986a, 1986b). The current study was limited to providing opportunity for all involved teachers to become familiar with indicators of giftedness through trialling the instrument, and additionally some of those teachers received a single training session covering the nature of giftedness in early years, terminology, definition, and characteristics. The Early Assessment Project (Barbour, 1992) needs assessment phase included a similar though more comprehensive and extended preparation. Although the detail of outcomes from that project was not available to this researcher, it is likely that the difference to outcomes for children was considerably greater than the experience of this research, which involved only one 2-hour session.

3.3 Precedent for New Zealand Teacher Instruments

McAlpine and Reid (1996) published the Teacher Observation Scales for use in schools in response to the identified need for an instrument appropriate for New Zealand use. However, the current research instrument differs in several points of methodology.

Firstly, the scope of this research limited the critique and trial of the instrument to a small geographic area. Secondly, the sample of children this instrument was trialled on was not selected based on teacher suspicion of giftedness, but on age basis only. This was to ensure a useable number of children were included, as the size of early childhood groups is much smaller than a school population. Therefore, it is possible to find no gifted children within the small number of three to five years olds in a single centre. Another reason for this was to ensure no eligible children were excluded from possible identification due to teachers' lack of knowledge of giftedness (discussed in the literature review). A further way in which the methodology differed was that this research demanded that the trial sample chosen by teachers included Maaori children. This was in at least the same proportion as that represented within the total age group the sample were selected from, all the three to five year old children in the centre. This was to give opportunity for an indication of the applicability of the instrument to identifying Maaori gifted children within the mainstream early childhood education and care settings.

The McAlpine and Reid (1996) instrument is a scored rating scale. For the current research, it was decided not to preset any form of scoring in the instrument. Teachers were asked to rate the frequency with which they judged the child demonstrated the indicator, but they were not asked to total frequencies either within each category of giftedness or across the whole instrument. One effect of this was to keep the instrument simple to administer. Another effect was that the researcher was able to investigate teachers' own ideas about the point at which a child is to be described as gifted, and indeed whether there is a defined point before any differentiation of the programme is needed.

3.4 Justification for Not Scoring

Identification should only occur for the purposes of programme differentiation. The purpose of diagnosis is stated by Maker and Shiever (1989) as "to discover the uniqueness of the students' talents in an effort to outline the programme requirement" (p. 85). There must be benefit for the individual in being identified (Bredenkamp & Copple, 1997; Carr, 1998; Wilks, 1993). In the context of a New Zealand early

childhood education and care setting this translates into differentiation of the programme based on individual strengths and needs. As special programmes based on grouping gifted young children together, separately from other age peers, are seldom available in New Zealand there is nothing to be gained from identifying where on a continuum of giftedness an individual young child may be. What is important is that gifted children be identified so that differentiated programmes can be provided to meet their needs. Because of the multi-faceted nature of giftedness, consistent with multiple intelligences, each child will exhibit a different pattern of gifted behaviours, and therefore the form of differentiation required for each programme will differ (Maker, Nielson & Rogers, 1994; Vialle, 1995). This is consistent with the criterion of individual appropriateness advocated in *Te Whaariki* (N. Z. Ministry of Education, 1996b). The instrument devised in this research allows teachers to identify the areas in which the child demonstrates gifted behaviours frequently or almost always, and this then allows them to identify these areas as requiring focus for differentiation within the programme for that child. This process also allows for differences that may be culturally or socio-economically determined. Both Vialle (1995) and Maker et al. (1994) found more equitable identification of culturally different children through using a focus on diagnosing behaviours rather than numerical scores.

3.5 Validity and Reliability of the Instrument

Perleth, Lehwald and Browder (1993) state that statistical methods should be used to validate combinations of indicators to ensure that any child exhibiting some but not other indicators is indeed gifted. The purpose of this study was not to classify, but to provide a means for teachers to gain insight to behaviours that a child may be exhibiting that suggest need for differentiated programme. For this reason, this research did not use statistical analyses. The NAEYC position statement on developmentally appropriate practice in early childhood settings justifies focussing on quality of behaviour rather than quantity. It states that "Assessment of young children's progress and achievements is ongoing, strategic, and purposeful. The results of assessment are used to benefit children - in adapting curriculum and teaching to meet the developmental and learning needs of children . . ." (Bredekamp & Copple, 1997, p. 21). The statement suggests that

inappropriate assessment practice uses test results to group or label children, ignoring individual patterns of strengths and needs.

The focus of the current research being identification based on observation of behaviour also fits the NAEYC perspective on validity and reliability. To be considered valid an assessment tool must measure the real-life behaviour it purports to measure, therefore the behaviours must be those that are observable in the early childhood education and care setting (NAEYC, 1988). The indicators included in the instrument were those that had research evidence for validity and reliability for the age group three to five years. They were also those that a group of New Zealand gifted education specialists and early childhood practitioners experienced with gifted young children agreed as being relevant in the New Zealand early childhood context.

3.6 The Research Process

A diagram of the research process is found in Figure 1.

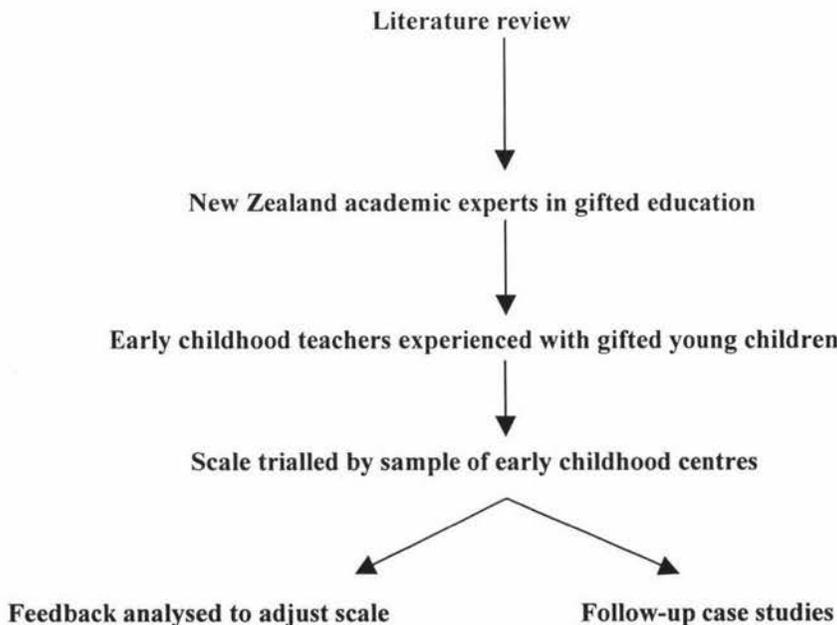


Figure 1. The research process.

3.6.1 Phase One – Identification instrument

Review of the literature

The international literature on giftedness in early childhood was reviewed for a comprehensive range of published identification tools and lists of behavioural indicators of giftedness for the age range three to five years. These were then compared with each other. Also the research evidence that tested the validity of these indicators was reviewed. From these, indicators that had been validated as reliable during the early childhood years between three and five were selected. Effort was made to cover the five broad areas of giftedness recognised by the US Office of Education, which is the definition widely accepted internationally. Literature on the design of observation instruments was reviewed to guide the categorising of the rating aspect of the instrument.

Construction of draft instrument

The indicators were analysed and reworded by the researcher for compatibility with the language of New Zealand early childhood education, and likelihood of being observed in the child-centred, responsive curriculum environment of the New Zealand early childhood context. The resulting forty-four indicators were grouped under three categories. A brief statement to assist teachers in using the instrument was devised for the cover-page of the instrument.

First draft instrument review by academic expert panel

Seven New Zealand academic and practitioner experts in gifted education, early childhood gifted education, and Maaori gifted education were approached for written critique of the instrument (Appendix A). These people comprised the academic expert panel. They were asked to comment on all aspects of the draft instrument such as: language, structure, supporting information, omissions, specificity of indicators and their applicability to the New Zealand socio-cultural context. They were told that the intended use of the instrument was to provide informed guidance for early childhood teachers to help them identify and meet the educational needs of gifted young children. The resulting feedback was analysed for inter-judge agreement, firstly by grouping the comments made in relation to each indicator commented on. Secondly, comments relating to omissions were also grouped, according to common concepts. The literature

was checked again for validation. Based on the expert feedback, the instrument was modified to include sixty-one indicators spread over four categories. This resulted from the splitting up of composite statements, the rewording of some indicators to eliminate duplication of concepts. Also more indicators of negative behaviours and more explicitly culture-focussed indicators were included. Teacher instructions were expanded also. Further critique was sought from the expert in Maaori gifted education with regard to the validity of revised indicators and language for culture, particularly Maaori styles of giftedness.

Second draft instrument review by teachers experienced with gifted children

Permission was obtained from the Kindergarten Associations and management groups of childcare centres in two urban locations to invite their teachers who had Diploma of Teaching, (Early Childhood) qualifications or equivalent to participate in the study (Appendix B). When invited to participate teachers were asked to identify whether they had had experience of working with gifted young children (Appendix C). An information sheet (Appendix D) accompanied all invitation letters. Those respondents who identified that they had such experience formed the gifted experienced (GE) teacher group who participated in an informal focus group interview, to critique the second draft instrument from their perspectives as currently practising teachers within mainstream early childhood centres (Appendix E). This group consisted of five teachers; two from centres operating with sessional rolls and three as full day rolls. The teachers were asked to brainstorm the characteristics they had experienced in gifted young children (Appendix F), then they examined the instrument and were asked to comment on structure, language, instructions, choice of indicators, title, headings, duplication, omissions, length, from a user perspective. The feedback from this interview led to further modification to the second draft instrument, resulting in the version that became the trial instrument (Appendix G).

3.6.2 Phase Two – Testing the instrument

The trial instrument was tested in a total of seventeen centres, ten childcare and seven kindergartens. Of these, four childcare and three kindergarten centres tested the trial instrument following a training workshop, and six childcare and four kindergarten centres tested it without the workshop. Each centre used the instrument over a period of

five weeks with a sample group of five girls and five boys aged between three and five years, giving a total group of one hundred and seventy children.

Selection of groups to test the trial instrument

Teachers, who had not identified that they had experience of working with gifted young children (hereafter referred to as the NGE teacher group), were allocated to two groups according to availability to attend a workshop and subsequent focus group interview. The workshop group consisted of teachers from four childcare and three kindergarten centres (Appendix H). Three of the childcare and one of the kindergarten centres sent two teachers each, resulting in a total of seven childcare and four kindergarten teachers representing a total of seven centres.

At the two-hour workshop teachers were given an introduction to the research project and to definition, characteristics and identification of giftedness. Then the draft instrument was handed out, and the structure and instructions for use were explained. The trial process was explained and the steps for identifying and coding a sample group of children were gone through. An outline of this workshop appears in Appendix I. A date for meeting to give feedback on the experience of using the instrument was set. The remaining teachers formed a control group that was to test the instrument without a preliminary workshop (Appendix J). This group consisted of teachers from six childcare and four kindergarten centres. The workshop and all interviews were audiotaped.

Selection of target children

Part of the purpose of the trial was to test the ability of the instrument to identify reliably the gifted behaviours exhibited by New Zealand children three and over in an early childhood setting. Thus the sample was chosen on the basis of age, gender, and ethnicity with particular regard to ensuring a representation of Maaori, equivalent to their representation within the total centre population for the age group three years and over. The children were selected from all those aged three and over who were expected to still be on the roll at a date three months hence. First the proportion of Maaori was calculated, based on the ethnicity identified by the parents on the enrolment forms. This provided the number of Maaori to be included in the sample, and they were selected first. The oldest of this number was selected first, and then the oldest of the opposite gender, until the required number of Maaori was complete. Next the remaining number

of children was selected from the rest of the roll group, to yield a total of five boys and five girls within each centre.

Structured interviews

The purpose of the structured interviews was to get feedback on the useability of the instrument in a centre setting, and to check whether staff felt they were able to identify whether children were or were not gifted as a result of using the instrument.

A letter was sent to the workshop participants (Appendix K) indicating the areas for comment to be sought at the follow-up group interview. There were four areas indicated: the instrument itself, the process of using the instrument, the outcomes for each target child, the benefits and shortcomings of the instrument and its effect on teachers' understanding of giftedness in the early years. Teachers were also asked not to be limited to the sample of questions indicated, and opportunity was provided for them to give additional feedback. At the end of the interview participants were also presented with a written evaluation form (Appendix L) to fill in.

Non-workshop participants were visited in their centres and an interview schedule based on the same areas for feedback that comprised the group interview was used. Approximately ten open questions formed the basis of the interview (Appendix M), but respondents were able to qualify and elaborate their responses through discussion. The interview schedule provided a guide rather than a prescription for discussion, and respondents were encouraged to clarify and elaborate their responses and direct the discussion as much as possible to enable the feedback to be as comprehensive and relevant to their own experience as possible. Interviews with non-workshop participants took between thirty and sixty minutes each, while the group interview took approximately ninety minutes.

Analysis of data

Teacher responses were categorised according to themes identified by the researcher, which emerged from the feedback. These themes were derived from the words used by the teachers and where several similar responses were made by teachers a single statement that encapsulated the major point was selected as the theme for that group of responses. For example themes regarding how the information gathered about children

during the trial of the instrument would be used included "extend planning", "further encourage strengths", and "file for evidence". Likewise examples of themes relating to feedback on making the instrument more useful included "more room for notes" and "professional development".

3.6.3 Phase Three – Follow-up case studies

A sub-sample of centres, who had had children identified as gifted in Phase Two, was chosen for four further interviews, which were conducted in the centres during teacher non-contact time.

Selection of case studies

Because there was no effect from the pre-trial workshop on teacher ability to identify giftedness, the sample of 6 centres was selected firstly on the basis of geographic location to suit the researcher, and secondly to provide a cross-section of centre types. Three sessional centres and three full-day centres agreed to participate in this phase. Between them there were nine children identified through the trial instrument who provided the focus for discussion in the interviews. Four of the centres had been workshop participants and two had not participated in the workshop.

Unstructured interviews

The purpose of these was to explore teachers' views on the impact of identification on programme provision for the identified children. Each began with the open question "what has happened over the last week in relation to this child and your work with him?" Further questions followed the direction of the teachers' responses, focussed on exploring both attitudes and actions as they related to the target children. Four interviews generally lasting a half-hour were held with each centre, usually a week apart, unless target children were expected to be away, in which case they were delayed. These interview times were also opportunities to view relevant centre documentation.

Analysis of the data

Interview data was categorised according to themes identified by the researcher relating to planning and provision for giftedness that emerged from the teacher discussion initiated by the researcher's opening question each week. The centre documentation that was made available was searched for evidence that could verify the interview data of

each centre. It was also compared across centres to identify procedures and concerns held in common by the centres.

3.7 Ethical Procedures

The University Human Ethics Committee approved a full proposal of the research. The purpose, benefit, and details of procedure of the research was explained in the information sheet sent to management groups and centre staff at the time of inviting participation in the research. The information sheet made clear that participation was voluntary and participants could withdraw at any time. Anonymity and confidentiality were guaranteed. Written confirmation of management consent to approach teachers, and of participants' willingness to participate in the research, was sought before proceeding further in the research. Informed consent was obtained from participants at the interviews (Appendix N), after establishing they had a copy of the information sheet. Participants were informed in writing before each phase involving interviews, of the anticipated length of these.

To ensure minimal disruption to normal centre processes, interviews were arranged at times and locations convenient to the teachers, during their non-contact time. They were held either away from the centre, or on centre premises when children were not present, or in staff-only space. During the trial of the instrument, teachers were reassured that the gathering of observation data to enable them to fill out the trial instrument was to occur in whatever way best suited them, to fit as much as possible with their usual processes of observation. No minimum amount was required, no written observations, and no specific timing was necessary from the researcher perspective, other than attempting to fill out the checklist of indicators four times for each child, approximately weekly, for each child in their sample. Teachers were assured that the intention was to trial the instrument in as close to everyday conditions as possible, within the constraints of the trial period of five weeks. All early childhood centres in New Zealand are required to plan appropriate programmes for children specified in the Education (Early Childhood Centres) Regulations, 1990, section 34 and the Early Childhood Charter Guidelines and the Revised Statement of Desirable Objectives and Practices, 1998. To facilitate this, consent is obtained from parents/whaanau at enrolment of a child, for the centre to carry

out observations on the child. Consequently, the process of observing young children poses no ethical problem for teachers.

Nevertheless, a possible dilemma related to the needs of target children, and their parents/whaanau, involved in this research was identified. It was necessary to have children involved for the purposes of testing the useability of the instrument, and its validity as a means of identifying giftedness. A random sample of children was required, as explained above, and for ethical reasons parents/whaanau needed to be informed of the research. A letter (Appendix O) was sent to centres with a notice for their parents/whaanau (Appendix P) which explained that a new observation tool was being tested, which was designed to focus teacher attention on what children do, in order to help with planning. To avoid misunderstandings about the definitiveness of the instrument that could lead to detrimental consequences for the centres or children, it was decided not to mention the association with identifying gifted behaviours. This action maintained the welfare of the subjects and the structure of the research. This is consistent with the suggestion of Cohen and Manion (1994) that as long as the human dignity of the participants is preserved, information prejudicial to the results of the research may be withheld. The letter also informed parents/whaanau of the process of the research as it would occur within the centre, and invited further questions to be directed to the teachers involved. In this way, staff could discuss in a one-to-one situation with the parents/whaanau of the children targeted, their involvement within the context of the normal centre processes, and could share useful information about children's strengths identified during the trial.

An aim of the study was to provide an identification instrument for teacher use within the normal centre pattern of observation and planning to meet individual needs which would also meet the demands of authentic assessment methods (Puckett & Black, 1994). This aim served to shape the research design so as to exclude disruption and risk to children, while at the same time providing benefits in the form of additional, specific information to assist current and future planning. While trialling the instrument, staff kept the child-specific information obtained. This enabled them to use it in their everyday planning. In this way, the interests of the teachers and children, as well as the researcher, were all upheld.

During the trial period, the researcher made phone contact with each participating centre at least twice, to provide opportunity for teachers to ask questions and clarify issues that may have arisen. These contacts were also used to reassure teachers of their control of the process in their centres.

Anonymity of centres, teachers, and children was safeguarded in a number of ways. Teachers involved in trialling the instrument were asked to devise codes to identify the instruments specific to each child, and to use these, not names, on the instruments they handed back to the researcher. This is in keeping with strategies cited in Cohen and Manion (1994). Only the gender and ethnicity components of the key for these codes were made available to the researcher. Likewise, the researcher used a number to distinguish each centre and the documents that applied to that centre. The transcriber of the tapes was required to sign a confidentiality agreement with respect to the data and information on the tapes. Only the researcher reviewed the tapes and transcripts. Participants in the workshops were asked to respect confidentiality of information shared during discussion.

CHAPTER 4: RESULTS AND PRELIMINARY DISCUSSION

4.1 Phase One

This phase addressed the research questions 1 and 2:

Research Question 1

What essential behavioural characteristics within the international literature would be affirmed by a selection of experienced early childhood teachers and experts in gifted education as relevant and appropriate identifiers of giftedness in a New Zealand early childhood setting?

Both panels supported the inclusion of more indicators relating to negative behaviour, social, leadership, and cultural qualities than were presented in the original research-based checklist instruments that the first draft instrument was based on. This affirms the importance of these characteristics in the New Zealand early childhood context.

Figure 2 records the sources of the indicators selected for the trial instrument, and the expert confirmation of relevance for New Zealand. Where there was no checklist source, the research literature source of the indicator is recorded. All the indicators that appeared in the trial instrument are listed. The sources that provided indicators for the first draft instrument, submitted for feedback to the academic expert panel, are grouped together on the left of the academic expert column. Additional sources analysed after expert feedback are grouped together on the right of the academic expert column. Where these sources provided further support for existing indicators this is also noted. Indicators were included in the trial instrument provided they were confirmed as indicating essential behavioural characteristics relevant for the New Zealand early childhood context, or not excluded, by either or both of the panels.

Where comments from the panels indicated support for inclusion of an existing indicator in the instruments submitted for critique, or their suggestions have resulted in new indicators for inclusion, an X has been placed in the expert column against that indicator. Comments from both panels suggested that reduction of indicators would best occur after the instrument was tested. Indicators have been grouped according to four

broad categories of gifted behaviours. These categories were devised from the rational grouping of similar behavioural themes arising from the literature. Cognition and Language (C & L) includes the indicators most frequently associated with traditional logical-mathematical cognitive views of giftedness. Approach to Learning (A to L) groups those indicators most frequently associated with the range of perceived motivation and problem-solving behaviours found to be displayed by gifted young children, often independent from more recognisable cognitive indicators. Creativity (Cr) groups those indicators that have been found to be displayed by creatively gifted young children both in terms of performance and response. Social Competence (SC) groups those indicators that relate to interpersonal and emotional behaviours which have been found associated with giftedness and which can both contribute to and work against identification, dependent on adult attitudes.

C & L = Cognition and Language

A to L = Approach to Learning

Cr = Creativity

SC = Social Competence

* = Sources suggested by academic experts for additional appropriate indicators

Indicators selected for trial instrument	-----First Draft Instrument-----							-----Second Draft Instrument-----							
	Roedell et al., 1980	Karnes & Taylor, 1978	Ehrlich, 1980	Torrance, 1983	Bevan-Brown, 1993	Urban, 1997	Silverman et al., 1986	Renzulli & Hartman, 1971	Expert Academics	Bernal, 1978	Mares, 1991	*McAlpine & Reid 1996	*Berts & Neihart 1988	Saunders, 1991	GE Teachers
C & L 1. Demonstrates high level of concentration and attention span for age in activity or subject which is of interest to self.	X	X				X	X	X	X						X
C & L 2. Possesses very good memory, and can quickly and accurately recall a wide range of information, rhymes, stories or songs, heard some time ago.	X	X	X		X	X	X	X	X						X
C & L 3. Displays advanced verbal skills for age, both in vocabulary use and understanding.	X		X		X	X	X	X	X	X					X
C & L 4. Learns new material or skill quickly.	X	X	X				X	X	X	X					X
C & L 5. Displays understanding of complex/abstract concepts, eg death, time, electricity.	X	X				X			X						X
C & L 6. Understands things well enough to teach others.					X				X						X
C & L 7. Understands and uses metaphors and analogies.	X			X											
C & L 8. Carries out complex tasks.	X					X	X		X	X					X
C & L 9. Can quickly sense consequences.		X						X	X						X
C & L 10. Demonstrates deeper general knowledge than other children. (eg: TV programmes, sport, dinosaurs, cultural knowledge, spacies games).		X			X			X	X						X
C & L 11. Pursues wide-ranging or specific interests on own initiative.	X		X			X	X	X	X			X			X
C & L 12. Is able to read a number of words.		X	X			X	X		X						
C & L 13. Is able to write a number of words.		X				X			X						
C & L 14. Is able to use numbers mathematically.		X				X	X		X						
C & L 15. Resists being interrupted.				X				X	X			X	X		X
C & L 16. Rapidly acquires other languages.									X	X					X

-----First Draft Instrument-----

-----Second Draft Instrument-----

Indicators selected for trial instrument	-----First Draft Instrument-----										-----Second Draft Instrument-----				
	Roedell et al. 1980	Karnes & Taylor, 1978	Ehrlich, 1980	Torrance, 1983	Bevan-Brown, 1993	Urban, 1997	Silverman et al., 1986	Renzulli & Hartman, 1971	Expert Academics	Bernal, 1978	Mares, 1991	*McAlpine & Reid 1996	*Betts & Neihart 1988	Saunders, 1991	GE Teachers
A to L 1. Has advanced ability as independent problem-solver, using stored knowledge.	X						X	X	X					X	
A to L 2. Applies new learning in different contexts.	X					X		X						X	
A to L 3. Displays unusual skill in putting together objects, or new or difficult puzzles, without relying on trial and error.	X		X	X			X							X	
A to L 4. Is systematic when approaching tasks.	X							X						X	
A to L 5. Displays high level of planning and/or prediction.		X						X						X	
A to L 6. Enjoys intelligent risk-taking.								X	X			X		X	
A to L 7. Sees alternatives.				X		X			X					X	
A to L 8. Is intensely curious about a variety of things.		X	X			X	X	X				X		X	
A to L 9. Asks probing what, how and why questions.		X	X				X	X			X			X	
A to L 10. Learns quickly from mistakes that are made by self or observed in others' behaviour; and avoids making the same mistake.										X				X	
A to L 11. Loses interest in tasks unrelated to own interests.			X											X	
A to L 12. Displays boredom with imposed repetition or routine, through low quality work or non-cooperation.			X				X		X	X	X	X			
A to L 13. Displays independence; or stubbornness.						X	X	X		X		X	X	X	
A to L 14. Expresses doubt in own ability to produce perfect result, resulting in reluctance to attempt new task.							X	X				X	X		
A to L 15. Is sceptical; critical; evaluative; or quick to spot inconsistencies.			X				X				X	X	X	X	
Cr 1. Sees relationships, discrepancies, or humorous situations not understood by other children.	X	X	X	X			X	X						X	
Cr 2. Is unusually or highly inventive in fantasy, verbal, artistic, constructive, or musical expression.	X	X	X	X		X		X				X		X	
Cr 3. Has long attention span for creative activities.		X		X		X								X	
Cr 4. Draws a variety of things, not just people, houses, flowers.		X												X	
Cr 5. Demonstrates aesthetic appreciation of art or musical activities.		X		X				X							
Cr 6. Easily repeats and discriminates rhythm patterns.		X						X							
Cr 7. Plays with/manipulates rhymes, and/or language, pronunciation, ideas, etc.	X			X		X		X						X	

Indicators selected for trial instrument	-----First Draft Instrument-----										-----Second Draft Instrument-----				
	Roedell et al. 1980	Karnes & Taylor, 1978	Ehrlich, 1980	Torrance, 1983	Bevan-Brown, 1993	Urban, 1997	Silverman et al., 1986	Renzulli & Hartman, 1971	Expert Academics	Bernal, 1978	Mares, 1991	*McAlpine & Reid 1996	*Betts & Neihart 1988	Saunders, 1991	GE Teachers
Cr 8. Demonstrates planning in composing constructive or art work.	X								X						
Cr 9. Spontaneously makes up stories, especially elaborating new experiences.	X								X						
Cr 10. Gives unique, clever or humorous responses.	X	X					X		X						X
Cr 11. Generates many different ideas.		X		X		X			X						X
Cr 12. Is very resourceful in avoiding unpleasant tasks or situations.									X						X
Cr 13. Has high interest or ability in cultural activities; eg. poi, sasa, etc.					X				X						
Cr 14. Is unusually attentive to features/changes in the environment.	X	X							X						X
Cr 15. Finds innovative ways to solve disputes.	X			X			X		X						X
SC 1. Associates with older children, gifted peers or adults.			X				X		X	X	X	X			
SC 2. Shows leadership abilities either overtly; by example; or unobtrusively in the background.	X			X	X				X	X		X			X
SC 3. Is sought out by other children for ideas, decisions, information, or companionship.					X				X	X					
SC 4. Accepts responsibilities beyond those usual for age.	X						X		X						X
SC 5. Displays sensitivity/compassion for others.	X	X		X	X		X		X						X
SC 6. Has strong influence over others in desirable or undesirable ways; appears to have mana amongst peers.				X					X						X
SC 7. Modifies language or voice pitch for less mature children.	X								X						
SC 8. Exhibits a surprising intensity of response. Eg. To perceived injustice.							X	X	X			X			X
SC 9. Willingly shares own skills or knowledge, solicited or unsolicited.					X				X						X
SC 10. Shows skills in interpreting nonverbal language and social cues.	X			X					X						
SC 11. Displays conflict and frustration with other children, leading to social isolation.									X			X			X
SC 12. Is critical of self and/or others; displaying high expectations of performance.							X	X	X			X	X		X
SC 13. Exhibits manipulative or disruptive behaviour.			X						X			X			X
SC 14. Is very talkative, and talks above heads of age peers.													X		X

Figure 2. Indicators Selected, Sources and Expert Consensus

4.1.1 Content themes emerging from expert feedback

Several themes relating to the content of indicators emerged from the expert feedback in phase one.

a) The need for indicators that highlight negative, irritating behaviour which might not be seen by teachers as indicative of giftedness.

Several of the academic experts commented that more indicators reflective of negative traits were needed, particularly relating to creativity and leadership. It was suggested that this would provide an opportunity for teachers to understand the significance of negative behaviours in relation to giftedness. Of the original identification instruments for young children used as a source of indicators, Ehrlich (1980) was the only one to include negative indicators in her discussion of identification factors. Having the need for these reinforced by the gifted education expert panel prompted the addition of indicators from instruments directed at a wider age group and from the gifted literature. For example, Saunders (1991) and Clark (1983) each provide a table showing positive indicators with their matching negative interpretation. Although the details of evidence to support claims made by Mares (1991) regarding the reliability of her checklist were not available to this researcher, the “checklist has been used with children as young as two, and IQ tests administered later usually confirm its general indication” (p. 16). For this reason, that checklist was also used as a source of contra-indicators for revising this instrument. The GE teachers provided validation for the inclusion of contra-indicators, discussing examples of behaviours often seen as negative and annoying by other children, parents and also teachers, which were indicative of giftedness.

b) The need for more indicators relating to leadership and personal qualities.

The academic experts suggested the addition of more pointers to affective and social skills in order to present a more balanced picture. There was particular concern that the instrument was heavily weighted towards cognition and language, whereas “one aspect of the Maaori concept is that importance is placed both on ‘qualities’ and ‘abilities.’ Qualities in the interpersonal, affective domain are particularly valued.” Again, the wider literature was sourced. Betts and Niehart (1988) and Bernal (1978) provided additional appropriate indicators that were then adapted for young New Zealand children. The category “Self-determination” in the instrument designed by McAlpine and Reid (1996) was also sourced for additional indicators that could be adapted for

early childhood. This was not originally used as it was designed for use with school-age children. The GE teachers confirmed the significance of affective and social abilities, especially those that are contra-indicators: “very honest and expect you to be honest, sometimes have difficulty with their peers, got really good leadership qualities, sometimes to point of being bossy, organising other children, . . . other children have difficulty, don’t like that”.

Research Question 2:

Are there any variations of essential behavioural characteristics unique to the New Zealand early childhood context?

This question was addressed by a third theme arising from the gifted education experts' feedback:

c) The need for indicators that are more explicit regarding culture, especially Maaori.

the broadness and range of entries in general allows for differing cultural perspectives...you still need some (more) entries that alert people to different cultural perspectives . . . the inclusion of entries that specifically mention cultural input will prove a consciousness raising/awakening exercise for those who need it.

In Figure 2 it can be seen that Bevan-Brown (1993) provided the source of five indicators not included in the checklists within the international literature, but that were confirmed by the academic experts as relevant to the New Zealand early childhood context. Two of these, SC3 and SC6, are found in broader terms within the research of Torrance (1983) and Bernal (1978) respectively, as indicators of giftedness in culturally diverse groups. Three of the five indicators, Cr13, SC6, and SC9 were added to the instrument as a direct result of input from the academic experts. While the significance of culturally specific indicators, particularly regarding Maaori concepts of gifted behaviours, was emphasised by the academic expert panel, it was not commented on by the GE teacher panel, which may reflect the significance of the need for teacher training in this respect highlighted by Bevan-Brown (1993). Perhaps the lack of comment has to do with how teachers have acquired their expertise with gifted children, being through experience with children who have stood out in obvious ways, rather than through their

familiarity with the literature. The list of indicators the GE teachers brainstormed at the start of the interview (Appendix F) demonstrates the primarily mono-cultural nature of their experiences.

4.1.2 Additional themes

Additional themes emerging from the panels focused on broader considerations than the research questions. These were:

d) Relevance of the instrument to the New Zealand early childhood setting

Both panels expressed support for the instrument as an identification tool useful and relevant to teachers in the New Zealand early childhood setting: “a locally developed scale written in plain language is very much needed. There is a gap, especially at the early childhood level, in this area”. The GE teachers expressed satisfaction in having “something concrete which you can hold onto and read and go through and maybe have things here that you hadn’t thought of before, great”. They commented that the in-depth nature of the tool would make it very useful for assessing a child who was thought to be displaying gifted behaviours, despite teachers being busy doing everything else.

e) Title of the instrument

In the days previous to the GE teacher group interview, the researcher had come to a reconceptualisation of the term giftedness, recognising the need to talk about identifying gifted behaviours, rather than giftedness (Renzulli, 1985; Vialle, 1995). This reconceptualisation was in line with the intended focus of the research on assisting teachers themselves to behave in an appropriate responsive way to the behaviours of young children in their centres. Thus the GE teachers were probed for response regarding substituting “Gifted Behaviours” for “Giftedness” in the instrument title, and general agreement was that this was more applicable:

I think behaviour in it really funnels your focus into their behaviour which is exactly what it is anyway, giftedness seems so broad and to have gifted behaviour seems so much more...I don’t think we ever have the right to say (therefore this child’s gifted) in early childhood, they’re too young to say that, that’s why I think gifted behaviours would be better. . . . I like the name gifted behaviours, I think there is a stigma that comes with giftedness . . .

f) The need for information about what to do next

Both panels indicated that a manual or guide that includes information about gifted behaviour and how to provide appropriately differentiated programmes, is critical to the effectiveness of an identification instrument. Both panels suggested this could take the form of guidelines on what to do with the filled in scale, perhaps in terms of giving some examples of what *almost always* might indicate in terms of needs and how to cater for them, for any given characteristic. The GE teachers pointed out that there were two steps in the process, identification and knowing what to do next, otherwise the completed instrument would just be put away. The GE teachers also thought teachers needed to be taught how to deal with gifted children. They made the point that gifted children tend to want extras and take a lot of teacher time and motivation: “I don’t think many teachers can be bothered with (gifted children). They are threatening to teachers who do not know how to extend their curriculum to cater for them, you do need a well-resourced centre”.

g) The need for space to include observed examples not just tick a box

The GE teacher panel expressed a collective view, consistent with the literature on assessment, that identification of gifted behaviours could not be an end in itself, but needed to be a tool for planning appropriate programmes for children. Therefore they believed there needed to be space to write examples of the identified behaviour for each child, to provide the evidence for each section of the tool. This would assist discussion with other staff and parents when discussing the child. “I would write examples; I wouldn’t just tick a box because when I came to talk to a parent I don’t think a tick really tells someone else what I’ve just seen”. However there was also concern that provision of space for observational notes should not make the tool appear longer, so they suggested having space after each section and include in the instructions to put the numbers and accompanying comments relevant to any indicators here.

4.1.3 Summary of Phase One results

Indicators initially derived from the international research literature relating to indicators of gifted behaviour in young children were edited and added to by the expert panels to include more cultural indicators, particularly Maaori, more leadership and social indicators, and more contra-indicators. Also additional instructions, information,

and space for notes were included to assist teachers in using the instrument. A total of 60 indicators of gifted behaviour relevant to young children in New Zealand were identified for inclusion in a trial instrument. These indicators were grouped under four headings chosen to reflect both the multi-categorical nature of giftedness as it is understood today, and the holistic, integrated nature of early childhood curriculum in New Zealand. Both panels confirmed the need for a tool that teachers could readily use for assessment to assist planning.

4.2 Phase Two

This phase was directed at answering research questions 3 and 4 and also getting further feedback on the usefulness of the instrument.

Whether the instrument would be regarded as a useful addition to centre resources would depend on the impact it had both on centre routines and child-centred curriculum. The biggest impact on routines and programmes reported was the amount of time involved in carrying out the trial with the number of children included. Nine of the 17 centres said it was hard to find the time. However 11 centres reported the process provided additional relevant information about each child, which impacted on teacher interactions with the child. Five centres commented about the contribution the information would provide for future planning for the child. Two centres specified increased knowledge about the child's social skills, although other domains of children's development were not singled out for comment.

Research Question 3:

Does the application of a checklist instrument of New Zealand-appropriate identifiers of giftedness by a sample of early childhood teachers increase recognition and awareness of gifted behaviour in young children in the centre setting?

Teachers were asked whether there were any previously identified gifted children in their trial sample, as this could have influenced the teacher in filling out the instrument. Only 1 centre had a child that they already knew was considered to be gifted; an IQ test had been carried out independent of the trial. A total of 9 centres reported children displaying gifted behaviours frequently or almost always, seven reported they had

anticipated this result: “There was one boy that I thought was artistically and mathematically gifted and that came through”. This suggests that while most centres recognised gifted behaviours in some children without the use of an identification instrument, these behaviours continue to be unrecognised in some centres. The expert panels had suggested that use of the instrument could result in increased recognition and awareness of gifted behaviours by teachers, so in order to establish a user-perspective participants were asked whether this had been the case for them. While the response was overwhelmingly affirmative, 1 centre revealed a continuing confusion about whether a child might be “hot-housed” rather than gifted. Interview questions and responses related to research question 3 are summarised and tabulated in Table 1:

Table 1
Interview Questions and Responses Regarding Effect of Trial Instrument on Teacher Understanding and Awareness

Questions	Work shop group N=7	Non-work-shop group N=10
Responses		
Were there children who exhibited gifted behaviours frequently or almost always?		
Yes	4	5
No	3	5
Did you anticipate those children would exhibit gifted behaviours?		
Yes	4	3
No	0	2
How will you use the information that you have got about these children?		
Extend planning	4	6
Further encourage strengths	0	3
File for evidence	0	1
Did the exercise increase your recognition and awareness of gifted behaviour in young children?		
Yes	5	9
No	1	1
"I would like you to identify if a child is interpreted as gifted or hot-housed"	1	0

Fourteen of the seventeen centres indicated increased recognition and awareness of gifted behaviour as a result of trialling the instrument. Several teachers commented that the instrument had broadened their concept of gifted behaviour in specifying those they would not have labelled as gifted so much as clever or cheeky. Specific behaviours included grasping another language, playing with language, making jokes, leadership, influence on others, stubbornness, being able to teach others. Several commented that

they realised they had worked with children in the past who they now realise could have been gifted “and we didn’t have an inkling before”, and that using the instrument had alerted them to children not in the trial who were displaying gifted behaviours.

It made me think of areas I hadn’t thought of before as being an area of giftedness. We’re not trained to see unless its someone really excelling at something . . . I think the (instrument) made me change my point of view on that because . . . I have always thought of gifted as a lot further on.

4.2.1 Criteria for identification of giftedness

Teachers felt they had a clearer understanding of the range of behaviours that were indicative of giftedness. However they differed between them in their ideas regarding just what level and sum of gifted behaviours is required in order to actually identify a child as being gifted, and therefore needing this to be taken into consideration in centre planning. Most teachers felt at least four observation times were needed to gain a reliable profile, although the minimum suggested was at least two times. When asked how many indicators are needed to say a child is gifted, the minimum level required was at least half of the indicators in any one category being indicated in the “frequently” or “almost always” range. In the words of one participant: “You can’t just observe one or two indicators and think they’re gifted, it needs to be more consistent.”

These criteria were used by the researcher to provide a check against teachers’ stated views on the identification of gifted children in their centres. The teachers’ interview responses concerning their target children were checked against an analysis of the completed instruments themselves and are reported in Table 2 and are discussed in relation to Research question 4. Centres are identified by code: C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17.

Table 2

Analysis of Identification of Gifted Children Through Using the Instrument

Teacher / instrument comparison	Workshop centre (N=7)	Non-workshop centre (N=10)
Teacher opinion yes, instrument confirmed	C3(x1), C6(x1), C17(x1) Total identified by both = 3	C1(x2), C7(x1), C8(x2), C10 "possibly" (x1) Total identified by both = 6
Teacher opinion yes, instrument does not confirm	C4 "possibly" (x1)	C5 "possibly" (x1), C7(x1)
Teacher opinion no, instrument confirm	C11	C12, C13, C15, C16
Teacher opinion no, instrument does not confirm	C2(x1), C3(x4), C14(x1)	C9(x2), C8(x1)
Total children identified only by instrument	6	3

Note. The number of the centre is given first, followed in brackets by the total number of children confirmed for that centre.

Total children identified by instrument = 18

This table shows that while 7 centres participated in the workshop 3 of them failed to recognise children who were exhibiting the number of gifted behaviours that the centres had themselves suggested would indicate a child was gifted. One of these centres failed to recognise 4 children exhibiting this level of gifted behaviours. In contrast, only 1 of the 10 centres that did not attend the workshop failed to recognise children as gifted in terms of the centre criteria. These results are significant in terms of addressing the fourth research question which was:

Research Question 4:

How does training in general principles of gifted education and use of an identification instrument affect the ability of teachers to identify gifted young children when using the instrument?

Both the group interview and the written evaluation forms demonstrate that teachers perceive that the workshop session made a difference to their ability to identify gifted young children, in particular by learning that giftedness is not restricted to the occasional child who demonstrates gifted behaviours in many areas. Centres attending the workshop session reported that other new learning from the session included that it is equally important to recognise the child who may demonstrate gifted behaviours in social competence only, and that this may manifest in ways teachers might see as negative. Teachers stated that this knowledge heightened their awareness of children that could have gifted abilities and focussed their observation processes. However, when the instruments themselves related to each child are analysed the application of this awareness is no greater for those who participated in the workshop than for those who had no additional training to draw on. Table 2 shows that the workshop group, while consisting of fewer centres, included 3 which failed to recognise children as gifted despite the high level of behaviours indicated “frequently” or “almost always”. In contrast the non-workshop group had only 1 centre do this. While the conditions of the trial may be a contributing factor, the interview data reveals that teacher beliefs are also significant in affecting these results, illustrating the inadequacy of a single workshop in assisting teachers in the identification process. Some illustrative examples are C6, C3, and C14.

C6 suspected target child B3P (code devised by C6 for this child) to be gifted because he exhibited a lot of the indicators frequently. However when he didn't fit the indicator for using stored knowledge to problem solve during the last week, although he had previously, they changed their minds and decided he wasn't as gifted as they had first thought. This may be an effect of the trialling process; pressure of time to carry out the process for ten children weekly was a drawback for this centre, it became a chore, but they felt that doing it with children they wanted to target would be quite easy. They also commented that they felt a clear picture was obtainable after three observations, that a fourth was not necessary. On the other hand they stated that they would not have picked up that B3P was not using stored knowledge if they had not done the fourth observation. They said that they filled out the forms as a group and this involved discussion. Consequently, the pressure of the unnaturally large number of children within their centre being involved as a condition of the trial, could have affected their interpretation of results.

C3 had 5 children whose instruments met the consensus teacher criteria for giftedness, although only one of these was considered by the teachers to be gifted. This is a high number given that selection of target children was based only on age, gender and ethnicity factors and not previous teacher suspicion regarding giftedness. However this centre's roll is largely made up of children whose parents are professionals, academics, or scientists, many of them from overseas. As such they are likely to be brought up in a language-enriched and experience-enriched environment which would contribute to early gifted behaviours. Also the teachers commented that there are high parental expectations regarding cognitive skills such as reading.

They talked about one child who was always eager to approach parents who went into the book area and demonstrate his reading skills "He likes the attention that, oh I can do it, I'm the best". However they said that his "social skills really need a lot of help". The centre believed this child was hot-housed, and therefore not really gifted. They stated that one of his parents spent a lot of time intensively working with the child in these skill areas so felt that though he had exhibited high levels of gifted behaviour, particularly in cognition and language, this was due to hot-housing and was not really giftedness. They did not appear to consider that the parent might be responding to the child's demands for extension. They appeared to find his reading ability a source of frustration "and we can not put we're having a fire drill today up on the board because (he reads aloud) 'we are having a fire drill today' ". While another teacher in the group tried to persuade these teachers that this was evidence of independent processing, not reliant on prompting from an adult or contextual clues, and therefore gifted behaviour, they persisted in considering it evidence of hot-housing by a demanding parent. This is reflective of Harrison's (1995) suggestion regarding teacher responses to early reading skills.

The teachers from this centre expressed feelings of doubt and confusion concerning giftedness, and had previously tried to explore the issues surrounding giftedness raised in an article in their professional reading and a television programme, "Tall Poppies". Perhaps they felt threatened by this adult-like behaviour, clearly this child was reading well beyond the level suggested by the indicator "is able to read a number of words" which they had found demonstrated by their other identified boy also, though not to the

same level. Or perhaps they were still influenced by their long-standing beliefs about giftedness. Certainly they expressed their view that only certain of the indicators really show a tendency to giftedness, including leadership and social skills, and this child had not demonstrated these in their view, although they stated he exhibited more than half of the indicators in the social competence category. They said he always associated with older children, but they considered this reflected a lack of the social skills needed to relate to his age peers and an inability to be self-directed in his play, rather than indicative of social maturity. Because he never showed leadership skills with his age peers, a behaviour that was shown by the child they did consider gifted, the centre did not recognise him as gifted. They listed several of the contra-indicators he exhibited: “exhibits a surprising intensity of response to a perceived injustice”, “displays conflict and frustration with other children leading to social isolation”, “exhibits disruptive behaviour”. Though they saw these as behaviours that might identify other children as gifted they said, “this child would not be considered gifted”.

However they did consider one other boy to be gifted, and this was confirmed by the instrument results, but they did not suggest any girls were suspected. The instrument indicated three girls to be gifted in one or two categories and the boys in all four. Two of the three girls identified by the instrument results to be gifted were children with English as a second language. The centre commented on the difficulties they experienced in using the instrument with children who have English as a second language. For example they were unsure if frustration with other children and tasks was due to language problems or gifted behaviour, and also because they did not understand the child’s language they felt unable to judge some indicators.

The child identified by instrument in C2 met the teacher set criteria in two categories (“approach to learning”, and “creativity”) on two observation occasions from four, however on the other two occasions for those categories no indicators came within the “frequently” or “almost always” range. This could have been the effect of differences between the two teachers who carried out the observations. They commented that they discussed their results together, and also that they had used the instrument on two children outside the sample whom they had suspected as gifted. For these children almost all indicators fell within the “frequently” and “almost always” range, and the instrument was very quick and easy to fill out. This could explain their decision not to

identify target child G3E as gifted, given the borderline results of her indicators. This centre had commented that for some children it may only need two observation occasions to gain a reliable profile, but for others you may need five. Target child G3E may be one that would benefit from another observation, and certainly illustrates the need to not rely on only one source of assessment, as discussed in the literature review (Roedell, Jackson & Robinson, 1980).

C14 did not consider target child B1 to have been identified as gifted. They said they had no children in the target group indicate gifted behaviours “almost always”, and they also stated that they did not identify gifted behaviours in any of the target children. There was another child, not in the target group, whom they would have liked to try the instrument on. However when asked during interviews, most of the trialling teachers felt that clustering half or more indicators within the frequently range was indicative of a gifted child. In analysing the instruments according to this group view, the researcher found that this child was within that range. When C14 was approached by phone the following week and told of this result, they responded that “possibly” this might be the case.

The completed instruments for each child were analysed by the researcher against the teacher criteria. This process involved adding the number of times each indicator was observed “frequently” and “almost always” compared with the total number of times the indicator was observed at all for each child on each observation occasion. Where half or more of the indicators in each category were observed on half or more (at least two) of the observation occasions, the child was considered to meet the teacher criteria of giftedness within this category. Based on this process of analysis a total of 18 children were indicated by the instruments completed by the teachers to be gifted in one or more categories. This represents 11% of the trial sample of children. The tabulated results for all children, grouped by centre, are found in Appendix Q, along with a detailed discussion of two examples to illustrate the process by which the teacher criteria were applied by the researcher in analysing the completed instruments.

4.2.2 Which children were identified?

The demographic breakdown of the children identified as gifted is represented in Figures 3 and 4.

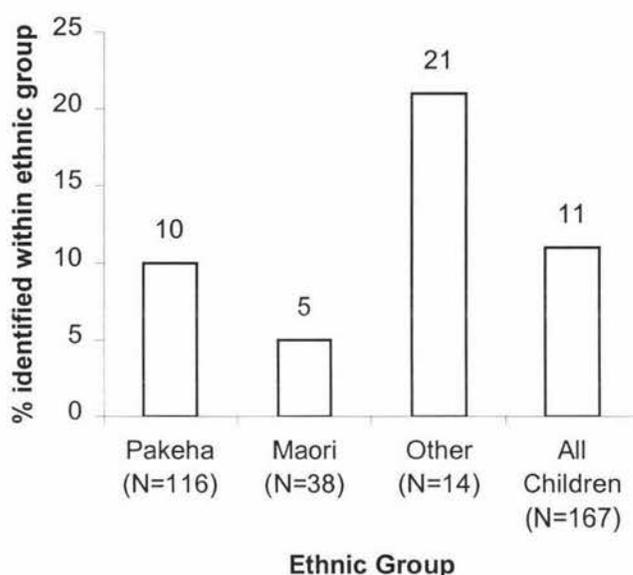


Figure 3. Distribution of giftedness by ethnicity

Figure 3 shows that the proportion of Pakeha children identified as gifted (12 of 116 or 10%) is closely consistent with the total proportion of gifted children within the sample population. However, Maaori children identified as gifted are excessively under-identified within their group and children of other ethnic origins are excessively over-identified within their group. This is likely explained by the sample characteristics which include centres catering for students at a large university location. As both the Maaori and the other ethnicities group consisted of very small sample sizes (38 and 14 respectively), the variables of centre characteristics could have a major distorting effect. When these two populations are combined to give a non-Pakeha total, the result is similar to the proportion of Pakeha identified. The significant point to note is that the

combined level of identification of giftedness within the total sample population (18 of 167), being 11 percent, is consistent with the accepted proportion of giftedness as defined within an inclusive approach, based on multiple criteria (McAlpine, 1996a).

The gender breakdown of identification is shown in the following Figure 4.

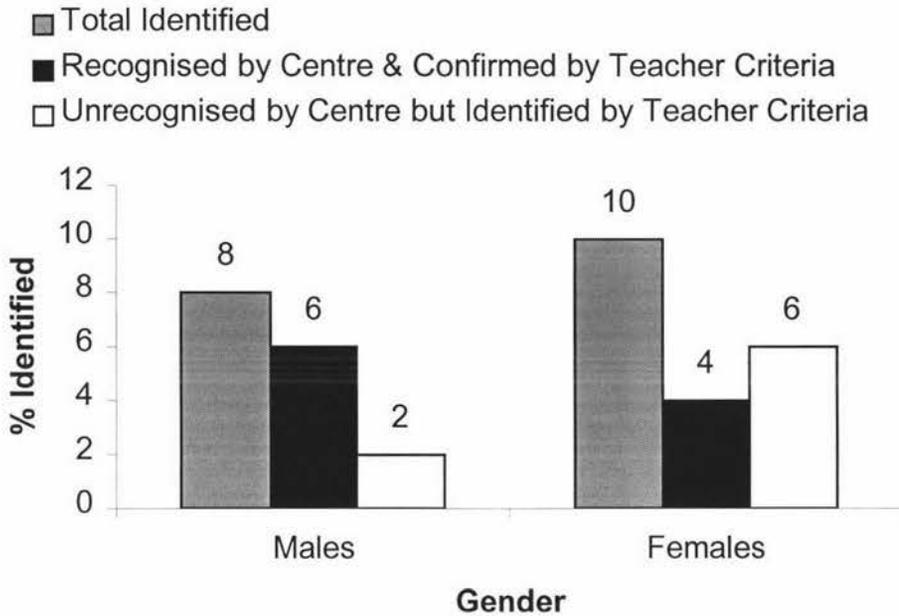


Figure 4: Distribution of giftedness by gender

Figure 4 shows that gifted behaviours in girls, while observed by teachers, were not as likely to lead to recognition of the girl as gifted. On the other hand, overall, boys were less often identified as gifted with use of this instrument. However, the sample sizes of these separate populations are small, 83 boys and 84 girls, accordingly the gender differences need to be treated with caution.

4.2.3 Categories of giftedness identified

Children were identified in one or a combination of categories of giftedness. The identified categories for each child are presented in Table 3.

Table 3

Categories of Giftedness Identified in Target Children

Child	Cognition & language	Approach to learning	Creativity	Social competence
MEFW		X		
B3P (in C3)	X	X	X	X
G2	X			
B5E	X	X	X	X
G5Sp				X
G2P	X			X
G4J	X			X
G3				X
BM1	X	X	X	X
G2	X			X
3GGh	X	X	X	X
B1	X		X	X
G1	X		X	
B3P (in C6)		X	X	
EB2	X			
B5	X			
4GM	X	X		
G3E		X		
TOTALS	13	8	7	10

Note. Child codes were set by the teachers and are explained individually in Appendix L.

Of the 18 children, 4 were identified gifted in all 4 categories, 1 in 3 categories, 6 in 2 categories, and 7 in 1 category. Gifted children were identified most often in the categories of “Cognition and Language” and “Social Competence”.

4.2.4 Additional emergent themes relating to the use of the instrument

Information was sought in order to make further improvements to the instrument, summarised in Table 4. This was the focus of interview questions intended to contribute further to the themes which emerged from the expert panels' feedback during Phase One concerning the layout and accompanying information for the instrument. The responses to each question were grouped according to their central themes as identified by the researcher.

Table 4
Teacher Feedback on the Instrument

Question	Workshop Group (7)	Non-workshop Group (10)
Response		
Comment on the ease of use of the instrument		
Hard in this exercise, due to numbers done	3	3
Easy to fill out	2	8
Some indicators hard to know	3	5
Rating hard to gauge	3	3
Was there enough room for comments?		
Yes	5	7
No		1
Is the format user friendly?		
Yes		9
No, required effort to get into it		1
To what extent is this useful for identifying giftedness in young children in New Zealand centres?		
Relevant		2
Good starting point	7	4
There is nothing else	1	2
How would you envisage it being used if it was available for centres?		
Where observe possible gifted behaviour	7	7
Everyday individual planning	2	
What would make this instrument more useful?		
More information about where to go next	1	5
Fewer indicators	3	3
A back-up specialist	3	3
More information on giftedness	3	2
Professional development	1	3
Another rating column	1	3
Nothing		2
More room for notes		1
More explanation of behaviours		1
Better ratios in Kindergarten	1	

The information obtained about the indicators relates to two sub-questions arising from the research:

Sub-question 2a

After trialling the instrument, what changes to indicators would non-expert teachers suggest would make the instrument more relevant to their practice?

Comments relating to this question were sought through interview questions which fell under four headings: interpretation of wording (16 items), indicators to delete (2 items), indicators to combine together (7 items), indicators to split (2 items). The full summary of teacher comments appears in Appendix R.

4.2.5 Interpretation of wording

Three indicators caused difficulties in understanding for a number of centres, due to unfamiliarity with the language used. Six centres had difficulty understanding the meaning of the terminology in the indicator relating to metaphors and analogies, “sees alternatives” required more explanation for four centres, and the meaning of aesthetic caused difficulties for three centres. The remaining indicators relating to interpretation of wording were questioned by only one centre each, and they usually did not cause difficulties for those centres.

4.2.6 Indicators to delete

Indicators relating to cultural activities and ability to acquire other languages rapidly clearly caused difficulty for the majority of centres to identify within their daily work with children. Eleven centres expressed doubt over their ability to observe the latter indicator. This was often because teachers felt their own ignorance of languages other than English including, for some, very limited Maaori, prevented them from identifying whether children were learning languages other than English as there was no opportunity for children to exhibit this. Those who worked with children who had English as a second language commented these children were frequently quiet, and the opportunities to observe their receptive English were inadequate for making reliable judgements. One centre stated they did not have cultural activities in the centre so the indicator for high interest in such activities could be deleted.

4.2.7 Indicators to combine

There were a number of indicators that some teachers could see little difference between. For example they felt that the indicator for unusually or highly inventive

ability in fantasy, verbal, artistic, constructive or musical expression should be combined with that for demonstrating aesthetic appreciation of art or musical activities. However, research discussed in the literature review found that young children's abilities were uneven (Roedell, Jackson & Robinson, 1980; Winner, 1996) and unusual aesthetic appreciation was not necessarily accompanied with unusual performance ability (Winner, 1996). Likewise, teachers suggested that indicators for reading, writing and numeracy be combined into a single indicator. While many gifted children do display unusually advanced ability in all these areas concurrently as Gross (1993) found in her case studies of exceptionally gifted children, this is not always the case (Winner, 1996). Teachers suggested "Is intensely curious about a variety of things" be put together with "asks probing what, how and why questions", yet the expression of curiosity need not be verbal, but revealed in actions. This perhaps reveals the inclination of teachers to overlook the quiet, back-stage gifted child, frequently the one with English as a second language or with delayed language, as well as the introvert gifted child.

4.2.8 Indicators to split

Teachers thought two indicators needed splitting further; the most significant, commented on by four centres, was "displays independence; or stubbornness." These teachers did not easily see it as describing two sides of the same quality. Consequently they may misunderstand the motivation of some children displaying these gifted behaviours.

In summary, the changes to indicators that teachers believed would improve the relevance of the trial instrument to their practice comprised:

- Removing indicators they were unable to observe in their centres, due either to lack of opportunity within their curriculum for children to display the indicator, or lack of teacher knowledge, for example, of languages other than English.
- Rewording indicators that are long, use unfamiliar language, or are imprecise.
- Combining indicators that have some shared components.

Rewording or combining of some indicators may be appropriate. However removing indicators not able to be observed in centres due to lack of appropriate provision or lack of teacher knowledge concerning information relevant to individual children in the

centre would only serve to continue the invisibility of giftedness in some children. A more appropriate option might be to address the identified gaps in teacher knowledge and understanding of curriculum provision through pre-service and in-service education.

Sub-question 2b

After trialling, what changes to the instrument would be suggested by analysis of the completed instruments?

Analysing the frequency of selection of individual indicators for the 18 children who were recognised as gifted according to the agreed teacher criteria gave further information concerning possible improvement, summarised in Table 5. The descriptors for each indicator number are found in Appendix G, p. 157.

Table 5.

Selection Frequency of Indicators Exhibited to a Gifted Level by the Identified Children, as Chosen by Centres

Indicator Number	Cognition & Language			Approach to Learning			Creativity			Social Competence		
	F	AA	T	F	AA	T	F	AA	T	F	AA	T
1	23	17	40	15	10	25	11	6	17	20	17	37
2	27	19	46	16	7	23	7	11	18	16	15	31
3	23	21	44	11	3	14	5	11	16	18	15	33
4	23	18	41	15	6	21	8	5	13	13	11	24
5	21	4	25	15	3	18	11	2	13	11	15	26
6	26	13	39	9	9	18	7	9	16	19	9	28
7	3	2	5	13	9	22	9	7	16	11	17	28
8	22	7	29	13	11	24	6	2	8	16	5	21
9	15	18	33	13	12	25	10	7	17	20	10	30
10	14	13	27	10	9	19	9	8	17	16	7	22
11	21	14	35	6	3	9	10	8	18	7	3	10
12	8	8	16	8	5	13	3	5	8	7	8	15
13	11	4	15	16	8	24	3	0	3	5	4	9
14	23	3	26	2	2	4	6	7	13	11	11	22
15	14	3	19	9	5	14	7	2	9			
16	2	3	5									

Note. F = Frequently, AA = Almost always, T = Total.

Data for Table 5 were derived from:

Cognition & Language: 13 children, 49 observation days.

Approach to Learning: 9 children, 35 observation days.

Creativity: 6 children, 22 observation days.

Social competence: 10 children, 39 observation days.

Table 5 can also be used to determine how observable the indicators were for these centres. For example, the Cognition and Language (C&L) category indicator 2 (Possesses very good memory . . .) was the most readily observed indicator in this category. It was identified "frequently" a total of 27 times and "almost always" 19 times. This adds to a total of 46 times in all for 13 of these children from 49 observation times. Likewise the Approach to Learning (AtoL) indicators 1 (Has advanced ability as an independent problem-solver, using stored knowledge) and 9 (Asks probing what, how and why questions) were the most readily observed in this category. Indicator 1 was identified "frequently" a total of 15 times and "almost always" 10 times, and indicator 9 was identified "frequently" a total of 13 times and "almost always" 12 times. This adds to a total of 25 times in all for each indicator for 9 children from 35 observation times. Similarly Table 5 shows that within the category of Creativity (Cr) indicator 2 (Is unusually or highly inventive . . .) and indicator 11 (Generates many different ideas) were most frequently observed in the identified gifted children. In the category of Social Competence (SC) indicator 1 (Associates with older children, gifted peers or adults) was most frequently observed.

Within each category the indicators that were observed frequently or almost always on more than 50% of the observation days can be identified from Table 5. Within the C&L category there were 11, within AtoL there were 10, within Creativity (Cr) there were 11, and within Social Competence (SC) there were 11. It is particularly interesting to identify the indicators that were observed frequently or almost always on less than 50% of the observation days, and to look at these in relation to the teachers' comments regarding changes to the instrument.

For example, several of the least marked indicators were also those that teachers singled out for changing in the instrument (refer to Appendix Q, p. 177), suggesting that uncertainty about specific indicators was linked with reduced observation of those indicators in identified children. The indicator “Understands and uses metaphors” (C&L7) was one of these. Yet related indicators “Displays advanced verbal skills for age, both in vocabulary use and understanding” (C&L3), “Is unusually or highly inventive in fantasy, verbal, . . . expression” (Cr2), “Sees relationships, . . . not understood by other children” (Cr1), and “Plays with/manipulates rhymes, and/or language, pronunciation, ideas, etc” (Cr7) were all amongst the most frequently marked. In this case it would appear there are frequent opportunities for children to express language in creative ways, and for teachers to observe them doing so, in these centres. Therefore, omitting C&L7 is not likely to result in children missing identification. Similarly “Finds innovative ways to solve disputes” (Cr15) while seldom marked may be covered within the frequently marked “Generates many different ideas (Cr11) and “Sees alternatives” (AtoL7).

Within C&L other indicators marked less than 50% of the observation days were numbers 11, 12, 14, 15 (Refer to Appendix G, p. 157 for descriptors of the indicators). Of these, numbers 11, 14, and 15 were ones that teachers found hard to understand or interpret, which may explain why the indicators were not marked. Likewise, within AtoL the least marked indicators were numbers 3, 11, 12, 14, 15 and of these 14 and 15 (relating to self-doubt and scepticism) were suggested to need change. Within Cr the least marked indicators were numbers 8, 12, 13, 15, of which 13 (relating to cultural interest or ability) was commented on as not able to be observed. Within SC the least marked indicators were numbers 11, 12, and 13, of which 13 (disruptive behaviour) was suggested to need more explanation. However, omitting the indicators that focussed on culturally diverse behaviours or behaviours that could be seen as negative would likely result in children missing identification. This point was emphasised by the expert panels in Phase One of this research. Probably what these results indicate is the need for more teacher understanding relating to diversity in giftedness.

Further information was gained from analysing the instruments with respect to indicators that were not selected at all during observation. This is presented in Table 6.

Table 6.

Frequency of Indicators Not Marked at all During Observation of Children Identified by Teacher and Instrument

Indicator	Cognition & Language	Approach to Learning	Creativity	Social Competence
1	0	2	0	1
2	1	6	0	2
3	0	7	0	0
4	4	6	0	3
5	12	7	2	2
6	5	7	2	1
7	16	3	0	2
8	6	4	4	5
9	6	3	2	1
10	7	10	0	3
11	4	8	0	3
12	6	5	3	3
13	8	4	1	0
14	8	7	1	0
15	6	7	2	
16	23			

Least marked indicators :

Cognition & Language: 5, 7, 16

Approach to Learning: 10, 11

Creativity: 8, 12

Social competence: 8

With reference to Appendix G (p. 157) for descriptors on each indicator, Table 6 shows that for the 18 children identified according to teacher criteria, indicators 1 and 3 that relate to high levels of concentration and advanced verbal skills, in the C&L category were never left blank. Nor were Cr indicators 1, 2, 3, 4, 7, 10, 11 relating to seeing relationships, inventiveness, attention span, artistic variety, language manipulation, humour, and ideas. SC indicators 3, 13, 14 relating to peer relationships, manipulative behaviour and talkativeness, were also never left blank. Conversely, C&L indicators 5,

7, 16, relating to understanding complex concepts, metaphors and analogies, and other languages, were left blank a significant number of times, as were AtoL10 and AtoL11, learning from mistakes and interest in tasks. Indicators Cr8 and Cr12, relating to planning and resourcefulness, and SC8, intensity of response, were left blank approximately twice as often as the other indicators in these two categories. Comparing these results with Table 5, they confirm the appropriateness of omitting indicator C&L7 “understands and uses metaphors and analogies”. Other indicators highlighted for possible omission by both tables were C&L16, AtoL11, Cr8, and Cr12.

The results from Tables 5 and 6 could provide guidance for eliminating indicators from the instrument in order to shorten it. However further trialling with a more representative sample would ensure that the results are due to lack of relevance to New Zealand early childhood centres, rather than to specific characteristics of the sample of teachers and children used in this trial. The need for further research is particularly important, given that most of the least frequently selected indicators are either contra-indicators, or indicators relevant to socio-cultural diversity.

Although conclusions are necessarily tentative, because of the small sample, the above patterns of response do raise important issues regarding the nature of early childhood planning. For example, whether there is sufficient focus on cognition and learning compared to having fun and the social-emotional aspects of curriculum. How *Te Whaariki* is used in planning and whether the emphasis was placed on provision of activities rather than on identification of planned learning objectives for the children was an issue raised by ERO (N.Z. Education Review Office, 1998a). Whether all strands and goals of *Te Whaariki* receive adequate emphasis and whether links are being made to essential skills and learning areas of *The New Zealand Curriculum Framework* (N.Z. Ministry of Education, 1993) is in question. The results for C&L and AtoL indicators are of particular concern, again highlighting the findings of the ERO report.

4.2.9 Summary of Phase Two results

Teachers in 17 centres completed a trial of the draft instrument on a total of 167 children. Teachers perceived that their understanding of gifted behaviour in young children was increased, and that they were able to identify giftedness through use of the

instrument. Workshop participation did not appear to influence this ability. Through the trial, 18 children (approximately 11 per cent of the sample) were identified as gifted; made up of similar numbers of girls and boys, although the representation of Maaori and other ethnicities was disproportionate. The areas of giftedness most often identified within the group of gifted children were both “cognition and language” and “social competence”. A minimum level of behavioural indicators necessary to identify a child as gifted was established based on teacher feedback. Teachers found the instrument relevant and useful for their practice in centres and also made suggestions about ways to improve the instrument’s useability. Results suggest that indicators C&L7, C&L16, and Cr15 could be omitted. Indicators C&L15, AtoL7, and Cr5 should be modified to clarify meaning to teachers. However it is clear that giftedness relating to diverse cultures and also negative indicators of giftedness are not well understood by teachers. With this in mind it would be useful to include more extended information with the tool alerting teachers to the nature and significance of these indicators. Additionally the results highlight the need for more pre-service and in-service teacher training focus on giftedness as it relates to diverse cultures and contra-indicators.

4.3 Phase Three

This phase was aimed at addressing research question 5:

Research Question 5:

How does identification of gifted young children affect programme provision in a sample of early childhood settings?

The centres involved are referred to by the codes C1, C3, C6, C8, C14, C17. From the interview data it was revealed that programme provision was affected in a range of ways. These were from planning for assisting deficient social skills to providing specific resources aimed at cognitively challenging the identified child/ren; from setting aside time for one to one conversation to putting in place strategies to enable the child/ren to take on more responsibility. However none of these ways involved reaching beyond the usual structures and strategies of the centre or the seeking of further information about possible unique needs of gifted children. Centres commented on the lack of support services for gifted children in early childhood centres.

Documentation relating to planning was made available to the researcher where possible in order to trace the impact of identification on recorded centre practice. This was done in an attempt to provide a source of internal validity for the information gained through interviews concerning provision for the identified gifted children during the research period. Because the researcher made no observations of the processes, the evidence for their impact can only be drawn from the teachers' interview responses. However these reveal genuine concern to do the best by the child, within the limits of centre resources. They also reveal that for some there was excitement and delight in exploring how best to meet the challenge of giftedness, while for others it was a struggle to marry their beliefs regarding their role with out-of-the-ordinary demands of gifted children.

4.3.1 Initial impact of identification

Identification generally resulted in staff being led to look at the children in a more focussed way, sometimes a new light "its made a difference to the way that I look at him"(C6), with increased awareness of individual strengths. Several centres commented that while they had been aware of specific strengths, the instrument had brought together a broader range of information "into a big picture" (C6). C3 had already noted one child with advanced physical skills but using the instrument had drawn their attention to other areas of gifted behaviour. They saw "he's doing all these other things as well...you just picked up on it more" (C3), "it made us more focussed" (C1) and prompted them "to make better use of what you've seen" (C8).

4.3.2 Planning

All these centres habitually planned their programmes using a focus-child/ren observation and planning cycle, consisting usually firstly of one to two weeks of observations and parent consultation. This was followed by one to two weeks of specifically focussed implementation of a centre plan designed around selected goals for the individual child, linked to the early childhood curriculum document *Te Whaariki* strands, goals and learning outcomes. Evaluation and the beginning of a new cycle of focus child/ren followed this. In this way centres aimed to meet the individual needs of all children in line with the emphasis of *Te Whaariki* as described within chapter 1, the

introduction of this thesis. Alongside this some centres maintained individual notebooks or files for children which were updated, weekly where possible, by staff. In these latter centres, each staff member was responsible for a small group of children. These provided the source of mini plans for a child when particular issues or interests were deemed to need immediate follow-up, when the child was not currently part of the focus-child/ren cycle.

During the trialling and follow-up interview period, three of the identified children were included in their centre focus-children planning, and the researcher was given access to the documentation associated with this planning. These children were from C3, C6, and C17. Each of these centres had a summary sheet of observation-based comments about the child, linked to *Te Whaariki* strands and goals, and the observations were attached to this for C6 and C17 but not available for C3. Both C6 and C17 also used “Me” forms filled out by the parents summarising information about the child’s family, skills, interests, and the parent’s goals for the child’s learning at the centre for the next few months. C3 gained this information from talking with the parent, but did not involve the parent in actual planning processes. The summary planning sheets incorporate the information gained from the centre observations including the trial instrument and the family to set individual goals. The weekly planning and evaluation sheets for each centre during the time the target children were the centre focus children were viewed and generally indicated consistency both with the individual child plans and the interview data. However for C3 and C17 there were no written evaluation records specific to the child. C17 evaluated the outcomes for the individual child orally with the parent, while C3 briefly evaluated orally amongst staff. For the other centres there were no written records that related specifically to the gifted children over the research period, as they were not part of the centres’ focus group planning. While some centres kept individual files or notebooks for each child, no comments were added to these during the interview period. C14 had a photo display with captions relating to the visit arranged around the gifted child’s interest showing his participation. The captions were written with the contribution of this child. This centre also recorded specific comments relating to the target child in their group evaluation form in relation to a centre activity that had been initiated because of his interest. Centres acknowledged that the daily planning adjustments made specifically relating to their gifted children were discussed

between staff as a group but not recorded, in common with a large amount of daily child-focussed information.

Being identified as gifted impacted on the focus-child planning of C3, C6, and C17 variously:

C3: This centre consulted with the mother about what she wanted and what was being worked on at home. The mother expressed concerns about her child's attitude of needing to be the best, and also she wanted him to be caring toward younger children. The centre felt their observations allowed them to reassure her that he was caring and that he was able to express delight in anyone's triumphs, not just his own. Additionally they also felt he was not interested in creativity and they wanted to encourage that. Their planning focussed around perceived deficits or needs, "develop skills and understanding of smaller children, develop understanding about playing games and activities for fun not just to win, gain confidence in creative activities". They particularly focussed on *Te Whaariki* strand Contribution, goal 3 learning outcomes of "children develop positive and constructive attitudes to competition" and "children develop a sense of responsibility and respect for the needs and well-being of the group, including taking responsibility for group decisions". To achieve these they set him up as leader to look after a group of younger children during the period of inside play at the beginning of the session. They delayed going outside until after morning tea in order to increase his indoor, creative play activity.

C17 also involved the parent in the planning. Their approach was to focus on developing the child's strengths and needs holistically and they saw a need to adjust their approach to planning in the future with respect to this particular child. They felt the Individual Education Plan (IEP) process they used for focus child planning six-monthly for every child, would need to be revisited termly in order to "keep on top of his exploration needs". They paid close attention to the gifted behaviours they had observed in language, cognition, leadership and social interaction in their planning and considered his interests and needs in choosing guiding goals from *Te Whaariki*. For example, they chose the strand "exploration", specifically goal one, which states "play is valued as meaningful learning and the importance of spontaneous play is recognised" (N. Z. Ministry of Education, 1996b, p. 82)

Because he's so able it would be easy to put him into a much more structured formalised situation but he is only just four . . . (Exploration goal three and four) they learn strategies for exploration and problem-solving; but that's something that we can develop in all sorts of other areas; and that they develop . . . theories for making sense of the living and physical world. He enjoys drama, really enjoys construction, art, any science activities.

They decided to introduce circuit boards to promote problem-solving and exploratory work in response to his mother's suggestion to introduce electricity. Their strategies were to provide factual books, give him opportunities to set up circuits to discover about electricity, and occasionally use him as a peer tutor for new children to build his tolerance for children who are less able and to develop skills of teaching others. The parent's ideas were valued, demonstrated both by the opportunity to provide comprehensive written information about the child and the time set aside for discussion and information sharing to take place. From this a comprehensive "profile of the child's level and style of functioning . . . cover(ing) a range of academic, artistic and social domains" (Karnes & Shwedel, 1983, p. 480) resulted. Opportunities were matched to the child's interests, pitched at a challenging level to enable him to display the extent of his abilities. In this way, the goal of contribution within *Te Whaariki* was being met for this child, and the key elements of best practice, for both early childhood and gifted education, identified by Barbour (1992) were upheld. In the case of this centre, because planning and assessment processes were already individually focussed and based on a parent partnership model, the identification instrument served to reinforce staff suspicions and provide specific information on strengths to use in planning.

C6: Through the instrument the child was identified with strengths in cognition and language and approach to learning, and the staff felt it emphasised to them what his strengths were and encouraged them to extend those. However they also felt this pointed to a need to plan for his social development, as he was often involved in conflict situations. "We're going to be looking at how he enters groups and some of the conflicts or why they arise because he'll push and kick children within groups". Thus when it came to goal setting for him they realised that he frequently saw things as an issue of fairness and this was related to a number of incidents he had been involved in. They selected two goals from *Te Whaariki* for him, under belonging and contribution:

Learning outcome one for belonging, (he) will develop a capacity to discuss and negotiate rules, rights and fairness, that was for “not fair” phases so that we could work through that. And the other one under contribution, learning outcome five, he will develop an awareness of his own special strengths and confidence, that they are recognised and valued. Because we wanted that positive thing to keep coming through while we were working through the other issue as well.

Although they did not include a focus on his interests in their plan, they saw a place for these in the overall process. “We’ll still continue to work on those interest things when he does take off on something”. They felt the conflict issues they and other children were experiencing with him were best addressed through reinforcing and praising him for positive things. They said this would provide appropriate use of his language skills. Although at the time of planning they did not identify strategies based around his interests to help him meet these goals, their daily work included efforts to provide relevant extension for him, which is discussed in the following section.

Thus only one of these three centres actually planned specifically around the strengths and interests of the child, and C17 was also the only one to consider cognitive challenge for the child in their focus-child planning. This centre included the cognitive, language, social and emotional domains within its plan. Addressing social skill gaps and self-esteem was the whole focus of the other two centres’ focus-child planning, and also influenced the weekly group planning of the other sample centres.

4.3.3 Accommodating the curriculum for individual needs

The focus-child planning tended to be strongly focussed on the child’s gaps in social skills. Despite this, on a week by week basis centres felt the individual interests and strengths of the children were usually responded to as well, because most centres found that their weekly group planning often also involved discussion of strategies to accommodate these. Thus while focus-child planning was directed at the social domain, the weekly planning for the whole group included activities selected for their relevance to a number of individual children’s interests. Sometimes this weekly planning accommodation was in response, once again, to social behaviour issues.

For C1, identification of one child as gifted had resulted from both the use of the trial instrument and also formal testing. The behaviour management team of SES who had been called in for advice regarding the child's severely disruptive behaviour had recommended IQ testing. Their advice included the introduction of a task-card process as a means of keeping her challenged and occupied, and providing a structure to her day, which would prevent her feeling lost or bored. This was intended to be an extension for her giftedness, combined with a preventative behaviour management strategy.

A second centre C8 found behaviour issues were emerging during the interview period, including aggressive behaviour such as pinching and kicking, trying to enter other children's play uninvited and taking over the situation. These had arisen since her abandonment of her previous commitment to the art corner. Strategies "to help her get into another pattern of being busy" were discussed in the weekly staff meeting. They decided that each morning when she arrived they would engage her in deciding what she was going to do that day and they wrote it up on the board for all staff to see. In this way she had a plan, and over the day staff encouraged her to monitor it, and they were able to support her through focussed interactions and resources appropriate to her expressed interests.

Some times centres took advantage of regular and everyday events to provide extension for the gifted child. During the period leading up to the focus-child planning, noted in the previous section, C6 made use of the opportunity afforded by having a third year college student present to provide extension construction work, the gifted child's current interest, and this was of benefit to all the children present.

He's really wanting to make things with all the construction things and has had quite a lot of frustration because things haven't stayed stuck together so we've been able to get the glue gun out and work with that. (The student)'s done a lot of work with him and a whole group of children that have wanted to be in on that. The frustration hasn't been as great because the things stick. He shares his ideas and we could see that other children fitted into that as well. There were other children experiencing frustration in the construction area because things wouldn't stick together, so it was planning for an individual but planning for a group as well.

Over this time they had noted that he liked to have a plan and to be able to predict what might happen, so they used the student to further advantage and decided to carry out some science experiments with him. These appeared to capture his imagination, and attention to the ideas he expressed led to further experimentation:

He was doing a little bit of predicting . . . the sugar one was just spontaneous because he came up with the word dissolving so I thought we'd try and dissolve some other things under different conditions.

So although the focus-child planning was directed at social goals, in their daily work this centre was attempting to provide relevant extension for this child.

Some centres discussed using gifted children's social strengths within the centre programme. C8 involved the child as a buddy in settling new children into the centre because she was so supportive. C17 put the child's leadership skills to good effect both as a model for others to follow during dramatic work, a regular part of the programme. This extended to organising children outside: "They took down the fence . . . and he was involved with organising the children as to where the rusty nails went, and we pushed the planks off, and he could organise that sort of situation just as well as something inside". This centre also put out really difficult puzzles that other children would not be able to do, because he and one other child were very good at puzzles. Also they provided factual books which he loved, and some more challenging computer programmes.

C14 took advantage of their weekly burger buggy trip to support the current interest, emergency services, of their gifted child and took him with a small group to visit the airport rescue service. This was followed up with discussion with other children back at the centre, giving him opportunity to explain what he had seen and learnt about the service, and some detailed drawings of his experience resulted. Photos taken on the visit were displayed and used as a means of further discussion. In this way they were able to provide for the behaviours they had noted for that child, for example, exploring a topic in depth and sharing his knowledge with others.

C8 also talked about possibly incorporating into their weekly plan visits or visitors to support goals for particular children, such as fire brigade, hospital, nurse, ambulance,

although this did not occur during this research period. They also talked about the specific strategies they used: “verbal strategies like maybe if you . . .” They commonly used books for sources of ideas in problem solving or information seeking. They gave the child choices in her use of time, accommodating the behaviours they had noted in the instrument such as high levels of concentration, independence, resisting interruption, pursuing interests on her own initiative:

You allow her to stay there in the art corner to continue even though everyone else is packed up and having mat time . . . it's a case of letting her do that and she will quite happily stay there and perhaps work 10-15 minutes longer and finish what she's doing than to actually say to her it is mat time now.

C3 held a weekly 1 to 2 hour extension group for four year olds, or younger children perceived to be in need of extension, as had been the case for one of their target children. This was led by a staff member and was structured around a child-led or adult-led topic usually decided at the beginning of that session, but mostly focussed on:

activities that they're going to get at school like sitting down and holding a pen. Sometimes they choose to play sport because they've got older brothers and sisters who stand there at PE time and throw the ball to each other, and so they chose that one day . . . sitting down sometimes and writing or talking.

The topic choice was not guided by specific knowledge they had of the children in the group, but arose spontaneously from the opening group discussion. For example one time was focussed on warm-up exercises for their muscles and learning where their muscles were attached to, and this arose from the target child's suggestion so they could get ready for a planned soccer game. This centre appeared to be least guided by the information provided by the instrument. They appeared to interpret responsiveness only in terms of responding to children's expressed ideas conversationally. They did not appear to also consider structuring the environment to challenge children in response to themes of children's thinking.

C1 used their extensive range of resources to challenge the child's skills, including reading and maths in response to her initiatives, and used her as “a model for the others” when introducing new activities because she was so quick to learn:

you tend to use her to lead what you want to happen because you know that she's going to pick it up so quickly. If you're doing a drama thing, even just learning new dances and things, I do tend to focus on this child and say you come and do it first, she's just so quick.

C14 and C17 staff commented particularly on their target children's need to talk over experiences and both made a point of making time for this within the usual day "I'll have very in depth conversations with him individually each day, as well as allow him to speak in group situations – probably more so than what other people may have been allowed". Thus mostly centres to some extent felt able to utilise what they knew about the child's characteristics in planning their centre curriculum.

4.3.4 Resources

Most centres believed they had enough resources in the way of equipment, books and charts to provide appropriate extension for their gifted young children. C14 mentioned they use the Public Library if needed for specific topics and C17 used the College Library for extra children's books and said they would be borrowing circuit boards from the local school, with whom they have a close co-operative relationship, to support their plan for their child. C14 and C8 mentioned one-off visits and visitors such as nurses, fire, police, rescue services, and the hospital as a common means of linking to children's interests. C6, C17, and C14 mentioned parent-helps and College students on placement being used to support work with extension. However no other community based resource was apparently considered. Despite this, some centres keenly felt the lack of resource systems and teacher time. Having forty-five children and a ratio of 1 adult to 15 children was seen by the kindergartens as a major barrier to maintaining a focus on facilitating extension of a gifted child, as all the other children are unlikely to have their needs met by this. Teachers felt that while they might identify things the gifted child was interested in, to be able to build on these interests would require outside resources and there are no systems in place to provide these. They compared the systems existing for children with special needs, which may not always provide actual resources but at least provide a channel to seek help of some sort. They suggested a resource teacher who could move around centres in need of support would be useful. An associated need was expressed for more teacher time to enable them to pick up on the gifted child's interests that are different from those of the other children and do extra

work with them. These centres would clearly welcome the provision of outside support in the form of resource teachers modelled on the SES role. Additionally, better ratios and teacher preparation time provision would assist curriculum provision for gifted children in these centres.

4.3.5 Reactions to gifted children's abilities and interests

Centres reacted differently to the demonstration of advanced skills and interests by the gifted children. Reading skills were an example highlighted by three centres, which elicited divergent reactions. For example, C3 expressed confidence in their ability to extend the soccer and rugby interest they considered their gifted children to be exhibiting, and actively participated in the play. However their involvement in extending the reading interest exhibited by one of these children was less active:

He said I'm going to read it and I said why don't we all try and read it – and he's like oh they can't read but I said oh you just come here and hold the other side and we'll see if they can – when they were wrong he pulled them up which I thought was really cool. So I thought then he's actually absorbing he's not just rote reading . . .

I caught him reading a story to one of the younger kids . . . they couldn't see me but he was reading it and he was explaining what was happening and I thought oh well that's really cool.

He likes reading to the parents, he likes to show off his skills.

For this centre, this ability was not identified as a strength or as something to build on or use as a means of extension, even though the staff expressed themselves to be at a loss as to how to work with him. They felt he did not join in, was competitive, sullen, and when involved in conflict situations, he left rather than talk issues through. They felt he was not interested in much at all apart from sport: "He's not like the other kids who are interested in TV programmes and things like that". So their intention in working with him was to "bring out the fun side of life, we're all here to have fun". They believed he found it difficult to be spontaneous, as the victim of parental pushiness. Their enthusiasm to push his interest in sport while ignoring what appeared to be a similar interest in reading suggests a lack of confidence and knowledge in how to support a skill not covered in their pre-service training. Independent reading is seen to be outside the scope of the early childhood setting, and few young children exhibit

interest in it, unlike kicking a ball around. Supporting reading successfully is clearly dependent on this centre receiving outside help.

However two other centres were positive about the place reading skills had within the range of abilities and interests of their gifted children and their own role in supporting them. C1 said:

She knows her name and shapes of it. She knows letters and she can read the numbers. She's at that pre-reading stage where she'll see the length of the word and some of the letters in it and basically make an intelligent guess as to what it is.

They expressed delight in her ability and described their encouragement of it: "you think of other ways, you try and extend as much as you can". C17 said the mother of their target child had asked whether he should start to learn to read. There were a couple of other children at this centre who were reading and while not tutoring them herself, this teacher provided resources on learning to read in New Zealand to help the parents do the tutoring. She also provided appropriate books for the children when they showed interest in learning to read. Because the target child had not yet shown the desire to learn to read, the teacher had suggested that they wait until he either did it spontaneously or demanded it of them. Both centres were demonstrating sensitivity to the children's unique abilities and needs and attempting to provide for them appropriately. These two centres particularly expressed delight in working with gifted children, emphasising the importance of language as a strategy for extension, and the delight they got out of this themselves, in using jokes and subtlety that they knew the children will understand. "You can have those wonderful sorts of conversations that you never dream of having with others" (C17). They expressed satisfaction in providing learning opportunities that these children are able to independently take full advantage of "you can see things gelling" (C1). The view of teacher role they presented was one of providing learning opportunities for the child to pick up, with the adult as a monitor of the process once the initial structure has been put in place. This role was consistently presented by C1:

The whole idea was to get her to plan her day so that there was a point and a purpose to what she was doing when she came into the centre . . . so it's given her some kind of measure of control without being inappropriate, because that was what she was actually seeking.

This last statement reveals a belief in the need for the child to be responsible for planning much of the content of her day and finding the purpose in her activity herself. This did not however entail a hands-off approach, either in terms of provision of resources or with respect to verbal interaction. When asked if they responded to the identified children differently than to other children in the centre the staff said that knowing she can cope they tend to provide more complicated things to do. While explaining things in more depth they also tend to ask more questions and push for a deeper response than other children might give. "If she had an idea of something she wanted to do you could be drawing her out to have all the ideas of how to do it – rather than saying how about we try this and then go from there". They gave an example of challenging one of the target children's thinking during interactions, providing a learning opportunity and then monitoring the child's up-take of that:

I had this discussion with her about if this was (name)'s brothers sister then was it also (name)'s sister? I just put the question to her and then left it and for a while she just sat there looking into space and then she started talking about something else . . . and about probably three hours later she came over to me and said (name)'s brother's sister is (name)'s sister.

They also talked about setting up adult-initiated activities centred on cognitive challenges that could promote the positive social interaction with peers that was also needed. They chose a couple of activities each day that would extend her and their questions were primarily directed at her, however as other children joined they would encourage interaction between her and the others. C17 and C14 employed this same strategy.

4.3.6 Summary of Phase Three results

The interviews and document analysis revealed the extent to which programme provision was affected by the identification of gifted children in the sample of Early Childhood Centres. Teachers discussed how identification affected their attitudes and responses to the identified children. They described some of the attempts they made to cater for the identified child within the constraints of their normal programme framework. All centres aspired to a focus on planning for and building on individual strengths, interests and needs, with the goals and strands of *Te Whaariki* providing a

reference point for individual planning. In-depth conversation, opportunities for leadership and role-modelling, and more cognitively complex equipment were generally identified as means of providing for gifted children, although the comparative level of emphasis on each of these varied. Few centres felt it was necessary to look outside their normal provisions for supporting resources, although staff time was seen as a constraint by some.

CHAPTER 5: DISCUSSION

This chapter will discuss some of the issues that arise from the results of this study. These issues emerge as themes that arise through each phase of the study and link closely to those found in previous research discussed in the literature review. The themes that will be discussed are the value of an instrument for identification of giftedness, diversity of giftedness, socio-cultural issues, consequences for planning, and teacher knowledge. Finally limitations to the results are discussed.

5.1 Value of an Instrument for Identification

Support for an identification instrument for use in early childhood settings has been consistently shown in each phase of the study. Despite the seeming lack of recognition of giftedness in early childhood in terms of policy or tangible support by the Ministry of Education, and the scarcity of published comment, all participants in this study confirmed the need for a teacher friendly instrument.

Previous studies, for example Schwedel and Stonebrunner (1983), Karnes and Johnson (1986a, 1986b, 1987), Roedell et al. (1980) demonstrated the value of observation based scales and checklists for teacher identification of giftedness in early childhood both in terms of increased recognition of gifted young children and also broadening teacher's conceptions of giftedness. The instrument in this study contributed positively to teacher understanding and identification of gifted behaviours in young children, and through all phases of the research was confirmed as filling a gap in the assessment tool-kit of New Zealand early childhood teachers. While some teachers had suspected some children to be gifted, using the instrument revealed other, previously unsuspected, gifted children.

The results of phase one affirmed the inclusion of indicators relating to abilities in a range of areas of intelligence, indeed the academic expert panel urged increasing the number of indicators relating to leadership and personal qualities, in particular contra-indicators. The early childhood identification sources that provided research-based

indicators for the draft instrument did not include contra-indicators, apart from Ehrlich (1980), or wide-ranging social competence indicators, and Frasier et al. (1995) eliminated indicators specific to a cultural context from their comprehensive analysis of the literature. However both the academic expert panel and the gifted experienced (GE) teacher group provided strong support for including both contra-indicators and culture-specific indicators that are relevant to the New Zealand Maaori concept of giftedness for the New Zealand context. This is consistent with the argument of writers investigating cultural differences in gifted behaviours, such as Bernal (1974), Torrance (1983), and Bevan-Brown (1993). Some of the non gifted experienced (NGE) teacher group who trialled the instrument also confirmed the value of an instrument modified for New Zealand's unique context: "I like the way you included New Zealand cultural things."

The use of detailed descriptors in the present instrument rather than a brief list of key words (for example as in Silverman, Chitwood & Waters, 1986) was shown to contribute to increased understanding of the multi-faceted nature of giftedness and increased teacher awareness of gifted young children. While the comprehensiveness of the trial tool was found to be beneficial in increasing teacher awareness of the range of gifted behaviours, there were suggestions that some of the indicators were not relevant to these early childhood settings, or were difficult to understand. Martinson (1981), Roedell et al. (1980) and Wolfle (1990) emphasised the need for indicators to be relevant to the population being assessed, and demonstrable in the programme provided. However, demonstrability within the New Zealand early childhood setting as a parameter for indicator inclusion must be balanced by the ability of teachers to recognise and provide for it. For example, "a high interest in cultural activities", "rapid acquisition of other languages", and "use of metaphors and analogies", were indicators that were frequently commented on by teachers as posing difficulties. The analysis of the identified children's instruments shows that teachers tended to ignore these indicators and not mark them at all. On the other hand, nor did they often mark "displays understanding of complex/abstract concepts"; it would be alarming if this meant teachers do not recognise or provide for this. Further trialling would be needed before eliminating some indicators. However discussion within the results chapter does suggest that some indicators could be deleted on the basis of duplication.

5.2 Diversity of Giftedness

The importance the academic expert panel and the GE teacher group placed on balancing social and cognitive indicators is consistent with the multi-dimensional approach to giftedness of current theory and research, for example Gardner (1984, 1993), Kitano (1990), Maker, Nielson, and Rogers (1994) and Vialle (1995). However the interviews in phase two of this research reveal that many early childhood teachers do not understand giftedness in this way, and being provided with the identification instrument was enough to challenge their understandings and increase their perceptions of gifted behaviours. This confirms views expressed by DeHaan and Havighurst (1961) and Martinson (1981) concerning the value of teachers being involved in identification of gifted behaviours, increasing their sensitivity to and interest in individual differences as discussed in the literature review.

However the number of children who were identified as gifted in areas other than cognition and language is small (N=4). Of these, two were identified only in the social competency area, and none in creativity only. The intention behind the multi-categorical nature of the instrument was to enable identification of gifted behaviours to be as comprehensive as possible. The unequal spread of identified areas of giftedness could be due to a variety of reasons, including limits within the curriculum for display of creativity or social competency. As centre sessions were not observed, availability of opportunities for children to display these behaviours cannot be checked.

On the other hand, it is possible that some children may not have been recognised as gifted at all, even where opportunities were provided to display their abilities, if it was not for the inclusion of non-cognitive and non-language based indicators within the instrument. Research discussed in the literature review has shown that some children remain unidentified as gifted due to lack of opportunity to practise cognitive skills, particularly those from lower socio-economic groups or from diverse cultures (Frasier, 1991; Freeman, 1985). No information regarding the socioeconomic groupings of the sample children was gathered, but at least one of the children displaying gifted behaviours in other than the cognition and language areas had English as a second language.

Both the range of areas that gifted behaviour may be displayed in and also the fact that abilities may be displayed unevenly, with social competence or creativity giftedness unaccompanied by cognitive indicators, was new information for the teachers who trialled the instrument. This finding is consistent with those of international studies (Gear, 1976; Wellisch, 1997; Wolfe, 1990) and provides justification for the concerns raised by the expert academic panel and the GE teacher group. It demonstrates the justification of including contra-indicators primarily derived from research relating to older children, where matching positive indicators have been verified for young children.

The literature review indicated that negative indicators of giftedness prevent many children being recognised as gifted (Ehrlich, 1986; Kitano, 1990). The relevance of this to New Zealand early childhood settings was borne out in the results for phase one and phase two of this study. The academic expert panel and the GE teacher group emphasised that these indicators need to be brought to the attention of teachers if giftedness is to be recognised. Their concern was justified in light of the results of phases two and three. Both the interviews and the workshop data reveal teachers were previously unaware of the significance of negative behaviours, and recognised that they had probably encountered gifted young children in the past whose behaviour matched the indicators. However while these teachers became aware of this significance, this did not necessarily result in linking these behaviours to identification.

Callahan, Hunsaker, Adams, Moore and Bland (1995) state that while teachers often see giftedness as broader in conception than intellectual and achievement oriented, they also often fall into the trap of seeing “good behaviour” and “high achievement” as necessary accompaniment to giftedness, and this can limit their identification process. The literature review argued that teachers often misinterpret negative behaviours and solitary play because they do not recognise the giftedness that these behaviours are masking (Harrison, 1995). Where some teachers demonstrated that the preceding workshop had led to this recognition, others voiced unaffected beliefs:

He rarely or never showed leadership skills because he was always associating with older children. I think that leadership skill is quite a

strong indicator of giftedness. So I think it's only certain of these items that really strongly show tendencies towards giftedness. (C3)

In seeking out older children rather than taking a leadership role with his age peers, the child referred to in this quote was initially excluded by the teachers of C3 from identification as gifted. C3 believed that while this child was displaying many other more obvious gifted behaviours as well as negative indicators, these were the result of hot-housing. They did not appear ready to accept Roedell's (1989) contention that it does not really matter how the child developed his advanced abilities, what really matters is matching the existing level of competency to appropriate educational experiences. The results demonstrate that the relationship between anti-social or negative behaviour and giftedness is not well understood by teachers, even by those who experienced a two hour workshop on the nature of giftedness and how to identify it.

5.3 Socio-Cultural Issues

The literature review provided argument for the importance of including indicators which would identify gifted behaviours in culturally diverse children, especially Maaori, as giftedness in these children is frequently unrecognised within mainstream settings (Bevan-Brown, 1993; Maker & Shiever, 1989; VanTassel-Baska, 1998). Feedback from the academic expert panel also supported the inclusion of indicators particularly associated with minority populations. However the GE teacher group did not give similar feedback. This suggests that early childhood teachers do not generally understand the significance of socio-cultural differences in relation to educational needs and provision.

The curriculum document *Te Whaariki* draws attention to the importance of the child's learning environment, providing an illustrated summary of Bronfenbrenner's (1979) theory. It includes statements such as "There is a growing understanding of the links between culture, language, and learning, and an increasing commitment to addressing the issues faced by children growing up in a society with more than one cultural heritage" (N.Z. Ministry of Education, 1996b, p. 17). Without exposure to what this means in terms of values held by diverse cultures few teachers are likely to appreciate

how their own values will influence both their understanding of gifted behaviours and the type of opportunities they provide for some children to display their giftedness. The literature review revealed that opportunity to demonstrate gifted behaviour is necessary for identification to result (Karnes & Johnson, 1986b; Roedell et al., 1980; Wolfle, 1990). Bevan-Brown (1993) and others have pointed out that:

As the majority of teachers in our schools are white, middle class, monocultural, monolingual and working in an education system that is predominantly ethnocentric, it is natural that their own culturally laden concept of special abilities will influence who gets identified and what type of programme is provided for them. (pp. 10-11)

While academic experts in giftedness are familiar with the literature on giftedness, teachers seldom are. The teachers were selected into the GE teacher group rather than into the group who were to trial the instrument, on the basis of their self-identification of having had experience with gifted young children. It may be that even for those who have recognised giftedness in young children they have worked with, their lack of specific training regarding non-mainstream identifying behaviours prevents them from recognising these differences. Information about indicators that are specifically applicable to Maaori children has only recently been systematically gathered (Bevan-Brown, 1993), and this information is not readily accessible to early childhood teachers as there has been nothing on giftedness published in the New Zealand early childhood practitioner professional literature in recent years.

In phase two of this study it was found that Maaori and other ethnicities were disproportionately identified as gifted, in comparison to Pakeha children. In particular, the representation of Maaori children was low. While this disparity could be an effect of the sample size, it is possible that teachers were not providing the conditions which allow for the recognition of gifted Maaori children, as stated by Bevan-Brown (1993).

It was found that indicators relating specifically to cultural diversity caused difficulties (see Table 4, p. 90). These were also amongst the indicators least often selected for the identified children. Teachers felt unable to rate these behaviours because of the lack of opportunity for children to exhibit their expertise within the curriculum: "We don't have this here", and suggested these be omitted from the instrument. This finding indicates that centres did not provide opportunities for children to see their culture or language

valued as an integral part of the curriculum, raising questions about how these centres are applying the contribution goal of *Te Whaariki*. The contribution goal is premised on

There should be a commitment to, and opportunities for, a Maaori contribution to the programme . . . children's cultural values, customs and traditions from home should be nurtured and preserved to enable children to participate successfully. . . . The programme should encompass different cultural perspectives, recognising and affirming the primary importance of the child's family and culture. (N. Z. Ministry of Education, 1996b, pp. 64-65)

Examples given in *Te Whaariki* of experiences that help to meet this goal include "Each child's culture is included in the programme through song, language, pictures, playthings, and dance. . . . Language and resources are inclusive of all children's gender, ability, ethnicity, and background" (p. 67). Thirteen centres had children who were Maori and eight centres had children from other ethnic groups in their sample groups and it is likely there were more children who were Maaori or of other ethnicity in the centres.

Bevan-Brown (1993) found that Maaori parents are concerned about the cultural appropriateness of programmes being offered in schools. She stated that teachers need to be better trained to cater for Maaori children in general and those with special abilities particularly. Bevan-Brown also stated that Maaori children with special abilities should have their talents nurtured and developed in an environment where they feel comfortable and culturally safe. The same comments could apply to children from other ethnic groups. Butterfield (1980) stated that a "program for the young gifted/talented should reflect and be responsive to the values and concerns of the school and the community it serves" (p. 214). This principle applies to identification methodology also, as indicated by Roedell et al. (1980). It is likely that other gifted children in the centres involved in this study have not been identified because they have not had opportunity to demonstrate their gifted behaviours within the settings that do not reflect the values and customs of their family. Both the GE and NGE teacher groups appeared to be unfamiliar with cultural issues regarding gifted behaviours. Pre-service and in-service training in both giftedness and general curriculum planning would benefit from a focus on cultural issues regarding gifted behaviours.

5.4 Consequences for Planning

The literature indicated that availability of an observation tool would not be enough in itself to ensure appropriate provision. Extended training that gives information on gifted behaviours, how to provide opportunity for them to be exhibited, and how to provide a differentiated programme, is also necessary (Karnes & Johnson, 1986b). Teachers need time to integrate new knowledge into their practice (Bell, 1990). The results of phase three suggest that this was the case for the centres in this study.

All the case-study teachers at some point indicated that curriculum should be based on children's strengths, interests and needs, within a free-choice environment which nevertheless respects the rights of others to the same provisions. Nevertheless phase three revealed how difficult it was for some centres to accept that negative behaviours, as indicators of giftedness, signal a need for more challenge in the curriculum, rather than a need for assistance in learning social skills. For example, C3 believed the negative behaviours were really an indication of poor social skills and stress from being "pushed" at home, and they did not want to add to this stress. They dismissed their observations of target child B3P reading to a parent and on another occasion to another child, as evidence of attention seeking, rather than as a prompt to his strengths. Planning and provision for most of the children focussed on addressing social skills deficits. The gap was seen to be in the child not the lack of differentiated curriculum.

Attention to the deficit, particularly in the psycho-social area of children's development, was also noted in Wellisch's (1997, 1999) studies, and is an issue raised by others discussed in the literature review. Bell (1990) found the same emphasis in teachers' practice in general, as did Wilks (1993). C6 did provide exploratory experiences with science activities to extend their identified child during the time they had a student teacher placed with them. However this was dependent on the presence of the student and not part of a longer-term plan. Other centres (C1 and C8) used provision of cognitive challenge, based on the children's strengths and interests, as a strategy to combat negative behaviour through keeping children busy, but again it was not linked to any long-term individual plan.

While documentation and interview data indicated that some differentiation of the programme occurred for some of the identified children, in most cases this was of a nature consistent with usual adjustment for any individual child, and was primarily needs based. ~~(1993)~~ Only C17 appeared to take a long-term, holistic and integrated approach to providing for the child's abilities. They expected to have to make more frequent assessments and acquired equipment from a school in order to provide a better match of cognitive challenge, and also considered all developmental domains in planning the programme. Their planning reflected all the components of Kitano's (1990) Developmental Model programme and the principles Barbour (1992) stated are shared by gifted and early childhood education. Other centres also demonstrated some components, and considered identified gifted children in a more focussed way. However, overall the results suggest that early childhood teachers require further assistance with planning and assessment that focuses on higher order thinking and integrating strengths and needs across all developmental domains, particularly for children displaying gifted behaviours (Barbour, 1992; Harrison, 1995; Karnes & Johnson, 1987; Kitano, 1990).

The assessment issues identified by Wilks (1993) previous to the publication of *Te Whaariki* have only slightly altered, at least for these centres. While her finding that assessments were usually done for record-keeping rather than guiding action to benefit the child is no longer substantiated, the use of the information still only involves attention to some aspects of children's development for most centres, and the deficit focus remains.

5.5 Teacher Knowledge

Confirming the implications drawn from Bell's (1990) work and the conclusions of Taylor's (1995) study, the level of training about giftedness in New Zealand teacher pre-service courses does not appear to be adequate to prepare many early childhood teachers to identify or work with children displaying gifted behaviours. While teachers admitted to suspecting some children as gifted, and the instrument increased their identification rate, appropriate provision for young children that were identified as gifted did not always result.

The two-hour workshop did not make a significant difference to teachers' abilities to identify giftedness in young children as a result of using the instrument. This is consistent with the findings of Karnes and Johnson (1986b) and Wellisch (1999) that short in-service courses are not sufficient to provide enough knowledge of identifying characteristics. The teachers of C3 clearly illustrated the issue of teacher beliefs confounding the ability to integrate new knowledge into practice (Bell, 1990). There were several examples in which C3 argued against accepting the face value of their observations. Social isolation arising from frustration with other children was interpreted as indicative of one child's "social skills really need a lot of help". His interest and high level of competence in reading, for example, the staff notices, was considered indicative of parental hot-housing, not ability, and therefore not "really gifted". Even when challenged by other teachers in the group, C3 held firmly to the explanation afforded by their beliefs rather than the workshop information.

The behaviour of C3 provides strong support for the cumulative findings of Bell (1990), Tomlinson (1986), Kitano and Perez (1998) and Wood and Leadbetter (1986) which suggest that training needs to engage with teachers' current understandings and beliefs. Their findings suggested that training needs to be extended, carried out in stages, and provide time for reflection on real experiences, both at pre and in-service levels, in order to refine practice. However, "something out of the ordinary must occur to prompt reflection" (Bell, 1990, p. 20).

In phase three of this study, reflection for some teachers was prompted by the identification of the children as gifted and the weekly interviews they participated in with the researcher. During the interviews some teachers directly sought the interviewer's advice about how to deal with issues that arose relating to the identified child. While the researcher did not want to act as a mentor in these interviews or influence the direction of provision, in order to maintain an open relationship with participants, detachment was compromised on two occasions. In one centre, which had been part of the workshop group, the researcher reminded the participants about the books referred to in the trial instrument as a source of further information. The researcher also prompted the teachers in another centre, which had not been part of the workshop group, to think about how they could exploit the characteristics they had

noted about the child and use these to support the child's interests. Nevertheless it was apparent that the lack of knowledge-base relating to meeting the needs of giftedness held by some teachers stood in the way of modifying their beliefs and practice.

The interviews in phase two and three suggest that teachers lack knowledge and understanding about differentiation of the curriculum for giftedness. Both the workshop and non-workshop groups suggested changes which would make the instrument more useful: more information on giftedness and where to go next, professional development, support teachers similar to that provided for children with special needs, or a back-up specialist. The GE teacher group had also indicated that teachers needed guidance about what to do next after identifying gifted behaviours in young children. Without that they would be likely to just file the information, not knowing how to act on it. This supported the findings of researchers such as Ehrlich (1980), Wolfle (1990), and Wellisch (1997, 1999), and comments by Harrison (1995) that teachers need assistance to provide opportunities for children to learn at a faster pace, practice higher level thinking processes, and generalise learning across diverse subjects.

McAlpine (1990), Taylor (1995) and Holden (1996) suggested that the norm-referenced development and curriculum pre-service training does not equip teachers to be able to appropriately meet the needs of gifted children. The results of the current research support this suggestion in relation to early childhood teachers. C3 dismissed B3P's lack of response to their approaches to him "I have invited him in but it doesn't work. He has to make the choice himself". Bell (1990) suggests such comment may reveal a possible sense of helplessness felt by the teachers. It is significant that the head teacher in C17 was unique in this study in being qualified both in primary and early childhood teaching so had a broader base of training to draw on. However it is of concern that while acknowledging their lack of knowledge, teachers did not believe they needed to look outside their own centre for resources to extend their gifted children, apart from C17.

Centres have been accessing assistance through Ministry of Education professional development contracts to learn how to implement individual child planning consistent with *Te Whaariki* principles, goals and strands as required by the Ministry of Education (N. Z. Ministry of Education, 1996a). The extent to which centres understand and provide for the principles, goals and strands of *Te Whaariki* is likely to impact on their

ability to identify and provide for gifted behaviours in their programme. Amongst the centres in phase three this individual child planning was inconsistently applied. For most, once the child had dropped out of the focus any special planning, including any form of differentiation occurred only when behaviour difficulties arose. The concern expressed by ERO that providers do not consistently articulate or pursue high quality expectations in respect of children's cognitive capacities due to lack of clear expectations in *Te Whaariki* are borne out in most of the centres in this study with respect to gifted children. The lack of knowledge about serving gifted children was an expressed concern of several of the teachers in phase three.

The results of this study indicate that the *Te Whaariki* goal 1 of Contribution may be poorly understood, not only as it relates to ability, but also as it relates to ethnicity. This goal states that “children experience an environment where there are equitable opportunities for learning, irrespective of gender, ability, age, ethnicity, or background” (N. Z. Ministry of Education, 1996b, p. 66). The literature review revealed that opportunity to demonstrate gifted behaviour is necessary for identification to result (Roedell et al., 1980; Wolfle, 1990). However the comments from teachers in Phase Two indicated that opportunities for the display of culture specific behaviours are limited in these centres. This study reveals a need for further work in centres to enable them to fully provide for the *Te Whaariki* goal of contribution thereby enabling opportunity for all gifted behaviours to be demonstrated.

5.6 Limitations

The major limitation to this study is that it was restricted to identification by teachers. The current literature on identification of giftedness in young children advocates for the use of multiple sources of data, including parent/whaanau, peer, and self, as well as teacher. This approach acknowledges that any single observation or assessment can never be fully objective, and that the observer brings their own perspective and assumptions to any situation. It also ensures ecological validity, as child behaviour is affected by the setting in which the child is observed. Therefore, knowing whether behaviour is typical or situational is important. This is especially so when assessing ability (Powell & Sigel, 1992) therefore “putting together pieces of data as in a collage can provide a more integrated picture of the child” (p. 203). Having more than one

teacher involved in applying the instrument for each child in a centre did result in differences recorded for individual children as an effect of different perspectives, for example, C2 has been discussed in the results for phase two. This finding illustrated the value of multiple data sources.

The value of multiple data sources is also supported in the general early childhood literature. For assessment and the outcomes of it to be meaningful to the child, all affected parties should contribute to it (Carr, 1998). The form such data could take includes observation records, anecdotal information, questionnaires, checklists, work samples, and photographs. The data should be gathered over time, maintained in portfolio format as part of an ongoing assessment process for all children, which is constantly evolving and used as a source for planning. This process was followed successfully by the Early Assessment Project (Barbour, 1992).

Because the current research was to meet the requirements of a Master's thesis, it was decided to restrict the scope to just that part that would impact most on teacher practice. This was because in terms of provision of appropriate early childhood programmes in New Zealand, the teacher team is in effect the linchpin in the process. However by not involving parents and whaanau it is likely that there are children who were missed in the identification process, and this is probably particularly the case for Maaori children. It may be that while teachers will be acutely aware of gaps in their knowledge concerning cultural behaviours for children with English as a second language, this awareness may not be so great concerning children born in this English speaking society. Average fluency in English may mislead teachers about the other behaviours Maaori children are exhibiting within the Pakeha dominated centres. Actively involving whaanau in data gathering would help address this.

The trial demanded the selection of a large number of children within each centre and teachers did talk about the consequent difficulties this imposed. While the curriculum may allow more obviously gifted behaviours to be observed during a single session each week, it may be that for some behaviours the opportunity for children to display them is more dependent on contextual factors that change daily. Other variables affecting the display of gifted behaviours are the provision of opportunities and resources that are not normally available such as changes in the environment, or the prolonged proximity of

the observing teacher to notice for example application of new learning in different contexts. Conditions were also compounded by the time span within which the observations were to occur. For all of these reasons some centres were only able to partially complete the instruments each day, and this will have implications for the analysis of indicators. Further research using a variety of sample selection methods, including smaller numbers of children in each centre may clarify these issues.

A further limitation is the brevity of the teacher training session in conjunction with introducing the trial instrument. Those studies that form precedents to this research and included teacher training employed many more hours of training for the teachers involved. Again, the scope of the research necessitated this limitation. The preceding projects used the identification processes solely for their own programmes. The current research was intended to provide an instrument that could be available readily to any individual centre in New Zealand. A similar intention with respect to schools guided the development of the McAlpine and Reid (1996) instrument. Therefore, it was considered important to be able to establish if the instrument could be successfully used without prior training. If such an instrument were available for teacher use, the fewer the barriers to its implementation, the more likely teachers would use it. Accordingly the workshop was included to highlight any differences between the two groups of teachers who implemented the trial, for the purposes of informing both the editing of the indicators and the addition of instructions accompanying the instrument.

While the workshop did contribute to teacher knowledge, it did not result in more success with identification than for those who used the instrument without a workshop. Results show that the instrument can be successfully used without prior training and result in identification of gifted behaviour previously unsuspected by teachers, so in this sense the length of training was not a limitation. However both groups successfully used the instrument to identify a significant level of gifted behaviours but these results were ignored or explained away by the teachers. The length of the workshop was not enough to affect some teachers' beliefs about what they were observing, demonstrating a need for increased teacher training regarding giftedness.

The small size of the centre sample is a limitation which may relate to the disproportionate representation of Maaori and other ethnicities amongst those identified,

as individual centre characteristics have more impact on the total sample. The limitation of the sample size also results in the study being more appropriately viewed as generating hypotheses rather than being seen as conclusive with respect to identification of giftedness in New Zealand early childhood settings. Despite this, small sample sizes are typical of research carried out in gifted education (Buchanan & Feldhusen, 1991). As with such other research, this study adds to current understanding about teacher identification of gifted behaviours in early childhood settings.

CHAPTER 6: CONCLUSIONS

The introduction argued that the conflicts of diverse gifted abilities, limited experiences, and the physical needs and limitations of the early years necessitate early childhood teachers having awareness and knowledge of the nature and needs of giftedness in young children. The lack of such awareness and knowledge results in many children who are displaying gifted behaviours remaining unidentified and unprovided for by teachers, risking loss of future potential for these young children (Barbour, 1992; Karnes & Shwedel, 1983; Roedell, Jackson & Robinson, 1980; Shaklee, 1992; Wellisch, 1999). The results of this study demonstrated that before being provided with the basic information contained within the trial identification instrument, many of the teachers involved in this study were unaware of the significance of the behaviours they were observing in the young children in their centres.

It has been widely argued, for example by Gardner (1984, 1993), Renzulli (1985), and Sternberg (1985) and others, that the traditional view of giftedness measured by IQ testing has been found to provide an incomplete picture. A range of behavioural indicators derived from multiple intelligences have been successfully used to identify giftedness in children, including during the early years. The review also argued that the identification of gifted behaviours should form part of an authentic process of assessment for the purposes of providing appropriately differentiated individual programme planning. The current research attempted to address two purposes. The first was to compile and trial an identification instrument suitable for use by teachers within New Zealand early childhood settings incorporating indicators from the range of intelligences included within the widely recognised U.S. Office of Education definition (1972). The second was to investigate what happened for young children identified as gifted. Based on a sub-sample of centres that participated in the trial of the instrument, an attempt was made to analyse teachers' perceptions of the effect of identification on provision for the special needs and abilities of gifted children. Five questions directed the research. This chapter draws conclusions about the meaning of the results for early childhood teachers and gifted young children, and suggests areas for further research.

In relation to the first two research questions, it was found that academic experts and early childhood teachers experienced with young gifted children confirmed indicators relating to multiple learning styles and ability areas recognised in international literature on gifted young children as relevant to the New Zealand context. Importantly, the results demonstrated that contra-indicators and culture-specific indicators, particularly reflective of Maaori concepts of giftedness, were necessary modifications for an instrument used in the New Zealand context. However, the use of these also highlighted that few of the teachers involved in the study fully understood the impact of cultural difference on either children's behaviour or their own practice. This suggested that while their centres include the children within local communities, teachers might not fully reflect the diverse values, needs, and strengths of the families found in those communities. This has implications for the curriculum that they provide.

With respect to research question three use of the trial instrument clearly resulted in increased teacher knowledge of the nature and range of gifted behaviours shown by young children. The instrument itself as a list of behaviours was acknowledged by teachers to provide new information about giftedness. Using the instrument alerted teachers to how these behaviours differed from those of other children, and demonstrated to them the complexity of combinations of behaviours that giftedness presents. They were able to see where a child might not stand out in language usage or expression of ideas, yet could be identified as gifted in the area of creativity or social competence. The detail of the instrument enabled teachers to identify specific strengths in children that required extension. Using the instrument resulted in teachers identifying children with gifted behaviours whom they had not previously suspected. However some children were shown to exhibit significant levels of gifted behaviours that their teachers did not acknowledge as significant enough to justify a differentiated programme. This finding indicates that while availability of an identification instrument will result in increased awareness of giftedness, as a component of authentic assessment it needs to be supported by increased teacher training.

The results relating to question four are not as conclusive. While participating teachers commented that the workshop had positively affected their ability to identify gifted young children, there was no difference shown in their identification success. In this respect the findings of literature relating both to teacher education in general (Bell,

1990) and gifted education specifically (Karnes & Johnson, 1986b and Kitano & Perez, 1998 for example) have been upheld. In order to improve teacher's ability to translate knowledge into practice, training needs to be more long term and engage with teachers' current belief system.

Results relating to research question five are of concern and hold significant implications for teacher educators, both pre-service and in-service, teachers, parents of young gifted children, and most importantly young gifted children themselves. It was found that for most centres in the study identification did not lead to other than minor adjustments to the curriculum experienced by the child. The motivation for these adjustments was generally a focus on social behaviour and any cognitive component tended to comprise one off or novelty exploratory experiences reliant on current resourcing within the centre itself. Only one centre put in place long-term, holistic, integrated planning focussed on educational benefit to the child. For some children no individual planning was put in place because they were not part of the focus-child group that the centre was currently planning for. When it was their "turn" the information concerning their giftedness may be used more fully. This enforced waiting for their giftedness to be appropriately provided for is experienced by gifted children in the school system.

Te Whaariki requires an individually appropriate curriculum provision for all young children, so this finding signals that the need for teacher support with gifted children is as urgent as it is for children with special abilities. The results of this research hold implications for the instrument itself, for teacher training, for policy-makers and future researchers.

6.1 Implications for Future Use of the Instrument

Reliance on this identification instrument alone is not adequate to ensure identification of all gifted young children. This is especially so where understanding and implementation of *Te Whaariki* reflects a monocultural approach to curriculum, unconsciously omitting opportunities for diverse abilities to be displayed. One way to provide opportunity for children to display their strengths fully is to include

parent/whaanau and family friends' input to the identification process. Roedell et al. (1980) state that multiple sources of information should be canvassed in the identification process. This would provide a means of triangulation of the teacher observation. Many centres use a child information sheet which parents fill out on enrolment, and often also as part of the focus child planning process. These could be structured to include questions concerning child behaviours, which might alert teachers to investigate further through both teacher and parent observation guided by the trial instrument.

Parent reliability in identifying gifted behaviours has been demonstrated frequently (Jacobs, 1971; Ciha, Harris, Hoffman & Potter, 1974; Robinson & Robinson, 1992; Silverman, 1993). The information gained should be immediately used to plan a differentiated programme based on practices recommended by Barbour (1992) for example. As literature relating to providing for gifted young children is not readily accessible to New Zealand early childhood practitioners, teachers will need to be provided with support, which leads to further implications of these research findings.

An additional implication relating to the instrument's use is that some form of guidebook, which includes basic information and ideas regarding "the next step" of provision should accompany it. Information about models of curriculum for gifted children within the regular early childhood setting and a bibliography of easily inter-loaned articles from the international literature available in University and College of Education libraries could be included. Such a guidebook should also include the recommendation to teachers to look further than their own centre resources when considering provision for gifted young children. Collaborating with local schools, particularly the one the child is likely to attend, and other early childhood centres can provide sources of extension equipment, but would also reveal other children for whom a gifted group session could be regularly provided. Making contact with possible community sources of mentors such as special interest groups relating to the child's interests, tertiary institutions, and even businesses, could also be suggested. Contacts for New Zealand experts and Associations involved with giftedness should be included. Such a resource would help meet teachers' immediate need for information having identified a child through use of the instrument.

6.2 Implications for Policy

This research clearly demonstrates the disadvantage that gifted young children encounter through the absence of service by the Ministry of Education. The teachers in this study made it clear that their pre-service training was inadequate to equip them with knowledge or understanding regarding the diversity of gifted behaviours or how to cater for them. Teachers believed that they needed support services similar to those provided by SES for children with special needs. The lack of programme differentiation in some centres confirms this. Gifted children need to be identified and supported appropriately as early as their preschool years in order to reach their potential, which is the right of all children. Consequently the lack of Government support services for teachers and young gifted children must be addressed. Additionally, teachers suggested that their own Associations could provide roaming support teachers. The Associations could also advocate to the Ministry for this group of children and be a channel for accessing the literature to support teachers in their identification and programming for gifted children.

6.3 Implications for Teacher Training

Specialised support for teachers in the form of professional development relating specifically to gifted children is also indicated. The research showed that the level of training about giftedness included in teacher training is inadequate, supporting the conclusions of the literature review. The results of this study suggest the need for extended training conducted over several stages, which will also provide time for reflection on real experiences both at pre-service and in-service levels. This approach will enable teachers to make meaning of what they see in children's behaviours and identify ways to operationalise *Te Whaariki* in the context of their centre. A gap was revealed between teachers' aspirations to focus on planning for and building on individual strengths, interests and needs, and what they actually so often did, that is, addressing deficits. In this respect little appears to have changed since the publication of the draft form of *Te Whaariki* and Wilk's (1993) findings regarding assessment in early childhood education. The adequacy of current assessment and planning processes to result in meaningful curriculum for gifted children in some centres is questioned. Bell (1990, p. 113) identified a need for professional support to enable teachers to "theorise

their practice” so that they are able to revisit, critique their theory, made up of their “beliefs, assumptions and values” that inform their practice (Bell, 1990, p. 8). The current study demonstrates the continued existence of this need at least with respect to supporting gifted children’s learning.

Beliefs and understandings of teachers greatly influence the learning environment. This study revealed that at least one significant aspect of *Te Whaariki* is not well-understood by teachers, and calls into question the ability of teachers to theorise their practice in terms of a commitment to biculturalism as well as a meaningful focus on extending the individual within the curriculum. Bevan-Brown (1993) called for teachers to be better trained to cater for Maaori children generally and those with special abilities in particular. The current study provides support for this call, directed at both pre-service and in-service providers.

6.4 Implications for Further Research

This research was undertaken in the absence of any similar available work about giftedness in early childhood in New Zealand. As such it was intended as an exploratory evaluation of both the meaning of giftedness in the New Zealand early childhood context and the consequence of identifying giftedness in early childhood settings. Investigating these topics remains a daunting task, as this small study has barely scratched the surface of what there is to learn. While it provides some empirical basis from which to conduct further investigation, the sample size of centres is too small to generalise conclusions on the state of identification and provision. Consequently further research is recommended.

Teacher feedback suggested changes that should be made to the instrument itself. Additionally the uneven representation of Maaori and other cultural minority children identified by the trial instrument suggests further trialling of the instrument is needed, particularly regarding the indicators which caused difficulties. This trialling should be done with a view to identifying the language or examples of behaviours that could be included in the descriptors that would allow teachers to more easily recognise these indicators. Further trialling should also involve a wider range of sampling methods,

including using it with children whom teachers or parents already suspect are displaying gifted behaviours or who are causing concern because of their behaviour in general.

The results suggest these early childhood environments did little to support the cultural needs of young Maaori children, necessary for their gifted behaviours to be demonstrated. Further research could involve ethnographic study to see if children are provided opportunity to display gifted behaviours, thereby evaluating the inclusiveness of centres' curriculum.

Because this research was focussed on finding identifiers that are appropriate for New Zealand early childhood settings, the role of the gifted experienced (GE) teacher group was only to critique for relevance, useability and possible omissions. Information about the beliefs and knowledge base of these teachers was not taken into account. However the lack of mention of cultural differences in gifted behaviour does suggest that such an investigation involving both teachers experienced with gifted children and teachers who are not, could contribute to understanding the training needs of pre-service and in-service teachers, in order to increase identification of giftedness.

While research relating to giftedness is sparse in early childhood settings, and the sources of support for teachers are equally sparse, perhaps the most valuable form of research that could be undertaken is action research studies. Specifically those involving collaboration with teachers and parents in finding how best to provide differentiated programmes to meet the needs of individual gifted young children. In this way the body of empirical knowledge will continue to grow, enriching our understanding of giftedness, while children and the teachers will reap long-term benefits from involvement in the research process. For the children in our centres the long wait for appropriate provision would cease and the aspirations that *Te Whaariki* has for all children would be realised for them:

To grow up as competent and confident learners and communicators, healthy in mind, body, and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution to society. (N.Z. Ministry of Education, 1996b, p. 9)

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APPENDIX A : INVITATION TO PARTICIPATE ON EXPERT PANEL

GIFTEDNESS IN EARLY CHILDHOOD : A NZ PERSPECTIVE

INVITATION TO PARTICIPATE ON EXPERT PANEL

(Massey letterhead)

Dear

My name is Barbara Allan. I am an Early Childhood Lecturer in the preservice programme and I am currently working on my thesis for the Masterate of Education at Massey University College of Education. I am researching how young gifted children can be identified and provided for by teachers in early childhood settings. I want to work with groups of early childhood teachers to design and assess an identification instrument appropriate to NZ that can be readily used in centres with understanding and confidence.

Because of your expertise in the field of gifted education, I am approaching you formally with regard to your availability as a member of an expert panel for my MEd thesis research. I enclose an outline of my proposal, which went to the University Ethics Committee on 30 September 1997, and an information sheet, which includes a list of participants' rights.

What I am asking is that you comment with regard to my initial identification instrument before I present it to a group of experienced Early Childhood teachers for further modification.

It is important that I let you know that I am attempting to devise an instrument that is suitable for use in mainstream NZ Early Childhood centres and as such it needs to take account of NZ-specific sociocultural contextual features. I do not intend to suggest that it is suitable by itself as an instrument of identification for all gifted young children in NZ, especially in consideration of children who may be gifted in terms of Maori, Pacific Islands, or other specific ethnic perspectives. It is merely intended to provide informed guidance for Early Childhood teachers, most of whom have no background training specifically to help them in identifying and meeting educational needs of gifted young children or access to experts to assist them.

I expect to be asking for your feedback on the preliminary instrument within the next two months. I assure you that your feedback will not be identified in any way in this study, although I would like to include acknowledgement of your support in the preface of my thesis, if you are agreeable. Please let me know by sending the enclosed slip to the above address, or phone me at Massey or email me on b.a.allan@massey.ac.nz, by 20th November. Should you require further information please contact myself or my supervisors, Dr Joy Cullen and Dr Tracy Riley, at Massey, 063569099.

Thank you for your consideration of my request.

Yours faithfully

Barbara Allan

EXPERT AVAILABILITY RESPONSE

I am available / I am not available
to give feedback on your initial identification instrument

(please cross out the inapplicable response)

Name.....

Address.....

Phone.....

E-mail.....

APPENDIX B : LETTER TO MANAGEMENT GROUPS

GIFTEDNESS IN EARLY CHILDHOOD SETTINGS : A NZ PERSPECTIVE

LETTER TO MANAGEMENT GROUPS

My name is Barbara Allan. I am an Early Childhood Lecturer at Manawatu Polytechnic and I am currently working on my thesis for the Masterate of Education at Massey University College of Education. I am researching how young gifted children can be identified and provided for by teachers in early childhood settings. I want to work with early childhood teachers to design and assess an identification instrument appropriate to NZ that can be readily used in centres with understanding and confidence.

My reason for doing this research is to complete the requirements of the MEd and to contribute towards meeting the need for user-friendly resources that can help early childhood teachers continue to improve their programme provision for all children in their centres. There is a scarcity of support for teachers who suspect they may have gifted young children in their centre, and a means of identification is a first step towards effective programme provision for such children. A further reason is to provide a starting point to address the scarcity of research on giftedness in the NZ early childhood context.

The University Ethics Committee has approved my research. My supervisors in this research are Dr Joy Cullen, whose expertise is in early childhood education and Dr Tracy Riley, whose expertise is in gifted education. You may contact me by phone at Manawatu Polytechnic, 06-3567104; and contact my supervisors by phone at Massey, 06-3569099.

I am seeking your permission to invite your centre staff who have the Diploma of Teaching or equivalent to take part in my research. I believe the participants will also benefit professionally from involvement in this research in three ways. Firstly through increasing their own awareness and understanding regarding young gifted children. Secondly by contributing to the understanding of the early childhood teaching and research group as a whole. Thirdly they will be supplied with a copy of the final instrument and a summary of the research findings.

Involvement of the participants in will commence 11th May, and finish at the end of July, or possibly at the end of June. Participation will involve use my draft observation tool, which is in the form of a checklist scale, in centre over a period of four weeks, beginning May 11th. For a further period of four weeks I will be

asking a small number of teachers to participate in weekly one-hour interviews. I expect staff participation to be voluntary and therefore the interviews would take place in the participant's own time. As I would like to invite prospective participants by letter as soon as possible, would you please let me know whether I have your permission to approach your teachers, by filling in the tear-off consent form and returning it in the enclosed reply-paid envelope by the 30th April. If you have any queries unanswered by the information enclosed, please contact either myself at Manawatu Polytechnic, Ph. 3567104 or at home in the evening Ph. 3589423; or my supervisors, Dr Joy Cullen and Dr Tracy Riley at Massey, Ph. 3569099.

I look forward to your response.

Yours sincerely

Barbara Allan

.....
(please complete tear-off consent form and return)

A. CONSENT FORM : MANAGEMENT GROUP

I / We consent to our staff being approached to participate in the research on giftedness in early childhood settings.

.....YES

.....NO

Management signature.....

Management name.....

Centre Name.....

Centre Address.....

APPENDIX C : INVITATION TO TEACHERS TO PARTICIPATE

GIFTEDNESS IN EARLY CHILDHOOD SETTINGS: A NZ PERSPECTIVE

LETTER TO TEACHERS

Dear Colleague

My name is Barbara Allan. I am an Early Childhood Lecturer at Manawatu Polytechnic and I am currently working on my thesis for the Masterate of Education of Massey University College of Education. I am researching how young gifted children can be identified and provided for by teachers in early childhood settings.

You are being invited to participate in this research by means of this letter. I have already obtained the permission of your Management Committee / Association to approach you. Participation in this research is voluntary. Please find attached an information sheet explaining what is to be involved in this research study, including the rights of participants.

I want to work with early childhood teachers to design and assess an identification instrument, appropriate to NZ, that can be readily used in centres with understanding and confidence. At this stage, I am looking for centre staff who have the Diploma of Teaching or equivalent, and who feel they have not worked with young gifted children, but are willing to trial my draft identification instrument in their centre. It is not necessary to have already identified gifted children in the centre.

What I am asking of you is that you use my draft observation tool, which is in the form of a checklist scale, in your centre over a period of four weeks, beginning May 11th. I will bring the observation tool to you during the previous week. I will be asking that you choose the five eldest girls and five eldest boys that you know will be still on your roll on 17th August. It will be necessary to use the observation tool in relation to two of these ten children each day for one week, beginning May 11th, and repeat this process each week for the following three weeks. This will result in a total of four records for each child. I would then like to receive feedback from you regarding the experience of using the observation tool. After this period, you may choose to participate in weekly, one hour interviews, held in your centre for a further period of four weeks,

With regard to the outcomes of this research, I believe that this project will make a valuable contribution to the education of young children, as there is currently no NZ-based identification instrument available for early childhood educators. Furthermore, I believe that as a participant you will benefit professionally from involvement in this research, in three ways. Firstly through increasing your own awareness and understanding regarding young gifted children. Secondly by contributing to the understanding of the early childhood teaching and research group as a whole. Thirdly you will be supplied with a copy of the final instrument and a summary of the research findings.

I hope you will consent to join me in this research, I look forward to being able to work with you. If you are willing to participate would you please fill in the enclosed form and return by mail by the 1st of May. Please indicate whether or not you have had some experience with gifted young children during your Early Childhood career to date. If you have any queries unanswered by the information enclosed, please contact either myself at Manawatu Polytechnic, Ph. 3567104 or at home in the evening Ph. 3589423; or my supervisors, Dr Joy Cullen and Dr Tracy Riley at Massey, Ph. 3569099.

Yours sincerely

Barbara Allan

(Please complete and tear off if you wish to participate)

NOTIFICATION OF INTEREST TO PARTICIPATE

Yes I am interested in being a participant in the research study (tick)

Yes I have Dip. Tchg or equivalent

I have / have not (cross out one) had experience with gifted young children

Name.....

Contact phone (daytime).....

Address.....

Centre.....

APPENDIX D : INFORMATION SHEET

GIFTEDNESS IN EARLY CHILDHOOD SETTINGS : A NEW ZEALAND PERSPECTIVE

INFORMATION SHEET (To be sent with invitations to experts, managements, and teachers)
(massey letterhead)

My reason for doing this research is to complete the requirements of the MEd and to contribute towards meeting the need for user-friendly resources that can help early childhood teachers continue to improve their programme provision for all children in their centres. There is a scarcity of support for teachers who suspect they may have gifted young children in their centre and a means of identification is a first step towards effective programme provision for such children. A further reason is to provide a starting point to address the scarcity of research on giftedness in the NZ early childhood context.

My supervisors in this research are Dr Joy Cullen, whose expertise is in early childhood education and Dr Tracy Riley, whose expertise is in gifted education. You may contact us by phone at Massey, 3569099.

I wish to invite centre staff who have the Diploma of Teaching or equivalent to take part in this research. Involvement will be in one of five ways:

- 1) a 2 hour workshop in a weekday evening or on a Saturday morning.
- 2) a 2 hour workshop plus using the instrument in their centre over a 4 week period and participating in a cluster group interview.
- 3) a 2 hour workshop plus using the instrument in their centre over a 4 week period, participating in a cluster group interview and a further 4 interviews conducted weekly.
- 4) use of the instrument in their centre over a 4 week period and participating in a cluster group interview.
- 5) use of the instrument in their centre over a 4 week period and participating in a cluster group interview and a further 4 interviews conducted weekly.

Teachers involved in (3) and (5) will be asked to give the researcher access to current planning documentation during the weekly interviews. However at no time will I be having contact with the children or parents in the centre as part of this study, as the focus is to be on teachers' identification and planning for gifted children.

All interviews and workshops will be audio-taped and the tapes transcribed by a transcriber who will be required to sign a confidentiality agreement. When the research is completed the tapes and transcripts will all be destroyed or permission of the participants will be requested to keep the transcripts only, in a research archive.

Participants' Rights:

- * Confidentiality of participants and centres will be guaranteed in the writing of the research and any publications which may result from it.
- * Participants will also be asked to respect confidentiality regarding the group sessions.
- * Participants have the right to decline to participate.
- * Participants have the right to withdraw from the research at any time
- * Participants have the right to refuse to ask particular questions
- * Participants have the right to ask any questions about the research at any time during participation
- * Participants have the right to provide information on the understanding that names will not be used.
- * Participants have the right to ask for the audio tape to be turned off at any time.
- * You will be sent a summary of the findings when the research is concluded.

**APPENDIX E : LETTER TO TEACHERS EXPERIENCED WITH
GIFTED CHILDREN**

21 Newhaven Place
Palmerston North

10 March 1998

**GIFTEDNESS IN EARLY CHILDHOOD SETTINGS : A NZ
PERSPECTIVE**

Dear

Thank-you for agreeing to participate in this research. I really appreciate the expertise you will bring and trust that you will also find this a valuable experience.

As you will have gathered, I am running a few weeks behind my planned schedule, due to a number of factors. However now I expect to begin with the session for the first group of participants in April and the session for the second group in May.

As you identified yourself as having had experience with gifted young children, I would like you to participate in the first group. This will involve attending the session at which we will discuss our perceptions of what giftedness is and what are the characteristic indicators in the early years; and I will be asking for your feedback on my preliminary observation tool, to ensure it is comprehensive and teacher friendly.

The date I propose we meet is Tuesday 7th April, at 7.30 pm in room number 18.2 of Manawatu Polytechnic, Grey St. Campus. If this date is not suitable, please let me know immediately on 3567104 extension 8420 or 3589423.

Thankyou once again for your participation

Yours sincerely

Barbara Allan

APPENDIX F : BRAINSTORMED INDICATORS FROM TEACHERS EXPERIENCED WITH GIFTED CHILDREN

- Sharp quick memory
- Good language development
- Bright, knowing, challenging
- Aloof, less social
- Less tolerant
- Risk-taking – not jumping off a roof but not being afraid to be wrong
- Very challenging, questioning, argue logically, adult-like
- Take interests further, research 1 step further without prompting
- Very creative and creative thinking
- Problem-solving
- Ask questions no-one else asked
- Metacognitive
- Bored with normal activities, need challenging
- Honest and expect honesty
- Difficulty with peers sometimes
- Very good leadership qualities, sometimes to point of being bossy
- Organising other children
- Wanting to share / take over / parrot teacher
- Gifted in one area or more, and can be disabled learner
- Long attention span
- Heightened sense of fair play and justice

APPENDIX G : TRIAL INSTRUMENT

TEACHER OBSERVATION SCALES FOR IDENTIFYING GIFTED BEHAVIOURS IN YOUNG CHILDREN

This observation scale is to assist teachers of children three to five years of age, to identify gifted behaviours in the areas of cognition and language, approach to learning, creativity, and social competence.

This scale should be used for observing the target child several times over a period of one month, to ensure valid assessment. To eliminate teacher bias, two teachers should complete the scale. Each statement should be considered separately. The degree to which each behavioural characteristic is observed as present, is indicated by placing a tick in the appropriate box. Where teachers feel there are areas of uncertainty, they should record the behaviours observed and discuss these with other teachers, and the parents/whaanau. Space has been allowed at the end of each section to record brief notes for this purpose.

Child's codename	
Birth date	
Gender	
Today's date	

Cognition and Language	rarely/never	occasionally	frequently	almost always
1. Demonstrates high level of concentration and attention span for age in activity or subject which is of interest to self.				
2. Possesses very good memory, and can quickly and accurately recall a wide range of information, rhymes, stories or songs, heard some time ago.				
3. Displays advanced verbal skills for age, both in vocabulary use and understanding.				
4. Learns new material or skill quickly.				
5. Displays understanding of complex/abstract concepts, eg death, time, electricity.				
6. Understands things well enough to teach others.				
7. Understands and uses metaphors and analogies.				
8. Carries out complex tasks.				
9. Can quickly sense consequences.				
10. Demonstrates deeper general knowledge than other children. (eg: TV programmes, sport, dinosaurs, cultural knowledge, spacies games).				
11. Pursues wide-ranging or specific interests on own initiative.				
12. Is able to read a number of words.				
13. Is able to write a number of words.				
14. Is able to use numbers mathematically.				
15. Resists being interrupted.				
16. Rapidly acquires other languages.				

Notes

Approach to Learning	rarely/ never	occasionally	frequently	always	almost
1. Has advanced ability as independent problem-solver, using stored knowledge.					
2. Applies new learning in different contexts.					
3. Displays unusual skill in putting together objects, or new or difficult puzzles, without relying on trial and error.					
4. Is systematic when approaching tasks.					
5. Displays high level of planning and/or prediction.					
6. Enjoys intelligent risk-taking.					
7. Sees alternatives.					
8. Is intensely curious about a variety of things.					
9. Asks probing what, how and why questions.					
10. Learns quickly from mistakes that are made by self or observed in others' behaviour; and avoids making the same mistake.					
11. Loses interest in tasks unrelated to own interests.					
12. Displays boredom with imposed repetition or routine, through low quality work or non-cooperation.					
13. Displays independence; or stubbornness.					
14. Expresses doubt in own ability to produce perfect result, resulting in reluctance to attempt new task.					
15. Is sceptical; critical; evaluative; or quick to spot inconsistencies.					

Notes

Creativity	rarely/never	occasionally	frequently	almost always
1. Sees relationships, discrepancies, or humorous situations not understood by other children.				
2. Is unusually or highly inventive in fantasy, verbal, artistic, constructive, or musical expression.				
3. Has long attention span for creative activities.				
4. Draws a variety of things, not just people, houses, flowers.				
5. Demonstrates aesthetic appreciation of art or musical activities.				
6. Easily repeats and discriminates rhythm patterns.				
7. Plays with/manipulates rhymes, and/or language, pronunciation, ideas, etc.				
8. Demonstrates planning in composing constructive or art work.				
9. Spontaneously makes up stories, especially elaborating new experiences.				
10. Gives unique, clever or humorous responses.				
11. Generates many different ideas.				
12. Is very resourceful in avoiding unpleasant tasks or situations.				
13. Has high interest or ability in cultural activities; eg. poi, sasa, etc.				
14. Is unusually attentive to features/changes in the environment.				
15. Finds innovative ways to solve disputes.				

Notes

Social Competence	rarely/never	occasionally	frequently	almost always
1. Associates with older children, gifted peers or adults.				
2. Shows leadership abilities either overtly; by example; or unobtrusively in the background.				
3. Is sought out by other children for ideas, decisions, information, or companionship.				
4. Accepts responsibilities beyond those usual for age.				
5. Displays sensitivity/compassion for others.				
6. Has strong influence over others in desirable or undesirable ways; appears to have mana amongst peers.				
7. Modifies language or voice pitch for less mature children.				
8. Exhibits a surprising intensity of response. Eg. To perceived injustice.				
9. Willingly shares own skills or knowledge, solicited or unsolicited.				
10. Shows skills in interpreting nonverbal language and social cues.				
11. Displays conflict and frustration with other children, leading to social isolation.				
12. Is critical of self and/or others; displaying high expectations of performance.				
13. Exhibits manipulative or disruptive behaviour.				
14. Is very talkative, and talks above heads of age peers.				

Notes

Using the Information

Where clusters of characteristics are indicated as frequently or always displayed, consistently over the observation period, this may indicate areas of giftedness. Further information should be sought from parents, whaanau, and from more specific teacher observation, combined with provision of opportunities for the abilities of this child to be extended in the everyday centre programme.

Identifying gifted behaviours in young children should not be used for predicting future performance, but rather to assist in providing educational experiences that build upon their current strengths. Thus, where a child is identified by use of this tool, as exhibiting a range of indicators, frequently or almost always, within one or more of the headed areas, this signals that the programme for this child should be differentiated. For the child who is gifted, an IEP is required. IEP is defined in Te Whaariki as “a plan that forms the basis for programmes designed specifically for an individual child who, in order to benefit from their learning environment, requires resources alternative or additional to those usually available” (p.99). For example, the provision of books, diagrams, computer databases, more usually appropriate to adults.

The child who is gifted needs involvement of a greater level of sophistication, depth and complexity than his or her age peers. This will involve modification of content (what is learnt), process (teaching methods used), learning environment, and product (how the child displays their learning).

Utilising parents, whaanau, elders, or others in the community in a mentor role with the child is suggested. They could be people with skills or knowledge relevant to the child's interest. They can provide the support needed to allow the child to work on a project/investigation/ individual pursuit over several days or weeks, related to his or her interest and skills, of a constructive, artistic, investigative, or inventive nature. The child may work on this cooperatively in a leadership role with other interested children, or primarily alone, presenting the result, with discussion, to the whole group. As part of this, organising visits or visitors relevant to the child's interest will provide opportunity for other children to be involved at their level of interest also. The child should also be encouraged to evaluate his or her work and consider how it could be improved or changed.

In carrying out his or her work, it may be necessary for the child to be provided with more specialised resources than are normally available in the centre, for example specialised carpentry tools, art material, sewing machine, microscope, or other. Space for storage of project material between sessions will be needed also. Similarly, flexibility regarding session routines is important, allowing the child to continue working uninterrupted for as long as possible.

Useful texts to assist teachers include:

Harrison, C. (1996) *Giftedness in early childhood*. Sydney : KU Children's Services.

Morelock, M.J. and Morrison, K. (1996) *Gifted children have talents too!* Hawthorn, Victoria : Hawker Brownlow.

APPENDIX H : LETTER TO WORKSHOP TEACHERS

21 Newhaven Place
Palmerston North

12 March 1998

GIFTEDNESS IN EARLY CHILDHOOD SETTINGS : A NZ PERSPECTIVE

Dear Colleague

Thank-you for agreeing to participate in this research. I really appreciate the expertise you will bring and trust that you will also find this a valuable experience.

As you will have gathered, I am running a few weeks behind my planned schedule, due to a number of factors. However now I expect to begin with the session for the first group of participants in April and the session for the second group in May.

I would like you to be in the second group. This will involve attending the session, at which we will discuss perceptions of what giftedness is, and identify the characteristic indicators in the early years. I will be introducing my draft observation tool, and explaining how I would like you to use it for the following four weeks, before we meet again for a follow-up feedback session. At that point, there will be opportunity for some centres to continue involvement for a further four weeks.

The date I propose we meet is 7.30pm on Tuesday 5th May in room number 18.2 of Manawatu Polytechnic. If this date is not suitable, please let me know immediately on 3567104 extension 8420 or 3589423.

Thank-you once again for your participation

Yours sincerely

Barbara Allan

APPENDIX I : WORKSHOP OUTLINE

Name stickers, pens

Thankyou, introductions

Consent forms and taping

This research – purpose, proposed outcomes, justification, link to te whaariki and planning

Steps so far, now test instrument / tool

Define giftedness – ohead

Start with some ideas and information about giftedness – from floor?

There appears to be a biological basis, as it can be evidenced from early infancy, but clearly results from both genetic and environmental influences, gifted performance results mostly from the latter. – implications for ece.

Diverse forms, multifaceted, dynamic (ie subject to change) and developmental

Class, culture

Levels: moderate 1:20, highly 1:1000, exceptionally 1:10,000, profoundly 1:1,000,000

Giftedness in 1 area impacts on development in others: e.g. art v fine motor, cognitive v experiences/ richness of environment. Can also be gifted in 1 or many areas – which does not mean everyone is gifted in something – Distinguish everyone has gifts, not everyone is gifted.

IQ tests now recognised as not so reliable, biased, inappropriate usually at ece level, especially as an identification tool, can have usefulness as confirmation where necessary. – The assumptions upon which IQ tests rests have been demonstrated to be erroneous.

Why is it important to identify gifted potential or behaviour?

Cognitive / intellectual giftedness – is the most commonly discussed and the one that has been researched the longest, due to previous emphasis on academic/ intellectual giftedness – dominant cultural effect. However other areas recognised as significant and recently being researched.

1 hour approx.

This instrument – handout

Focus is on degree of gifted behaviours observed. Indicators grouped under four main areas. Each indicator written to include just one dimension and such that it is

observable. Meaning of frequency is in relation to that specific indicator when it occurs for that child – frequently = more than half the time.

Because there can be erratic occurrences of target behaviour by a young child, using an instrument such as this must be done several times over a period of time to eliminate chance occurrences, effects of unwellness, upset, etc., and to give every opportunity for gifted behaviour to occur. Thus for the purposes of this study, I want each child to be observed weekly for four weeks. So that a sound sample can be covered, ten children, five boys/ girls will be focussed on for the four-week period:

Week 1	g1, b1; g2, b2; g3, b3; g4, b4; g5, b5
Week2	g1, b1; g2, b2; g3, b3; g4, b4; g5, b5
Week 3	g1, b1; g2, b2; g3, b3; g4, b4; g5, b5
Week4	g1, b1; g2, b2; g3, b3; g4, b4; g5, b5

Each time they are observed a fresh instrument is filled out, based on the child's behaviour that day. This means that over the four week period there will be four separate records for each child. Thus, each day there will be a need for the staff member/s to know each day who are the focus children for that day, before the start of the session, and if one is away then one of those who is yet to be observed that week can be substituted. It is not necessary to do them in a specific order, although that might work best organisationally, but there will be a need to know if a child is planned to be absent on an specific day. There is no need for written /formal observation, the idea being that the children be specifically the focus of observation over the day during normal interaction and work of the centre. All or just one staff may be contributing the information, as it suits the centre. At the end of the day / session is the likely most appropriate time to complete the instrument, while the two target children are fresh in your minds. There is space for notes at the end of each section to use as you wish, e.g. for egs of target behaviour, comment relevant to context etc – as you wish.

To ensure random sample re gifted behaviours in children, I want you to choose the five eldest 3-5 year old boys and girls on your rolls as at 17th August, that you currently know will still be with you at that time. Of these children at least **one should be maori, the total number of Maori being proportional to their representation amongst 3-5year olds in your centre.** The rest will be non-maori. This means you may have a child included who is not amongst the eldest five, but is included because they are the oldest of their ethnic group, maori or other- i.e. pakeha or other group. If they are nonpakeha and nonmaori, also indicate their ethnicity with their codename. I want you to code them so that you know who they each are but that information will not appear on the forms at all: e.g. you might code g1 as oldest girl, g2m as second oldest girl, and she is maori, etc. Put that code in the box on the front of each instrument, along with observation date and DOB on front of instrument. Thus you know the identity and can track it later if needed but I will not. This means choice will not be reflective of your current perceptions of the children observed, but constrained by age and ethnicity only.

Now take some time to look at your rolls to work out who your sample will be.

What I hope will happen with some of your filled in checklists, is there will be clusters of indicators checked as either frequently or always, maybe within only one section, maybe in several. This will point up areas where this child is displaying gifted behaviours which indicate where there is a need for the programme to be differentiated

to extend this child. If children show gifted behaviours in social competence, or creativity, for example, consider also ways in which you can challenge them in cognitive and language areas, as it is likely they have potential for gifted performance in these areas, but have not had opportunity in their environment to acquire the background knowledge, and experience that this area relies on. This is often where social and cultural factors affect development. It's important also not to ignore the need for extension, even if this means providing resources, experiences that are not generally a part of standard ece curriculum, and focussing on other areas in a fill-the-gap way, often there can be found ways to include opportunity for this to be done in combination with extension in the areas of strengths, as you will have no doubt experienced with any child's plan.

During the process of using this instrument I would appreciate you making brief notes re ambiguities that emerge, or other difficulties, redundant indicators, as well as noting what is straightforward, useful – and how – anything else.

At the end of the four-week period I would like you to meet with me again to discuss the experience of using the instrument, and to what extent the information it provided re the children was helpful/ useful. At this meeting, I will collect in all the instruments used, for analysis, along with your feedback. (If prefer ? send back to me all the filled in instruments, together with written evaluation) From this I will rework the instrument as necessary, for final publication, of which all of you will receive copies to use as you wish, but at this stage I ask that you not to use or distribute it for other purposes until the final version is sent to you. Note copyright, and draft on it.

Set date for week of 8th June, other than Tuesday evening as I am teaching, or else the following week on Tuesday evening.

Choosing the Sample

Check roll for all 3- 5 year olds.

Identify all those who will still be on roll at 17th August 1998, to the best of your knowledge.

Check ethnicity; identify how many Maori children should be included.

Identify the oldest Maori children and choose number, keeping a gender balance.

Identify the other oldest girls and boys to bring total sample to 5 of each gender.

Code each child to indicate gender and ethnicity, and some means of you being able to identify individual, e.g. number.

Record codes for your own records.

Decide which 2 children will be focussed on each day, taking account of their attendance pattern. (It may be more relevant for some centres to spread focus over shorter number of days, we can negotiate this.) Consider what swaps will be possible if needed due to child being away on day appointed.

APPENDIX J : LETTER TO NON-WORKSHOP TEACHERS

21 Newhaven Place
Palmerston North

12 March 1998

GIFTEDNESS IN EARLY CHILDHOOD SETTINGS : A NZ PERSPECTIVE

Dear Colleague

Thank-you for agreeing to participate in this research. I really appreciate the expertise you will bring and trust that you will also find this a valuable experience.

As you will have gathered, I am running a few weeks behind my planned schedule, due to a number of factors. However now I expect to begin with the session for the first group of participants in April and the session for the second group in May.

I would like you to be in the third group. This will not involve you in any workshop/meeting. It will involve you using my draft observation checklist with five boys and five girls aged between three and five years, once per week over four weeks, ie two children per day, beginning on the 11th May. Selection of children will be based on age only. I will discuss this process individually with each centre when I deliver the checklist, in the fortnight prior to the 11th May. After those four weeks of using the checklist, I will be asking for feedback on the use of the instrument. At that point, there will be opportunity for some centres to continue involvement for a further four weeks.

I will phone your centre over the next fortnight to check that the process is clear, but if you have any immediate questions, please don't hesitate to contact me at the Polytechnic on 3567104 extension 8420, or at home on 3589423.

Thank-you once again for your participation

Yours sincerely

Barbara Allan

APPENDIX K : LETTER TO WORKSHOP TEACHERS ABOUT TOPICS IN FOLLOW-UP INTERVIEW

Dear Colleagues

Well the time has come for me to now collect your bundles of completed instruments, and get detailed feedback from you, regarding the process, the instrument, the outcomes, and any other information or ideas you have to give me about this project as you have experienced it.

You will recall we agreed to meet on Wednesday at 7.30pm, at the Grey St campus of the Manawatu Polytechnic, room 18.2, where we met last time. Again, the discussion will be recorded. I'm sure it will be a lively and interesting evening.

An indication of comment I am looking for is given below, however I do not want to limit you to this sample, so I will also be asking you to give additional feedback.

Comments relating to the instrument itself, regarding the clarity and relevance of indicator statements; the observability of the behaviours; the ease or difficulty of using the instrument; suggested changes, omissions, and additions.

Comments relating to the process of using the instrument for each target child; were there differences observed week to week? How many times of using the instrument for a child were needed to obtain a profile you were confident about? What was the impact of the process on your daily or weekly routines and programme?

Comments regarding the outcomes for each target child; what was the impact on your programme for, or interactions with, the target children? In what ways did the information gathered match or differ from your previous knowledge of these children? How will you use the information? What, if any, value has this instrument provided for planning for these children?

Comments regarding the benefits and shortcomings of this instrument, and its effect on your understanding of giftedness in the early years. To what extent is this instrument useful for identifying giftedness in young children in early childhood centres in NZ? How would you envisage it being used? What is needed to increase its usefulness to early childhood teachers? What effect did using this instrument have on your awareness of gifted behaviours of other children in your centre? I look forward to our meeting together; I really appreciate your participation in this research.

Barbara Allan.

APPENDIX L : FOLLOW-UP WORKSHOP TEACHERS'
EVALUATION FORM

I would appreciate some written feedback based on your experience of using this instrument. Please comment under the general headings below.

Can this identification instrument be used without prior professional development?

Would professional development facilitate its usefulness, if so what form should this take?

What are the benefits for staff and children of using this identification instrument?

What are the drawbacks?

How could the instrument be improved?

What effect did using the instrument have on your planning for, or interactions with, the target children? Explain.

If this instrument were available, would you use it? If so in what ways/for what purposes; if not why not?

Did using this instrument increase your recognition and awareness of gifted children in the centre? Explain.

If you identified gifted behaviours in any target children while using this instrument, how did/will you use this information?

What else is needed to assist teachers in working with young gifted children?

What value was the introductory session?

APPENDIX M: POST TRIAL INTERVIEW SCHEDULE

PROCESS

Comment on the process for each child, were there differences in what was observed week to week for each child, what were they and what might have caused them?

How many observation times were needed to gain what you considered a reliable profile?

Has the instrument provided useful new information? Explain.

What impact did the process of using the instrument have on your daily or weekly routines and programme?

OUTCOMES

Were there children exhibiting gifted behaviours frequently or almost always whom you did not anticipate?

If so do you think those children are gifted? Explain.

Did previously identified gifted children included in your sample show up with gifted behaviours frequently or almost always, did the exercise add to the information you already had?

In what ways did the information gathered about the target children match or differ from your previous knowledge of them?

Has the process impacted on your planning for, or interactions with, the target children? Explain.

EFFECT ON YOUR UNDERSTANDING AND AWARENESS

Did the exercise alert you to gifted behaviours of other children not in the sample that you were previously unaware of?

Did the exercise increase your understanding of and ability to identify gifted behaviour in young children?

If you identified gifted children, how did this affect your teaching and programme provision?

(Workshop group only) Did the information session in our first meeting, on general principles of giftedness and the use of the identification instrument affect your ability to identify gifted young children in using the instrument? Explain.

APPENDIX N : INFORMED CONSENT FORM

Giftedness in Early Childhood settings : a NZ Perspective

CONSENT FORM FOR TEACHER PARTICIPANTS

(Massey Letterhead)

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I understand I have the right to withdraw from the study at any time and to decline to answer any particular questions.

I agree to provide information to the researcher on the understanding that my name will not be used without my permission and that the information will be used only for this research and publications arising from this research project.

I agree to the workshop discussion / interviews being audio taped.

I also understand that I have the right to ask for the audio tape to be turned off at any time.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signed:

Name:

Date:

APPENDIX O : LETTER ABOUT INFORMING PARENTS

21 Newhaven Place
Palmerston North

17 May 1998

Dear Colleague

I hope things are progressing well for you with the use of the observation instrument. I expect that by now the process is smoother and faster than the first few days you used it, and I hope that over the next few weeks you will be finding some interesting information to assist your planning process. Do not be concerned if you are finding you can only check against a small number of indicators each time for many of your sample, that is itself useful information.

The issue of how best to inform parents of the study within the normal practices of the centre has been raised by several of you. I spoke with one of my supervisors and she suggested I write an information statement, which you can give to parents. This emphasises the focus on observed behaviours to assist with planning for children, based on their strengths, which is the key intention of the study. You might like to use this to display on your noticeboard or as the basis of talking with parents of children involved, depending on the normal practice in your centre regarding observations for planning. If parents for any reason do object to your observing their children with a different instrument than normally used, then obviously that child will not be part of the sample.

I will phone you Monday or Tuesday afternoon, just to check in with how things are for you, and answer any queries you may have, thank-you to those who have already rung me in this regard. I hope you are feeling comfortable with the process so far, and I want to reiterate my thanks for your participation in this study.

Yours Sincerely

Barbara Allan

APPENDIX P : NOTICE FOR CENTRE PARENTS / WHAANAU

This centre is participating in a research study testing a new observation tool designed to focus teacher attention on what children do, to assist in planning children's programmes. The study requires that a small group of children be selected based on age, gender, and ethnicity only. The children will not be identified or accessible to the researcher. The participating teachers are using this tool to observe these children once a week for four weeks.

At the end of the four-week period, it is expected that the teachers will have gained some specific information about these children's strengths that can be used to assist in planning individually appropriate curriculum for these children. The information will be available for each child's record. The teachers will then be talking with the researcher about the usefulness of the tool itself.

If you would like further information about the study, please talk with the teachers involved.

APPENDIX Q : SUMMARY TABLES OF COMPLETED INSTRUMENTS

All children in each centre

Indicator results for each child are listed in chronological order according to when the instrument was filled out. Thus differences between teachers within the same centre can be traced, as an effect of child's day.

Key:

frequently, almost always*/ total ticks in category (followed by * if almost always)

- Indicates where over half the **actual** ticks on any day are in frequently or almost always category.
- Indicates where over half the **possible** ticks on any day are in frequently or almost always category.
- Indicates children taken into phase three.
- Indicates half or more **possible** indicators in at least one category on half or more days.
- Indicates where half or more of the **actual** ticks are in almost always category for over half the total indicators possible for the section over the trial period.

Indicates thought by centre to be identified as gifted/possibly gifted.

Child	Cognition and language(16)	Approach to learning(15)	Creativity(15)	Social competence (14)
1GIn (esol, little verbal) 3wks only	0/5; 1/5; 0/5	1/3; 1/13; 0/4	0/4; 0/10; 0/6	0/10; 0/13; 0/7
2GCm (esol)	0/10; 0/5; 4/7; 1/9	1/6; 0/4; 6/11; 1/7	0/10; 0/5; 0/7; 0/9	0/9; 0/4; 2/11; 1/10
3GGh #	3,11*/16; 4,10*/15; 7,3*/12; 10,4*/16	7,7*/15; 5,8*/14; 5,3*/8; 6,5*/14	5,9*/15; 3,10*/15; 6,3*/10; 10,4*/16	6,3*/14; 3,5*/14; 5,1*/6; 6,5*/14
4GM #	11/14; 2/6; 1,7*/10; 5/7	8/14; 1/5; 7,1*/12; 2/7	7/14; 1/6; 8,2*/12; 5/7	4,1*/14; 1/8; 4,3*/13; 2/8
5GNZ	0/14; 0/10; 0/9; 2/4	1/15; 0/4; 0/4; 0/7	0/12; 0/9; 0/4; 1/5	2/14; 1/9; 0/7; 2/8
1BM	0/9; 0/7; 1/16; 0/11	2/9; 0/3; 2/15; 0/11	0/7; 0/3; 0/15; 0/10	3/13; 0/4; 4/14; 0/11
2BNZ	0/10; 0/11; 0/15	0/7; 0/7; 4/12	0/8; 0/10; 0/15	0/7; 1/8; 3,1*/14
3BNp (esol)	0/5; 1/6; 1*/5; 4/10	0/3; 2/10; 3,2*/10; 1/7	0/3; 2/9; 1*/9; 0/7	0/3; 6/10; 3/10; 1/8
4BNZ	0/7; 2/15; 0/9; 2/15	1/4; 1,1*/15; 0/8; 1,1*/15	0/4; 0/15; 0/9; 0/15	1/5; 4/12; 1/8; 4/12
5BMx (esol)	1/11; 1/7; 0/10; 1/7	3/15; 3/14; 2/10; 3/14	1/13; 1/9; 0/9; 1/9	2/13; 1/12; 0/7; 1/12

Centre 1 (No workshop) includes comments in places

Key: In=indonesian, Cm=Cambodian, Gh=Ghana, M=Maori, NZ= New Zealand, Np=Nepalese, Mx=Mexican

Total children in sample: 10

Children	Cognition and language(16)	Approach to learning(15)	Creativity(15)	Social competency (14)
G1E	2,1*/15, 0/16, 0/14, 2/12	4/15, 1/15, 0/14, 0/14	2/15, 0/15, 0/8, 0/15	3/14, 0/14, 0/14, 0/14
G2I	6,7*/16, 0/14, 0/14, 2/13	5,3*/15, 0/11, 0/14, 0/13,	5,5*/15, 0/14, 1/15, 4/14	4/14, 2/14, 3/13, 0/14
G3E	5,2*/16, 2/14, 0/11, 3,2*/13	9/15, 0/12, 0/11, 9/15	4,6*/15, 0/15, 0/10, 2,5*/13	5,1*/14, 0/14, 0/12, 1/14
G4E	1/12, 0/12, 1/12, 0/15	1/13, 0/14, 2/15, 0/15	0/15, 0/15, 0/15, 0/10	0/14, 0/14, 0/14, 0/12
G5E	5/7, 4/13, 2/13, 2/12	5/11, 1,1*/14, 3,1*/15, 1/13	5/9, 4/13, 1/15, 1/14	5/10, 6,2*/14, 3,1*/14, 1/13
B1E	0/16, 0/16, 0/16, 0/13	1/15, 0/15, 0/13, 1,1*/15	0/15, 0/15, 0/15, 0/15	1,1*/14, 0/14, 0/12, 1/14
B2E	2/13, 3/13, 2/5, 0/11	1/13, 0/13, 0/4, 0/9	0/15,0/15, 0/0, 0/10	0/0, 0/0, 0/1, 0/11
B3E	0/16, 0/16, 0/16, 0/13	2/15, 0/13, 3,a1/15, 0/11	0/15, 0/15, 0/15, 0/15	0/14, 0/14, 1/14, 0/11
B4E	0/13, 4/14, 4/15, 6/13	0/14, 2/8, 1/15, 6/15	4/15, 0/14, 0/15, 1/13	1/14, 0/14, 0/14, 1/14
B5M	0/16, 1/16, 3/13, 3/12	0/14, 5,1*/14, 4/15, 4/12	0/15, 0/14, 2/15, 4/11	1/14, 2/14, 5/11, 5/9

Centre 2 (workshop)

Key: E=European, M=Maori, I=Indian

Total children in sample : 10

Children	Cognition(16)	Approach to learning(15)	Creativity(15)	Social competence (14)
G1E	3*/16, 0/16, 0/16, 2/16	1,2*/15, 2*/15, 2*/13, 1,2*/15	1,a1/15, a3/15, 2/15, 1,a3/15	1/14, 1,a3/14, 4,a3/14, 2,a1/14
G2P	3,4*/16, 4,6*/16, 3,7*/16, 6,2*/16...	1,2*/15, 5/13, 6,1*/15, 4/15	1,5*/14, 3*/15, 6,2*/15, 5/15	8*/14, 6*/14, 3,6*/14, 3,6*/14...
G3P	0/16, 0/16, 1,3*/16, 0/16	0/15, 2/15, 2,4*/15, 2/15	0/15,1/15, 1,1*/15, 0/15	2/14, 7,1*/14, 3,4*/14, 3/14
G4J(esol)	4/16, 2,7*/15, 4,2*/16, 7,1*/15...	2,1*/15, 3,6*/14, 1,3*/15, 3,3*/15	1/15, 4,5*/15, 5,1*/14, 3,3*/15	2,3*/14, 2,9*/14, 2,5*/13, 4,5*/14...
G5Sp (esol)	1,2*/16, 3,8*/16, 1,3*/16 2,1*/16	3/15, 9*/15, 1,2*/15, 1,1*/15	2/15, 8*/15, 3,2*/15, 2/15	0/14, 4,6*/14, 2,8*/14, 2,5*/14...
B1M	2/16, 0/16, 1*/16, 1/16	1,2*/15, 1,1*/15, 1/15, 1,1*/15	1*/15, 1*/15, 1/15, 1/15	1,1*/14, 4,2*/14, 0/14, 1*/14
B2I	2*/16, 2,1*/16, 1/16, 1*/16	3,2*/12, 1,2*/13, 2*/13, 0/15	1*/12, 0/14, 1/15, 0/13	2,1*/13, 1/14, 1/14, 2*/14
B3P #hothoused	4,8*/16, 4,7*/16, 6,7*/16, 3,1*/16	2,8*/15, 4,5*/15, 6,7*/15, 1/15	1,7*/15, 2,7*/15, 5,5*/15, 3,2*/15	4,7*/14, 8*/14, 3,10*/14, 6/14
B4E	1/16, 1,5*/16, 3,1*/16, 1,1*/16	2,5*/15, 1,4*/15, 2,3*/14, 2/15	0/15, 2,3*/15, 1/15, 2/15	1,6*/14, 2,4*/13, 3,6*/14, 2,2*/14
B5E #	13*/13, 4,8*/16, 4,10*/15, 3,10*/16.	10*/14, 6,5*/15, 2,9*/15, 2,10*/14	3,6*/14, 3,3*/15, 1,11*/14, 7,5*/15	3,6*/14, 9*/14, 2,9*/14, 5,7*/15

Centre 3(workshop) includes comments in places

Key: E=European, P=Pakeha, J=Japanese, Sp=Spanish, M=Maori, I=Indian

Total children in sample: 10

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1	0/6, 0/5, 0/4	0/3, 0/4, 0/3	1/7, 1/3, 1/1	1/7, 1/4, 1/2
G2	0/8, 0/6, 0/0, 0/2	0/5, 0/3, 0/1, 0/1	0/7, 0/0, 1/2, 1/2	0/6, 1/3, 2/7, 1/5
G3	0/10, 1/7	0/7, 1/4	0/9, 3/5	0/8, 0/4
G4	3, 1*/4, 3/4, 2, 1*/7, 2, 1*/6	1/2, 1/4, 1/8, 1/5	3/3, 3/5, 2/5, 3/6	3/6, 4/7, 4/7, 4/7
G5	1/3, 1/4, 2/4, 2/4	4/4, 1/3, 2/5, 2/7	3/4, 0/3, 0/3, 0/3	4/5, 0/3, 1/4, 1/8
B1 #	0, 3*/7, 5/8, 6, 3*/9	1, 1*/7, 4, 1*/7, 10, 1*/11	1, 1*/4, 3/5, 4/4	4, 1*/12, 5/6, 6/7
B2	5, 1*/11, 2/5	2/5, 2/7	3/7, 0/3	3/6, 3/5
B3	0/9, 3/3, 3/6, 3/7	0/6, 0/3, 0/3, 0/9	0/5, 0/4, 0/4, 0/5	0/7, 1/6, 1/7, 1/9
B4	0/4, 0/3, 0/2, 0/16	0/3, 1/5, 1/5, 0/7	0/3, 1/3, 0/3, 0/12	0/1, 0/4, 1/3, 0/13
B5	2/7, 1/5, 1/6	0/5, 1/5, 1/7	1/4, 3/5, 3/5	1/5, 2/6, 2/10

Centre 4 (Workshop) Includes comments in places
Total children in sample: 10

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
GE1	4/9, 1/5, 0/1, 4/9	1/10, 0/9, 0/1, 1/9	0/0, 1/4, 0/4, 1/3	0/0, 0/0, 1/12, 4, 1*/12
GM1	2/7, 2/9, 1/7, 4/14	0/8, 0/11, 1/12, 0/15	1/6, 0/9, 1/13, 0/12	0/12, 0/11, 0/12, 0/14
GE2	6/9, 4/7, 0/8, 2, 2*/11	3/11, 1/1, 2/10, 1, 1*/14	2/9, 1*/2, 1/10, 2/12	2/12, 3/10, 1/13, 6, 1*/13
GE3	4/6, 0/4, 1/4, 1, 1*/10	1/7, 1/11, 1*/11, 0/0	0/5, 0/14, 1, 1*/9, 0/0	1/12, 0/14, 0/11, 0/0
GE4	1/4, 2/12, 3/6, 3, 1*/9	0/1, 2/10, 1, 1*/5, 3/8	0/0, 2/9, 2/6, 1/10	0/0, 2/12, 4/10, 3/11
BE1	3/6, 1/9, 1/8, 1/10	1/7, 0/13, 0/15, 0/10	0/8, 2/15, 0/11, 1/11	2/3, 0/12, 0/14, 1/10
BM1 #	2, 1*/11, 2*/6, 1/1, 0/3	1, 4*/12, 2, 2*/11, 2/6, 3/4	0, 1*/15, 1/7, 3/13, 0/1	5, 3*/14, 2/12, 2, 4*/14, 2/7
BE2	0/8, 2/10, 2/6, 2/10	1/8, 1/14, 1/10, 1/12	0/2, 1/10, 2/13, 0/5	2/13, 2/12, 3/13, 0/14
BE3	2/12, 1/9, 1/5, 1/1	1/9, 0/11, 0/5, 1/9	0/12, 1/14, 0/10, 1/6	0/13, 1/9, 1/13, 1/14
BE4	0/3, 2/12, 0/5, 3/7	0/1, 2/13, 0/14, 0/7	0/0, 1/8, 0/1, 0/10	0/2, 1/13, 0/12, 1/14

Centre 5 (No workshop) includes comments in places
Key: M=Maori, E=European
Total children in sample: 8

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1P	0/16, 0/16, 0/16, 0/16	1/15, 0/15, 0/15, 4/15	2/15, 2/15, 0/15, 1/15	4/14, 4/14, 3/14, 6/14
G2M	1,2*/16, 1/16, 1/16, 1/16	2,1*/15, 2/15, 0/15, 1/15	5/15, 6/15, 4/16, 1/15	1*/14, 1/14, 1/14, 1/14
G3M	0/16, 1/16, 0/16, 0/16	2/15, 2/15, 0/15, 0/15	0/15, 0/15, 0/15, 2/15	0/14, 0/14, 0/14, 0/14
G4P	3/14, 2/14, 0/16, 3/16	1/15, 0/15, 1/15, 1*/15	1/15, 0/15, 0/15, 1/15	1/14, 0/14, 0/14, 0/14
G5M	0/16, 1/16, 1/15, 0/16	2/14, 1/15, 1/15, 0/15	7/15, 5/15, 0/15, 0/15	1/14, 4/14, 1*/14, 2/14
B1J	1/16, 0/15, 0/15, 0/16	4/15, 4/15, 5/15, 3/15	3,2*/15, 2/15, 1/15, 0/15	2,2*/14, 1,1*/14, 2/14, 1/14
B2P	0/16, 0/16, 0/16, 0/16	0/15, 0/15, 0/15, 0/15	3/15, 1/15, 1/15, 0/15	0/14, 1/14, 0/14, 0/14
B3P... #	10,1*/16, 11/15, 9/16, 7/16	7,1*/14, 12/14, 8/15, 3/15	4/15, 4/15, 1/15, 0/15	3,2*/13, 3,2*/14, 5/14, 3/14
B4P	0/15, 0/16, 0/16, 0/16	2/15, 1/15, 0/15, 0/15	0/15, 0/15, 0/14, 0/15	1/13, 1/14, 0/14, 0/14
B5M	0/16, 1/16, 0/16, 0/16	1/14, 2/15, 0/15, 0/15	0/15, 2/15, 0/15, 0/15	0/14, 3/14, 0/14, 0/14

Centre 6 (Workshop) includes comments in places

Key: M= Maori, P=Pakeha, J=Japanese

Total children in sample: 10

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
GM2	0/6, 0/3	0/5, 0/5	0/15, 0/13	0/11, 0/12
GM4	2/4, 2/4, 2/8, 1/4	3,1*/5, 2/5, 0/7, 1/4	5,4*/12, 4/8, 2/4, 1/1	4/11, 1/6, 1/5, 1/3
GP5 #	1,1*/2, 7,1*/14, 3/5, 4/7	3/4, 7/15, 2/6, 3/9	1/1, 5,2*/15, 4/7, 2/9	3/3, 9/14, 0/7, 0/7
GP6	5/8	5/10	4/9	3,2*/9
GP7	3,3*/11	7,1*/10	6,2*/11	4/7
BM1... #	7,7*/16, 3,6*/9, 0,7*/11	7,8*/15, 5,4*/11, 4,6*/10	6,8*/15; 6,2*/11; 5,4*/13	6,7*/14; 6,2*/11; 6,2*/11
BP8	4,7*/14; 2/5; 6/7	3,6*/12; 5/8; 6/10	2,6*/9; 4/8; 2,1*/10	2,2*/4; 3,1*/7; 1/9
BM9	3/3; 1/9; 0/8	3/4; 0/5; 0/6	4/6; 1/7; 3/7	3/3; 1/3; 1/4
BM10	2,1*/16; 2/4; 0/7	5,1*/15; 4/7; 2/5	3/15; 0/9; 2/8	1/14; 1/6; 2,1*/8

Centre 7 (No workshop) includes comments in places

Key: M=Maori, P=Pakeha

Total children in sample: 9

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1M	4/12; 0/8; 4/12; 4/16	1/14; 0/7; 1/14; 1/15	2/13; 0/4; 2/14; 2/15	0/13; 0/6; 0/8; 0/14
G2... #	6/15; 4/8; 8/8; 9/15 ...	3/13; 5/11; 10/12; 6/9	7/15; 5/10; 7/12; 7/15	4/11; 9/12; 10/11; 6/16
G3... #	1/9; 1/9; 6/11; 5/13	3/12; 3/10; 5/11; 6/13	1/13; 0/10; 5/8; 5/11	2/13; 9/14; 9/14; 10/14
G4	2/12; 2/15; 1/12; 2/14	2/11; 0/15; 0/10; 3/15	3/12; 2/11; 1/9; 3/14	0/13; 1/6; 2/9; 0/13
G5M	1/10; 1/16; 1/7; 1/10	1/14; 3/15; 1/6; 0/12	5/15; 4/15; 0/7; 4/14	0/11; 3/12; 1/6; 1/11
B1	0/10; 0/14; 0/9; 0/16	0/8; 0/9; 0/7; 0/12	0/10; 0/11; 0/8; 0/12	1/13; 1/12; 0/11; 0/13
B2M	0/11; 0/13	0/13; 0/15	0/6; 0/13	0/7; 0/11
B3M	0/15; 0/16; 3/16; 3/16	0/15; 0/13; 3/15; 4/15	0/13; 0/15; 0/15; 0/15	0/13; 0/13; 0/14; 0/14
B4	0/11; 0/16; 0/11; 0/12	1/13; 1/14; 1/10; 1/10	0/9; 0/11; 0/15; 0/11; 0/13	1/8; 0/13; 0/9; 0/11
B5... #	1/7; 9/13; 8/16; 8/13	0/7; 4/14; 4/15; 5/8	0/5; 1/9; 1/15; 0/9	0/9; 0/11; 0/14; 0/13

Centre 8 No workshop

Key: M=Maori

Total children in sample: 10

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1... #	9,1*/15; 9,1*/15; 9,1*/15	5,2*/15; 5,2*/15; 5,2*/15	7,1*/15; 7,1*/15; 5,3*/15	3,1*/11; 4,1*/11; 3,1*/11
G2... #	7,2*/15; 8,1*/15; 9,1*/15	5,1*/14; 6/14; 6/14	6,1*/14; 6,1*/14; 6,1*/14	6/10; 6/10; 6/10
G3	1/11; 1/11; 1/11; 1/11	2,2*/6; 3,1*/8; 2,2*/6; 2,2*/8	1/7; 1/6; 1/7; 1/6	1/7; 1/8; 1/7; 1/8
G4	.0/10; 0/10; 0/10; 0/11	2/11; 2/10; 2/11; 2/9	0/11; 0/9; 0/11; 0/8	2/9; 1/8; 2/9; 0/8
G5	0/7; 0/12; 1/8	2/12; 3/15; 3/12	4/8; 4/10; 4/9	0/9; 0/11; 1/9
B1	1/7; 0/11; 0/11	1/5; 1/11; 1/11	0/9; 0/12; 0/12	0/5; 0/10; 0/10
B2	1/9; 2/13; 2/13	1/4; 1/13; 1/13	0/10; 0/14; 0/13	3/7; 5/13; 5/13
B3	2/9; 3/10; 3/15; 3/15	1/7; 1; 10; 1/15; 1/15	2/11; 2/15; 2/15; 2/15	3/11; 2/13; 2/13; 2/13
B4	3/7; 2/3; 3/8; 3/9	1/10; 2/6; 1/14; 1/14	1/12; 2/3; 2/15; 2/15	2/11; 1/8; 1/13; 1/13
B5	0/8; 0/11; 0/14; 0/14	2/3; 0/9; 0/7; 0/8	0/7; 0/14; 0/13; 0/13	0/10; 0/9; 0/11; 0/11

Centre 9 (no workshop) includes comments

Total children in sample: 10

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
EG1	3,2*/12; 4,3*/15; 0/3	5/14; 5/15; 2/4	1/14; 0/15; 1/2	3/13; 4/14; 3/3
MG2	4,1*/16; 2/3; 0/0; 2/6	5/14; 1/2; 0/0; 3/4	2,1*/12; 0/2; 0/1; 1/6	3,2*/14; 1/2; 0/0; 2/3
EG3	5,1*/11; 3,2*/5; 2/2	8,1*/15; 1,1*/3; 2,1*/3	5/12; 3/3; 0/1	2/13; 1/4; 1/1
CG4	3/16; 1,2*/4; 0/0	1,2*/15; 2/3; 2/2	3/15; 0/0; 0/1	2/14; 2,1*/4; 0/2
EG5	0/0; 7,2*/16; 3/6; 4,2*/7	1/1; 7/15; 0/3; 0/0	2/2; 4/15; 0/0; 0/0	0/0; 5/14; 1/2; 1/3
EB1	7,2*/16; 2*/2; 1/3; 1,1*/2	6,3*/15; 2*/2; 2/2; 1*/1	6,1*/15; 2,1*/3; 2/2; 1/2	9,4*/14; 3,2*/5; 1/ 2; 3/4
EB2	3,3*/11; 7,7*/16; 3,1*/4; 9/11	5/12; 8,1*/15; 3/3; 5/9	4,1*/14; 5/15; 1,1*/2; 3/7	4/13; 6,3*/14; 2,1*/3; 4/7
EB3	3/15; 4/16; 1/1	5,3*/15; 3,2*/15; 1,1*/4;	4/15; 6/15; 0/0	5,1*/14; 10,2*/14; 2/2
EB4	5,1*/10; 1/3; 1/1; 1/2	8,1*/15; 2/3; 1,1*/3; 1/3	4/13; 1/1; 1,1*/2; 0/1	2/11; 0/3; 1/2; 1/1
MB5	6,2*/15; 1,2*/16; 4/4; 1/1	5,2*/15; 4/13; 3,1*/5; 1/1	4,3*/15; 2,2/11; 0/2; 0/0	6/14; 2,2*/14; 1/6; 1/1

Centre 10 (No workshop) includes comments in places

Key: M=Maori, E=European, C=Chinese

Total children in sample: 10

Child	Language and cognition (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
M/PG1	0/10; 0/10; 0/10; 0/9	1/9; 0/6; 0/10; 0/6	0/11; 0/8; 0/12; 0/6	0/10; 0/8; 0/9; 0/6
MG2	1/7; 1/5; 3/7; 0/7	0/6; 0/4; 0/6; 0/11	1/9; 1/10; 2/6; 0/9	0/13; 0/6; 3/7; 0/9
MG3	1/15; 0/15; 0/15	1/11; 0/10; 0/8	1/13; 0/11; 0/7	0/14; 0/11; 0/9
EG4	0/9; 0/6; 0/8; 0/6	0/11; 1/3; 0/7; 0/7	0/10; 0/7; 0/0; 0/4	1/11; 0/8; 1/7; 0/8
EG5	0/10; 0/10; 0/12; 0/9	1/10; 0/11; 0/8; 0/7	1/9; 0/9; 0/10; 0/10	0/11; 0/12; 0/13; 0/9
MB1	0/9; 1/7; 1/6; 1/15	1/5; 0/10; 1/8; 2/6	0/7; 0/13; 0/4; 0/6	0/9; 0/12; 0/9; 0/4
CIB2	0/10; 0/8; 0/8; 0/10	0/8; 0/8; 0/7; 0/12	0/4; 0/5; 0/8; 0/10	0/9; 0/12; 0/11; 0/10
MB3	0/10; 0/12; 0/15; 0/6	0/10; 0/9; 0/12; 0/6	0/8; 0/15; 0/13; 0/9	1/9; 1/13; 2/12; 1/11
AB4	0/11; 0/11; 0/7; 0/7	0/8; 0/5; 1/6; 1/6	0/6; 0/11; 0/3; 0/9	0/5; 0/9; 0/3; 0/6
EB5	0/11; 1/12; 1/11; 0/9	0/8; 0/10; 0/7; 0/8	2/10; 3/10; 0/5; 0/8	1/8; 0/10; 0/8; 0/9

Centre 11 (Workshop) includes comments in places

Key: M/P=Maori/Pakeha, M=Maori, E=European, CI=Cook Islander, A=Asian

Total children in sample:10

Child	Cognition and language (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1M	1/3, 3/8, 4/8, 3/7	4/8, 1/5, 1/6, 0/4	2/4, 0/4, 0/8, 2/3	2/9, 1/6, 1/7, 1/3
G2E	2/5, 1/8, 3/7, 0/7	2/5, 0/5, 0/2, 0/3	3/7, 1/4, 1/4, 0/7	2/5, 1/5, 0/3, 0/3
G3C	1/6, 2/6, 0/4, 1/5	0/7, 0/2, 1/7, 0/0	0/5, 1/6, 0/0, 0/5	1/6, 0/1, 3/4, 1/4
G4E	1/9, 0/2, 0/11, 0/3	3/10, 1/5, 1/9, 1/6,	0/7, 0/4, 1/10, 0/1	0/7, 0/5, 4/11, 0/8,
G5E	1/3, 2/9, 3/3, 0/4	1/4, 0/10, 0/2, 0/5	2/4, 0/9, 1/1, 0/5	1/4, 0/9, 0/3, 1/11
B1N	0/11, 0/3, 0/0, 0/6	1/7, 1/2, 0/4, 1/8	0/10, 0/0, 0/1, 0/10	1/4, 0/2, 0/3, 0/7
B2E	0/2, 0/4, 0/7, 1/7	3/7, 1/7, 2/7, 6/9	5/10, 0/9, 0/4, 0/5	6/11, 1/6, 1/7, 2/7
B3E	1/6, 0/6, 0/6, 0/1	1/7, 0/5, 0/6, 1/6	0/4, 0/4, 0/2, 0/3	0/5, 0/8, 1/4, 0/4
B4P	1/4, 0/2, 0/6, 0/7	0/3, 0/1, 2/6, 1/9	0/2, 0/2, 0/6, 0/7	0/3, 0/3, 0/6, 1/9
B5E	1/2, 0/2, 0/1, 0/4	2/4, 0/3, 0/3, 0/6	3/4, 0/2, 0/1, 1/4	0/3, 0/3, 0/4, 0/7

Centre 12 (no workshop) Includes comments in places

Key: B=boy, G=girl, E=European, C=Caucasian, M=Maori, N=New Zealander

Total children in sample: 10

Child	Cognition and language (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1M	0/16; 0/12; 0/8; 0/15	1/15; 0/15; 0/12; 0/11	0/15; 0/15; 0/10; 0/12	0/14; 0/13; 0/7; 0/11
G2M	0/16; 0/11; 0/7; 0/9	1/15; 0/12; 0/11; 0/9	1/15; 0/13; 0/9; 0/13	0/14; 0/10; 0/8; 0/9
G3E	0/16; 0/14; 0/12; 0/13	1/15; 0/9; 0/15; 0/11	0/15; 0/11; 0/13; 0/11	0/14; 0/8; 0/13; 0/13
G4M	1/16; 0/9; 1/7; 0/9	0/15; 0/5; 0/14; 0/7	0/15; 0/7; 0/6; 0/12	0/14; 0/7; 0/11; 0/5
G5E	0/16; 0/14; 0/13	0/15; 0/15; 0/15	0/15; 0/13; 0/12	0/14; 0/13; 0/9
B1M	7/16; 0/11; 0/10; 0/11	2/15; 0/14; 1/13; 0/9	0/15; 0/11; 0/9; 0/4	6/14; 0/7; 0/10; 0/9
B2E	0/16; 0/15; 0/7; 0/12	0/15; 1/14; 0/11; 1/13	0/15; 0/11; 0/10; 0/12	0/14; 0/12; 0/8; 0/13
B3M	0/16; 0/9; 0/10	0/15; 1/15; 0/10	0/15; 0/13; 0/12	0/14; 1/13; 0/10
B4M	0/16; 0/7; 0/15; 0/14	0/15; 0/9; 0/13; 0/14	0/15; 0/8; 0/13; 0/7	0/14; 0/8; 0/9; 1/9
B5M	0/16; 0/16; 0/8; 0/13	0/15; 0/15; 1/12; 0/13	0/15; 0/15; 0/10; 0/8	0/14; 0/14; 0/13; 0/13

Centre 13 (No workshop) no comments included

Key: E=European

Total children in sample: 10

Child	Cognition and language (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1	1/16; 0/16; 1/16; 2/16	0/15; 0/15; 1/15; 1/15	1/15; 0/15; 3/15	0/14; 0/14; 0/14; 3/14
G2	1/16; 4/16; 1/16; 2/16	3/15; 2/15; 0/15; 2/15	2/15; 6/15; 5/15; 5/15	0/14; 2/14; 0/14; 0/14
G3	0/16; 0/16; 0/16; 0/16	0/15; 0/15; 0/15; 1/15	2/15; 0/15; 0/15; 1/15	1/14; 1/14; 0/14; 1/14
G4	0/16; 0/16; 0/16; 0/16	1/15; 0/15; 3/15; 0/15	0/15; 0/15; 1/15; 0/15	0/14; 0/14; 0/14; 0/14
G5	0/16; 0/16; 0/16; 0/16	3/15; 3/15; 4/15; 1/15	0/15; 0/15; 0/15; 0/15	1/14; 0/14; 1/14; 1/14
B1,...	8/16; 7/16; 7/16; 7/16	7/15; 4/15; 9/14; 9/15	9/15; 4/15; 10/15; 6/15	9/14; 10/14; 11/14; 9/14
B2	0/16; 0/16; 0/16; 0/16	1/15; 1/15; 0/15; 0/15	1/15; 0/15; 0/15; 2/15	0/14; 0/14; 0/14; 3/14
B3	0/16; 0/16; 0/16; 2/16	0/15; 2/15; 1/15; 2/15	0/15; 1/15; 1/15; 0/15	3/14; 2/14; 1/14; 3/14
B4	0/16; 0/16; 0/16; 0/16	1/15; 1/15; 0/15; 1/15	0/15; 0/15; 0/15; 0/15	0/14; 0/14; 1/14; 0/14
B5	0/16; 0/16; 0/16; 0/16	1/15; 1/15; 0/15; 0/15	0/15; 0/15; 0/15; 0/15	0/14; 0/14; 0/14; 0/14

Centre 14 (Workshop) includes some comments

Total children in sample: 10

Child	Cognition and language (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1	4/12; 2/3; 2/4	3/13; 1/2; 3/5	4/15; 2/4; 2/3	2/3; 1/2; 1/1
G2	0/0; 0/1	1/2; 1/2	1/2; 1/2	1/2; 2/4
G3	1/1; 1/2	1/3; 1/2	2/2; 2/2	0/2; 0/2
GM4	1/2; 0/2	1/2; 1/1	1/2; 0/2	0/1; 0/2
G5	1/2; 0/1	1/2; 0/0	2/3; 0/1	0/1; 0/0
BM1	4/11; 0/0; 0/1	1/15; 0/1; 0/1	0/12; 0/0; 0/0	0/11; 1/2; 0/1
B2	3/4; 1/3	1,1*2; 0/3	2/2; 1/2	1/2; 2/3
B3	1/3; 0/2	0/2; 0/1	1/1; 0/0	0/1; 0/1
B4	0/0; 0/2	0/1; 0/1	1/1; 1/1	0/0; 1/1
BJ5	1/4; 7/9	3/4; 1/2	0/4; 2/3	0/2; 1/1

Centre 15 (No workshop) includes some comments

Key: M=Maori, J=Japanese

Total children in sample: 10

Child	Cognition and language (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1	1*/16; 0/16	0/15; 0/15	0/15; 0/15	0/14; 0/14
G2	4/13; 1/16; 1/8; 0/16	5/7; 2/15; 3/8; 0/15	1*/1; 1/14; 2/3; 0/15	1/5; 1/14; 3/7; 0/14
G3	1/15; 0/16	1*/8; 0/15	0/11; 0/15	0/9; 0/14
G4	6/15; 6/16	5/15; 2/15	4/15; 3/15	1/13; 4/14
G5	4/8; 2/5; 0/16	3/8; 2/5; 0/15	3/7; 1/1; 0/14	2/3; 0/5; 0/14
B1	0/16; 1/16; 0/16; 0/14	0/4; 0/15; 0/15; 0/4	3/6; 0/15; 0/15; 0/6	3/7; 0/14; 0/14; 0/5
B2	0/16; 1/13; 0/16	0/15; 0/6; 1/15	0/15; 0/6; 0/15	0/14; 1/12; 0/14
B3	0/6; 0/16; 0/5; 0/16	0/0; 0/15; 1/2; 0/15	0/4; 0/15; 0/11; 0/15	1/5; 0/14; 1/9; 0/14
B4	1/7; 1/4; 0/15; 0/16	0/5; 2/6; 1/14; 0/15	0/2; 1/5; 0/11; 0/15	2/3; 5/6; 1/14; 1/14
B5	0/16; 0/16; 0/4	0/15; 0/15; 0/2	0/13; 0/15; 2/4	0/14; 0/14; 1/4

Centre 16 (No workshop) Includes some comments
Total children in sample:10

Child	Cognition and language (16)	Approach to learning (15)	Creativity (15)	Social competence (14)
G1E	2/7; 0/3; 1/2; 2/3	0/10; 0/0; 1/2; 0/0	2/10; 0/0; 0/0; 0/0	0/9; 2/3; 0/0; 1/1
G2E	7/15; 1/2; 0/2; 0/0	0/15; 0/2; 0/0; 0/2	6/14; 0/0; 0/1; 0/1	3/14; 1/8; 0/0; 0/1
G3E	2/15; 2/4; 2/4; 1/4	2/15; 2/4; 1/3; 1/2	1/14; 1/1; 0/3; 1/2	6/14; 1/2; 2/6; 0/0
G4E	6, 1*/15; 3/3; 5, 1*/6; 0/2	6, 1*/15; 2/2; 1/1; 0/1	5/14; 0/0; 2/2; 0/0	3, 1*/14; 0/0; 2, 2*/4; 1/2
G5E	1/15; 3/5; 0/2; 2/2	1/15; 1/1; 0/0; 0/1	3/14; 3/3; 0/2; 0/0	2/14; 1/1; 0/1; 0/0
B1E	0/15; 0/0; 0/0; 0/0	0/15; 0/0; 0/1; 0/0	1/14; 0/0; 0/0; 0/0	0/14; 1/3; 0/2; 0/2
B2 I	6, 3*/15; 4/4; 1, 1*/2; 0/0	3/15; 1/1; 1, 1*/3; 3/3	5/15; 0/0; 0/0; 1/2	1/14; 1/1; 0/1; 0/0
B3M	0/15; 0/3; 0/0; 0/1	0/15; 0/4; 0/1; 0/1	0/14; 0/1; 0/1; 0/1	0/14; 0/1; 0/2; 1/2
B4M	0/6; 0/0; 0/2; 0/0	0/4; 1/2; 1/1; 0/0	0/3; 0/0; 0/0; 0/1	1/8; 0/0; 0/0; 0/0
B5E...#	3, 8*/16; 2, *1/3; 3/3; 5*/5	6, 3*/14; 6, 3*/14; ...1, 1*/2; 2/2; 5, 1*/6	4, 5*/14; 1, *1/2; 1/1; 5, 2/7	6, 3*/14; 1/1; 1/1; 1, 3*/4

Centre 17 (Workshop) some comments included

Key: E=European, M=Maori, I=Indian

Total children in sample: 10

Notes:

Total number of children in trial : 167

Total indicated by instrument to be gifted in one or more category (half or more possible indicators on half or more days: 18 (approx 11%)

Total number of Maori children in trial: 38 (approx 22%) Total possibly identified: 2 (approx 5% of Maori)

Total number of Pakeha / European children in trial: 116. Totally possibly identified: 12 (approx 10% of P/E)

Total number other children in trial: 14 Total possibly identified: 3 (approx 21% of other)

Girls in trial: 84; number identified by teachers & instrument: 4; Identified by instrument only: 6; total: 10

Boys in trial: 83; number identified by teachers & instrument: 6; by instrument only: 2; total: 8

Examples of Procedure Used to Determine Giftedness

Number of Indicators Observed Frequently or Almost Always for Each of Two

Children

Child	Language and cognition (16 indicators)	Approach to learning (15 indicators)	Creativity (15 indicators)	Social competence (14 indicators)
B3P	10,1*/16, 11/15, 9/16, 7/16	7,1*/14, 12/14, 8/15, 3/15	4/15, 4/15, 1/15, 0/15	3,2*/13, 3,2*/14, 5/14, 3/14
3GGh	3,11*/16; 4,10*/15; 7,3*/12; 10,4*/16	7,7*/15; 5,8*/14; 5,3*/8; 6,5*/14	5,9*/15; 3,10*/15; 6,3*/10; 10,4*/16	6,3*/14; 3,5*/14; 5,1*/6; 6,5*/14

Note:

B3P is the code used by the centre to identify the target child boy number three, whose ethnicity is Pakeha.

3GGh is the code used by the centre to identify the target child girl number three, whose ethnicity is Ghanaian.

The number appearing before the slash records how many times the indicator was observed “frequently” or “almost always”; the number without the asterisk recording the “frequently” total and the asterisk indicating the number recording the “almost always” total. The number after the slash records how many of the total indicators within that area were ticked by the observer in any of the four rating boxes: “rarely/never”, “occasionally”, “frequently”, and “almost always”.

Of 16 indicators within the Language and Cognition area of the instrument, target child B3P was observed exhibiting 10 of these frequently and 1 of these almost always during the first observation occasion. During the second observation occasion he exhibited 11 of these frequently. During the third observation occasion he exhibited 9 of these frequently, and during the fourth, 7 of these frequently.

Of 15 indicators within the Approach to Learning area of the instrument, target child B3P was observed exhibiting 7 of these frequently and 1 of these almost always during the first observation occasion. During the second observation occasion he exhibited 12 of these frequently. During the third observation occasion he exhibited 8 of these frequently, and during the fourth, 3 of these frequently.

Of 15 indicators within the Creativity area of the instrument, target child B3P was observed exhibiting 4 of these frequently during both the first and second observation occasions. During the third occasion he exhibited 1 of these frequently, and during the fourth occasion he did not exhibit any either frequently or almost always.

Of 14 indicators within the Social Competence area of the instrument, target child B3P was observed exhibiting 13 of these in total, but only 3 of these frequently and 2 of these almost always during the first observation occasion. During the second observation occasion he exhibited all 14, but again only 3 of these frequently and 2 of these almost always. During the third observation occasion he again exhibited all behaviours but only 5 of these frequently. On the fourth occasion he exhibited all behaviours but only 2 of these frequently.

Thus half or more of the possible indicators in the Language and Cognition, and Approach to Learning areas were present frequently or almost always on half or more (at least two) of the observation occasions. On this basis target child B3P was considered to meet the criteria of giftedness within these two areas.

Using the same analysis process, it can be seen that for target child 3GGh on the other hand, half or more of the possible indicators in all four areas were present frequently or almost always on half or more (at least two) of the observation occasions. On this basis target child 3GGh was considered to meet the criteria of giftedness within all four areas.

APPENDIX R : TEACHERS' SUGGESTED CHANGES TO INDICATORS AFTER INSTRUMENT TRIAL

Indicators	Teacher comments
Interpretation of Indicator Wording	
C & L 2. Possesses very good memory, and can quickly and accurately recall a wide range of information, rhymes, stories or songs, heard some time ago.	A lot in one, also could be shorter.
C & L 7. Understands and uses metaphors and analogies.	Hard to understand. (x6)
C & L 11. Pursues wide-ranging or specific interests on own initiative.	How wide?
C & L 14. Is able to use numbers mathematically.	We had different interpretations.
C & L 15. Resists being interrupted.	Hard to observe, depends on what is involved, eg computer
A to L 7. Sees alternatives.	I don't understand (x4); needs more explanation; expand meaning
A to L 14. Expresses doubt in own ability to produce perfect result, resulting in reluctance to attempt new task.	Trying to work out if perfectionism or self-esteem.
A to L 15. Is sceptical; critical; evaluative; or quick to spot inconsistencies.	Might be "skeptical" but none of others; list too long.
Cr 2. Is unusually or highly inventive in fantasy, verbal, artistic, constructive, or musical expression.	Use "unusually" or "highly", not both
Cr 4. Draws a variety of things, not just people, houses, flowers.	Distracting – say "a great variety in artwork"... "incredible detail."
Cr 5. Demonstrates aesthetic appreciation of art or musical activities.	Not sure of the meaning of aesthetic(x3); also hard to see; into barbie girl – is that gifted behaviour?
SC 1. Associates with older children, gifted peers or adults.	Can't see here because all one age group (4-5yr olds)
SC 2. Shows leadership abilities either overtly; by example; or unobtrusively in the background.	Overt leadership, or by example? We tried to work it out.
SC 5. Displays sensitivity/compassion for others.	Needs "more than usual for age" as most children would occasionally or frequently.
SC 13. Exhibits manipulative or disruptive behaviour.	More information needed as most children would at some stage.
SC 14. Is very talkative, and talks above heads of age peers.	Drop "very talkative", redundant; also "and" confuses.

Indicators to Delete

C & L 16. Rapidly acquires other languages.	11 centres expressed doubt over their ability to observe this, and it was also suggested by 1 centre that it doesn't need to be included as it adds no more or less information given the quantity of indicators possible.
Cr 13. Has high interest or ability in cultural activities; eg. poi, sasa, etc.	We don't have this here.

Indicators to Combine

C & L 1. Demonstrates high level of concentration and attention span for age in activity or subject which is of interest to self. Cr 3. Has long attention span for creative activities.	Overlap.
C & L 12. Is able to read a number of words. C & L 13. Is able to write a number of words. C & L 14. Is able to use numbers mathematically.	Combine into one
A to L 1. Has advanced ability as independent problem-solver, using stored knowledge. A to L 2. Applies new learning in different contexts.	Similar.
A to L 4. Is systematic when approaching tasks. A to L 5. Displays high level of planning and/or prediction.	Put together.
A to L 8. Is intensely curious about a variety of things. A to L 9. Asks probing what, how and why questions.	Put together.
Cr 2. Is unusually or highly inventive in fantasy, verbal, artistic, constructive, or musical expression. Cr 5. Demonstrates aesthetic appreciation of art or musical activities.	Could link together.

Indicators to Split

A to L 13. Displays independence; or stubbornness.	Better to have two categories (4); use of "or" rather than "and" difficult to notice, can be both but to different degrees.
SC 11. Displays conflict and frustration with other children, leading to social isolation.	Doesn't always lead to social isolation so two questions in one.
