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Gifted young children: An in-depth investigation

by

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Dedicated to
the cherished memory of
my father, Moses Jonathan Sankar (1929-1980),
whose beliefs, self-reliance, social conscience, and,
most importantly, strong devotion to his family,
forever shaped the personal and professional aspects of my life.

Through his actions and deeds,
a passion for learning,
a compassion for others,
and a quest for knowledge
were seemingly effortlessly instilled,
within his children at early ages.

"If you do not aspire to great things,
you will not even achieve small ones."
(Imré Binah)

Abstract

Early life experiences can powerfully affect attitudes toward learning and later achievements in education. The chances for optimal development of children with special needs, including the gifted and talented, can be enhanced with identification and intervention at an early age. Current research on the young gifted has overlooked the delineation of developmental characteristics and specific educational experiences applicable to this population. In an effort to bridge this gap in the literature, this dissertation describes a "paper" thesis consisting of three separate studies of young gifted children.

The focus of the first paper is a discussion of the results of surveys circulated to preschool/kindergarten teachers and parents of gifted children. It describes the observed characteristics reported by the respondents. Respondents reported ninety-six characteristics from several domains: intellectual, emotional, social, and physical. While parents identified early language/talking and long attention spans, teachers, in addition to acknowledging early abilities, also recognized heterogeneous development, emotional immaturity, difficulty relating to peers, and a propensity to being pushed by parents.

The focus of the second paper is a discussion of the results of the remaining questions investigated in the survey. The concept of early entry, information relevant to raising/teaching this population, and professionals perceived to be able to provide assistance are some of the issues explored.

The third paper comprises a qualitative study of the intellectual, academic, social, and emotional development of, five Albertan gifted kindergarten students utilizing a case study methodology. The purpose of this study was to (a) describe developmental characteristics; and (b) explore the educational needs which apply to this population. Information on family and early history, development, interests and hobbies, was collected through questionnaires and taped interviews with the children, their parents and teachers. The themes generated were related to intellectual, achievement, social, affective, physical, aesthetic and creative domains, and parental and teacher influences.

Overall, the three papers together provide a contribution into understanding the lives of young gifted children through the incorporation of the views of parents and teachers, a "real-time" approach to studying young children, and considerations of educational implications. The three papers build on each other to present a rich portrait of the home and school lives of young gifted children.

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GIFTED YOUNG CHILDREN: AN IN-DEPTH INVESTIGATION

Chapter I - Introduction and Literature Review

The field of school psychology has seen considerable growth of research, practice, and training in the area of early childhood services. There is no denying the need for identification of, and intervention with, those with special needs at an early age; this is critical to improving the chances for optimal development (Guralnick & Bennett, 1987). This statement is true for all exceptionalities, including gifts and talents. Unfortunately, unlike the other areas of special education, gifted education has not been perceived as an area of concern because there exists a belief that the gifted are able to overcome their problems independently. However, the evidence is to the contrary (Clark, 1992; Lewis & Louis, 1991; Webb, Meckstroth, & Tolan, 1982).

Before the twentieth century, the gifted were associated with "insanity, frailty, and other undesirable compensatory weaknesses" (Nisbet, 1895). After Terman's (1925) study, finding the gifted to be generally superior in all areas of development, professionals neglected social and emotional vulnerabilities (Kerr, 1991), often believing that the smart ones can work it out for themselves (Delisle, 1992). Children categorized within this exceptionality, however, have unique needs, and ignoring one or more developmental aspects can lead to deleterious effects. The developmental course of gifts must be understood in order for potential gifts to be actualized in actual achievements (Horowitz & O'Brien, 1985). This requires attention to individuality and diversity.

Review of the Literature

Definitions of Giftedness and Preschooler

There are many competing conceptions of giftedness (Sternberg & Davidson, 1986). Definitions of giftedness have evolved from a single intellectual dimension (Terman, 1925) to the recognition of multiple abilities and intelligences (Gardner, 1983; Guilford, 1956; Marland, 1972; Renzulli, 1978; Sternberg, 1981). Morelock and Feldman (1992) present the following definition of gifted children in their chapter on The Assessment of Giftedness in Preschool Children:

> Gifted children are those showing sustained evidence of advanced capability relative to their peers in general academic skills and/or in more specific domains (music, art, science, etc.) to the extent that they need differentiated educational programming. (p. 302)

Research with this population is specifying capabilities that may be the building blocks of giftedness in differentiated areas such as art, music, and science (Goldsmith & Feldman, 1985; Wexler-Sherman, Gardner, & Feldman, 1988).

Developmental unevenness, or asynchrony, has been noted by a number of researchers (Delisle, 1990; Hollingworth, 1942; Webb et al., 1982). "The dissonance between the 10-year-old brain, the 7-year-old body, and the 6-year old social response system...is easily understood by children and adults alike and fraught with psychological pitfalls" (Genshaft, Bireley, & Hollinger, 1995, p. x).

Giftedness exists in many types, each along a continuum. Just as developmental disabilities categorize severity using an IQ measure and standard deviations from the mean, developmentally advanced children are categorized on similar gradations on the

other side of the scale. Table 1-1 (adapted from Silverman, 1993a) illustrates the categories of gifted, along with their respective ranges, deviations from the mean, and the approximate number of individuals within each, according to a normal distribution.

The age designation for the term "young gifted" has been inconsistently defined in the literature. The terms "young" and "preschooler" have been used to refer to a variety of age spans (Moss, 1990). Refer to Figure 3-1 (Chapter III, p. 80) which summarizes numerous studies involving "gifted preschoolers" or "gifted young children." Collectively, the studies span birth to over twelve years. The mean age was 5.5 years while the mode was 4 years. Caution is warranted in the interpretation of studies on the preschool gifted; information gleaned from a resource requires careful consideration of

Table 1-1

Categories of giftedness & approximate occurrence in population

IQ Score	Gifted category	Standard Deviation	Approximate Number
115-129	Mildly	+1-2	14 out of 100
130-144	Moderately	+2-3	2 out of 100
145-159	Highly	+3-4	1 out of 1 000
160+	Extraordinarily	+4	1 out of 10 000

adapted from Silverman (1993a)

the definition of giftedness utilized by the author and the age designation given to "young." This study designates a preschooler as between the ages of 3 1/2 and 6 years.

Child Prodigies

A prodigy is a highly gifted or academically talented child. Feldman (1986) defined the term as describing a child, younger than age 10, who performs at an adult professional level in some cognitively demanding field. These are children who exhibit exceptional abilities very early, with an adult-like mastery. The literature on prodigies includes fewer than twenty cases, many of which are not extensively documented (Baumgarten, 1930; Feldman, 1986, 1991; Morelock & Feldman, 1993; Radford, 1990). The largest proportion of prodigies has been in chess and music performance, and infrequently, mathematical prodigiousness (Buhler, 1981). Collectively, these studies challenge the notion of giftedness as "solely the expression of a generalized and pervasive intellectual endowment" (Morelock & Feldman, 1993, p. 163); rather, they suggest that giftedness is domain-specific.

Characteristics of Gifted Preschoolers

All children are born with temperaments, dispositions, and inclinations toward areas of interest early in life. However, gifted children are generally stereotyped as "almost invariably more popular and more socially accepted than children at other levels of intellectual ability" (Gallagher, 1966, p. 42) on the one hand, and "emotionally tense, high-strung, uncoordinated, and bookish" on the other (Tuttle, Becker, & Sousa, 1988, p. 14). Fortunately, these stereotypes have not yet been applied to gifted preschoolers.

However, they have been viewed, and described by their parents, as divergent thinkers, having high verbal ability (including large vocabularies) at an early age, highly focused on their interests, having an unusual sense of humor, being curious, early readers, having a wide range of interests, yet a demonstrated ability in a single area, persistent, having an unusual ability to make abstract connections in learning, and perceptive (Louis & Lewis,1992; Roedell, 1989; Tuttle et al., 1988; Webb et al., 1982).

Characterizations of the preschool gifted as seen by their teachers have not been an area of focus in the literature. Moreover, teacher judgment accuracy in identification of the gifted has been observed to decrease with younger ages of children (Fatouros, 1986). In one study (Rohrer, 1995), the conception of giftedness held by four primary (two kindergarten and two first grade) teachers was found to be similar. Their two-dimensional conception was comprised of classroom performance (extremely unusual intellectual and/or academic ability) and affective style (intensity, high visibility, and/or uniqueness).

Cognitive Development Specific to Gifted Preschoolers

Cognition signifies the capacity for knowing or mental processing. Cognition can involve physical, social, logical, and representational knowledge. Physical knowledge develops via the senses and learning occurs through experimentation with objects. Social knowledge involves learning responsibilities to family, community, and self. Logical knowledge involves classification (grouping), number concepts, seriation (order), spatial knowledge (position), and time and temporal relationships (representational). Cognition

is not a precise term; it includes thinking, learning, memory, cognitive styles, problem solving, cognitive styles, and problem solving (Shore, 1986, p. 24).

There are a number of developmental differences from the general population which have been detected by parents of gifted children, including greater awareness and intensity from birth, and early language ability (Maxwell, 1995). Kitano's (1985) study of gifted preschoolers found a number of cognitive-related behaviors demonstrated, including high levels of accumulated knowledge and thinking abilities, spontaneous incorporation of academic activities in free play, and prelogical thinking. In addition, an avoidance of, and discomfort with, ambiguity was observed.

Cognitive style is an individual characteristic referring to perceptual orientations to physical and social environments. There are two cognitive styles documented in research: 1) process-oriented (i.e., solutions predominantly adopt physical/graphic/verbal explanations, or making consistent types of responses, and errors; and 2) content-oriented (i.e., consistently preferring to attend to certain stimuli and specific domains) (Haensly, 1999). The two cognitive dimensions that have been most often studied are field-dependence/independence (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962), and impulsivity/reflectivity (Kagan, Rossman, Day, Albert, & Phillips, 1964). These two styles are examined along two dimensions – field-dependent/independent, and impulsivity/reflectivity.

There is an expanding body of research indicating that field-dependent and field-independent individuals "differ with respect to fundamental cognitive components that can lead to differentiated performance on certain tasks" (Ennis & Lazarus, 1990, p. 33). The early emergence of the development of distinctive cognitive style characteristics has

been observed in young children. When compared to their chronological age peers, preschool gifted children were more likely to be field-independent, especially girls, and reflective, especially. In addition, as young as 29 months, it has been inferred that greater time spent reflecting and information-processing before responding, resulted in fewer mistakes (Steele, 1990).

Social and Emotional Development Specific to Gifted Preschoolers

Hollingworth (1926, 1942) expressed initial concern for the gifted within the social and emotion dimension. This dimension examines self-concept, motivation, adaptive behavior (coping style), social skills (interaction patterns), maturity level, and aspiration level.

As numerous writers have stated, the nonintellectual characteristics of the gifted child have received less attention than characteristics of an academic and intellectual nature (Clark, 1992; Gottfried, Gottfried, Bathurst, & Guerin, 1994; Webb et al., 1982). There have been few documented studies focusing on the social and emotional development of gifted children in the early years (Austin & Draper, 1981; Horowitz, 1987; Janos & Robinson, 1985; Lehman & Erdwins, 1981; Roedell, Jackson, & Robinson, 1980), nonetheless, children typically can sense, by age three or four, that they are different (Webb in Kirschenbaum, 1989).

The beginning of preschool or kindergarten can be a critical time for gifted preschoolers. They often cannot find peers at their level with similar interests, which can result in frustration and boredom (Hollingworth, 1942; Webb et al., 1982). They may develop fear or anxiety about going to school to the degree that they may choose to hide

their gifts. In general, they often have difficulty understanding "why other children cannot keep up with them and why teachers fail to stimulate them to the degree that they need" (Kerr, 1991, p. 124).

A need for a sense of belonging is inherent in all children (Whitmore, 1986). Intellectually gifted children need, but do not necessarily have, several different kinds of peer groups that are more in line with their differing developmental peaks and valleys in the physical, social and intellectual domains (Webb et al., 1982, p.15). Intellectual exceptionality of gifted children, according to some researchers, does not harm their functioning in other realms of development. Three groups have been noted as exceptions: children whose IQ exceeds 160, gifted underachievers, and gifted girls (Gottfried et al., 1994). An additional exception is gifted young children, because, intellectually, they "are particularly vulnerable to feelings of social isolation and/or discomfort and conflict" (Roedell, 1986, p. 26) and "alienation and rejection" (Whitmore, 1986, p. 129). When solving hypothetical social conflicts, advanced verbal social-cognitive abilities of gifted preschoolers have been reported, yet, even when the behavioral output (i.e., an ability to share) could not be demonstrated (Roedell, 1989; Gottfried et al., 1994). Their advanced vocabulary and unusual fluency can actually make it difficult for them to relate to others. In contrast, Lehman and Erdwins (1981) found that young gifted children feel more comfortable with themselves and report more positive feelings regarding themselves and others than their peers.

Researchers disagree about the affective development of gifted children in general. Gifted individuals have been reported to be emotionally intense, and critical of themselves and others. They should be helped to recognize their feelings, label their

emotions, and appropriately express them (Webb et al., 1982). Schmitz and Galbraith (1985) discuss how bright children view themselves, their world, and their characteristics (such as perfectionism and sensitivity) that "set them apart from peers and family" (p. 7). They later continue to discuss that "how gifted kids feel on an emotional level doesn't always match logically with their intellectual capabilities" (p. 22) and their needs will depend on maturity level, type of intelligence, environment, and individual personality characteristics (p. 28). As a result, gifted individuals may be frustrated, withdraw, or act out. Similar research with gifted preschoolers could not be located.

Many studies on the school-age and adolescent gifted have concluded that their emotional adjustment and social competencies are equal to or exceed that of their nongifted peers (Bartell & Reynolds, 1986; Brody & Benbow, 1986; Lehman & Erdwins, 1981; Schneider, Clegg, Byrne, Ledingham, & Crombie, 1989; Tomlinson-Keasey, 1990). More than four decades ago, Hollingworth (1942) found that gifted children have fewer and older friends, O'Shea (1960) found that they befriend those of similar mental age, and Gottfried et al. (1994) observed that gifted children often are younger than their classmates and may have different sets of peers depending on the activity they are pursuing. Again, similar published research with gifted preschoolers could not be located.

Perfectionism can be seen positively as the ability to conceptualize and create higher order productions (Silverman, 1993b) and negatively as an idea-reality gap (Eliot, 1958, cited from Dorry, 1994). Perfectionism has been identified as being quite prevalent among gifted people of all ages (Hollingworth, 1926; Parke, 1989; Roedell, 1986; Whitmore, 1980). Kerr (1991) defines it as "compulsiveness with regard to work habits,

overconcern for details, unrealistically high standards for self and others, indiscriminate acquiescence to external evaluation, and rigid routines"(p. 141). Kerr continues to discuss possible causes, such as inherent tendencies (Adderholt-Elliott, 1989), unawareness of giftedness (Webb et al., 1982), and extrinsic motivation. Abroms (1983) noted that "young gifted children often set high, perfectionistic standards for themselves . . . that may lead to low self-esteem" (p. 125). Specific details of the incidence and applicability of perfectionism to gifted young children is lacking.

The social and emotional development of gifted preschoolers cannot automatically be inferred from research conducted on older gifted children or mental age-mates. Further investigations, focusing specifically on the preschool gifted, are required.

Creativity

The emergence of creativity in early childhood has received increased research attention in recent years. Amabile's (1989) creativity criteria of novelty ("within the child's repertoire, it must be novel in some significant way," p. 25) and appropriateness ("pleasing or communicative or meaningful – at least to the child," p. 25) seem particularly applicable to the preschool population.

According to Davis (1989), creativity has complex processes and forms (spontaneous or forced, rational and logical or irrational, deliberate or by chance). Davis (1992) continues to identify 12 characteristic categories of creative individuals; awareness of creativity, original, independent, risk taking, energetic, curious, sense of humor, attracted to complexity, artistic, open-minded, needs time alone, and intuitive. Because a

preschool population was not utilized in delineating these categories, their applicability to this population needs to be investigated.

Research examining the relationship of creativity to intelligence has not been conclusive (Fox, 1981; Tannenbaum, 1983). A recent study (Fuchs-Beauchamp, Karnes, & Johnson, 1993) examining the creativity-intelligence relationship in preschoolers agreed with previous studies conducted with older children. The relationship appeared to be significant when IQs were less than 120, but not related at higher levels. In general, small correlations (< 0.25) have been reported with preschoolers (Andrews, 1930; Erickson, 1977; Williams & Fleming, 1969). Young children were the subjects of a number of studies conducted by Moran and his colleagues (Moran, Milgram, Sawyers, & Fu, 1983a; 1983b; Moran, Sawyers, Fu, & Milgram, 1984); these studies revealed correlation values ranging from insignificant to significant r values of 0.33 (compared to originality, imagination, and fluency components of divergent thinking). Further exploration into creativity indicativeness of preschool giftedness is warranted.

Creativity is not strictly cognition; emotions and motivation are integral components (Clark, 1992). Amabile (1989) found extrinsic rewards to motivate less creative children to improve on individual creative tasks, although no change in general aptitude for later creative work followed, while creative children were intrinsically motivated. The "impelling motivation behind children's creativity is their desire to discover the truth," according to Torrance, Weiner, Presbury, and Henderson (1987, p.37). These studies appear to support an underlying self-motivating desire to express creativity, rather than creativity being indicative of giftedness.

Issues in Early Giftedness Education

Is any time too early for the identification of giftedness?

Even though there is opposition to the identification of gifted children at any age, there are researchers who ascertain that developmental milestones (a baby holding its head up, a toddler who speaks or walks) demonstrated earlier than same-aged peers is enough to identify gifts and talents. Some researchers believe that babies, as early as eight months, can be suspected to be gifted based on behavioral clues, yet testing should wait until age two-and-a-half (Anderson, 1986 citing Webb and VanTassel-Baska). Some researchers have devised guides to compare early childhood behaviours (White, 1993) and identify giftedness based on a child's exceeding established norms.

The supporters of early identification purport that giftedness can be lost by the lack of stimulation from the start (Anderson, 1986; Bloom, 1964). Piaget (1952), Montessori (1967), White (1993), and Doman (1971) have all supported early stimulation before the age of three years. Yet, "[a]ttempts to teach infants and toddlers to read or cipher or think by means of flash cards and school-like tasks appear poorly attuned to the developmental and conceptual tasks of these eras and may well lead to distorted parent-child relationships" (Robinson, 1987, p. 164). Parents of a gifted child play the most important and earliest role (Anderson, 1986), and if experiences for optimal development are not provided early in life, children may be stunted and never fully actualize their potential (Bloom, 1964).

Identification and Assessment Procedures.

Although some researchers and clinicians recommend that assessment for giftedness should not occur until basic skills have been mastered (typically grade four), Roedell (1989) emphasizes the desperate need for early identification. Bloom (1985) and Feldman and Goldsmith (1986) suggest that, when the gifts of young children are discovered and nurtured through appropriate environmental support, the probability of future extraordinary achievement in their field of talent is greater than that of their peers.

For early identification, Torrance and Caropreso (1991) suggest that a multifaceted, flexible assessment process should be adopted to accommodate for uneven development within the social, affective, cognitive, and personal domains. The process should comprehensively explore areas of weakness and strengths. Non-psychometric data, such as parental input into the identification process, is vital, yet often ignored. Parents "recognize their child's potential prior to the time that educators test for giftedness status, which is typically in the early elementary years" (Gottfried et al., 1994, p. 29). Another study supports that the parents of kindergarten children correctly identify those who are gifted better than teachers (Ciha, Harris, Hoffman, & Potter, 1974).

The assessment of intellectual giftedness has most extensively been made through intelligence (IQ) testing. Typically, giftedness is equated with scoring two standard deviations above the mean (Pendarvis, Howley, & Howley, 1990). There are some published standardized tests which have been utilized (Bayley Infant Behavior Record, Bayley, 1969; Kaufman Assessment Battery for Children [K-ABC], Kaufman & Kaufman, 1983; McCarthy Scales of Children's Abilities, McCarthy, 1972; Stanford-Binet IV, Thorndike, Hagen, & Sattler, 1986; Wechsler Preschool and Primary Scale of

Intelligence - Revised [WPPSI-R], Wechsler, 1989), although not exclusively, for the identification of the preschool gifted.

There are a number of tests which examine preschool levels of emotional and social functioning, although these tests have more often been equated with the identification of problem areas (such as disturbed or difficult behaviors, emotional maladjustment), not giftedness. Social competencies can be examined by direct observation, through parent report, and by parents' and teachers' specific comments on the Child Behavior Checklist (Achenbach, 1991a, 1991b). Formal tests of social functioning include the Preschool Interpersonal Problem-Solving Test (Shure & Spivak, 1974), which presents interpersonal conflict situations to which the child is required to produce solutions, and the Vineland Adaptive Behavior Scales (Sparrow, Balla, & Cicchetti, 1984), which examine social functioning and adaptability.

There are a number of problems in assessing young children. Unreliable results may be attained due to their short attention span, transient responsiveness, distractibility, and low verbal skills (Bagnato & Neisworth, 1981; Lidz, 1983). Preschoolers may not demonstrate their entire repertoire of skills in one testing session, perhaps due to an unfamiliar adult in a new surrounding (Roedell, 1989). Sosniak's (1985, 1990) exploration into the early lives of exceptional musicians revealed that many did not show unique promise at the outset of their training, rather, the exceptional talent developed slowly, sometimes over as much as seventeen years. Similar findings were found with people outstanding in sports, mathematics, visual arts, and science (Gustin, 1985; Kalinowski, 1985; Monsaas, 1985; Sloane & Sosniak, 1985). Remarkable signs of early

promise may be absent in individuals reaching peak successes in their domains later in life. However, there are preschoolers who do exhibit exceptional abilities.

The investigation of social and emotional areas for any age group has some inherent methodological problems. These problems are compounded even further by the lack of research on preschoolers. In addition, there is a lack of widely utilized standardized measurements, a lack of equivalent comparison or control groups, and there may be a bias in the identification or selection of research subjects and a propensity to overlook potentially important moderating variables (Gottfried et al., 1994).

Roedell (1989) argues for a developmental perspective to the study of ability; the different manifestations of emerging abilities require "comprehensive" study (p. 13). Many feel a need for early assessment procedures to predict later success, thereby viewing giftedness as a label for the possibility of high levels of achievement in adulthood. Roedell (1989) does not believe this to be the case; children identified in their early years may not require continued programming in later years nor should children identified later be deprived of programming (p. 17). Early identification for the prediction of future stars and leaders is undesirable; it is the immediate needs of the child that should be of concern, not futuristic ones (Roedell, 1986). The importance of early identification and programming for young gifted children is supported by Feldman (1980), who stated that "intellectual and social development do not follow universally determined paths throughout an individual's lifespan" (p. 18-19).

In general, according to Olszewski-Kubilius and Subitnik (1991), norm-referenced tests of achievement gains administered on intellectually and academically gifted children can lead to serious distortions for three reasons. First, low test ceilings

leave little room for academic growth. Second, discrimination at the upper ranges of tests is not as clear as within the average range. Lastly, chance factors, which may be present during pretest, are unlikely to occur on the posttest (regression toward the mean).

Programming Interventions for Gifted Preschoolers.

Early intervention in gifted education has been recognized by a number of researchers. According to Clark (1988), "the more planned educational experiences a child over three has, the better that child does in intellectual, language, personal and social development....Remember that the most important thing in early learning is not the information taught, but the process learned and the attitudes developed" (p. 118). Programming of gifted youngsters should accommodate for children: (1) whose academic and intellectual skills are developing faster than average; and (2) who have mastered much of the curriculum for early education (Roedell, 1989). "Appropriate educational experience" should match "the child's existing level of competence"(Roedell, 1989. p. 17). Gifted children should be treated as gifted when they present, regardless of whether they will be gifted later. Intervention should foster the development of individuality, not conformity, and encourage the development of exceptional potential (Whitmore, 1986). Environments should be "psychologically safe"(p. 3) with the encouragement of exploration; they should not be judgmental (Dobbin & Yewchuk, 1985).

However, there are few intervention options for young gifted children; gifted programs for kindergarten are rare, and for preschool, even rarer (Roedell, 1989; Stile, Kitano, Kelley, & Lecrone, 1993). Therefore, what often results is a child who is "out-of-step with a lockstep curriculum" (Webb in Kirschenbaum, 1989). Ideally, programs

should have the flexibility to accommodate for differing ability levels, and the opportunity for all children to interact with intellectual peers.

Appropriate placement for any child, most especially those with special needs, should be dictated by the characteristics of the child, parental expectations, and teacher expertise. Financial constraints and geographical limitations may also be factors in placement considerations. The programming options provided below discuss a number of possibilities that have received consideration by the parents of young gifted children and concerned educators.

Early entry. Early entrance into kindergarten is an area that has caused some debate. Kindergarten programming in Alberta exists for those who, by March 1st, are 5 years of age. It is possible for a child to have 2 years of kindergarten. To date, there are no early entry programs in place, but a number of appeals are made each year. Chronological age is often used as the developmental index; however, its utility is questioned, particularly for gifted youngsters (Gottfried et al., 1994; Robinson & Weimer, 1991) because mental age may range from three to eight (Smutny, Veenker, & Veenker, 1989). In cases where physical and social development lag behind intellect, programming often addresses weaknesses rather than strengths. What educators fail to acknowledge is that "socialization involves a child's feeling that she or he is accepted by others;" this often results in denial or hiding of abilities in order to "fit in better with the other children" (Roedell, 1989, p. 15).

Brody and Benbow (1987), McCluskey and Walker (1986), and Tomlinson-Keasey (1990) discuss why concerns over social and emotional development prevent

parents and teachers from accelerating gifted children. In the words of Roedell, Jackson, and Robinson (1980),

> For intellectually advanced preschool-aged children, early school entrance provides an excellent educational option. By entering school early, such children can be provided with an effective match of learning materials to readiness level, and, at the same time, experience a form of acceleration that is least disruptive to the continuity of education. It is probably far better for some children to enter school early and progress along with classmates than to enter school at a later age and experience boredom with an unchallenging curriculum or be skipped one or more grades during the course of education. (p. 86)

Charter Schools. Charter schools are public schools receiving government funding from Alberta Education, as with any other public school, yet they are often parent-run, chartered to provide programming for students with unique needs. Initiators of these schools and parents with children in them often believe that, mainstream school boards have very little to offer their children. Although Charter schools are operated via an independent governing body outside of mainstream school boards, provincial legislation dictates that they be supervised by a host board, or apply directly to the provincial education department to have approval of their charter. Charter schools maintain autonomy over class sizes and staffing.

In Alberta, there are two charter schools dealing with the education of the gifted, one of which admits gifted kindergarten-age children. The academic needs of gifted children are met in congregated settings that also provide social and emotional support.

The application process is intended to identify students within the school district who would benefit from the program offered; students' outside the district are admitted only if there are spaces and resources available. The criteria assessed for admission are intelligence, performance (creativity and task commitment), and nominations by schools and parents. The attainment of appropriate instructional levels and instructional groups are achieved via pre-testing of specific skills or information. Challenge opportunities are achieved through individualized contracts, curriculum compacting, longer blocks of time to allow for uninterrupted study, major projects, and pre- and post-testing for mastery.

Edmonton Public Schools. There are over 250 public schools in Edmonton teaching the provincial curriculum. "Alternative programs in selected schools let students focus on areas like the arts, athletics, and technology while still following the provincial curriculum. They can also study in a variety of settings, including an all-girls Junior High environment or in traditional classrooms. Starting in kindergarten or Grade 1, students can choose from French immersion and other language programs in German, Ukrainian, Cree, Mandarin, Arabic, and Hebrew" (Edmonton Public School Board, 1998). Gifted children may be enrolled in these heterogeneous settings.

Special Needs Programs with Edmonton Public Schools also exist, ranging from full integration, to partial integration, to district centres, to schools, which serve only students with special needs. The following programs only serve as a partial list of those offered for students within the district: 1) Adaptation, for students with severe academic functioning delays; 2) Alberta School for the Deaf – for students requiring programming that includes American Sign Language and signed English; 3) Autistic; 4) Behavioural

Disorders; 5) Dependent Handicapped; 6) English as a Second Language; 7) Hearing Impaired; 8) Heritage – for students with speech and language disorders; 9) Home Bound – for students unavailable to attend school because of medical needs; 10) Learning Difficulties – for students with average or above average intellectual ability and learning disabilities demonstrated by significant delays in academic areas; 11) Opportunity – for students with mild to moderate delays in academic areas; 12) Transition – for junior and senior high students not experiencing success in traditional school environments; and 12) Trainable Handicapped – for students who are moderately mentally handicapped with concomitant delays in all developmental areas. In addition, Edmonton Public Schools offers two programs specifically designed for young children: 1) Early Education – for children between the ages of 2 ½ and 5 ½ years with severe developmental delays; and 2) Early Intervention – training and support for parents of handicapped infants between 0 and 2 ½ years.

For students who are gifted and talented, Academic Challenge programs (ACP) for elementary (4 sites) and junior high (5 sites) students who demonstrate high intellectual ability, academic achievement, and the need for a more challenging program are available beginning in grade one. Based on observed learning needs, children can enter, or leave, ACP at any point in their educational careers. Learning pace is accelerated according to demonstrated proficiency, and content or skills are extended as required using approaches including small group instruction, options, independent study and cross-settings. To date, there has not been a published needs assessment of this program.

Parent organizations. Support groups for parents with children having exceptionalities develop as a result of a lack of services in, or support from, school systems. In Alberta, the umbrella support for parents is the Alberta Associations for Bright Children (AABC). In addition to the provincial executive, AABC chapters are active in Edmonton and Calgary, and network groups operate in St. Albert and Drumheller. Publishing a regular newsletter, establishing parent support groups, participating with educators and governmental bodies in lectures, conferences, policy-making and research, and maintaining a resource centre, are the activities used to fulfill the goal of AABC: "to provide information, support and advocacy in order to advance the education, social development, legal rights and well-being of bright/gifted and talented children" (The Alberta Associations for Bright Children, 1996, p. 3).

Parents of the Preschool Gifted

Not only has there been an increased intensity and quality of parental involvement in early childhood services in recent years, but also the role of families in these services has had a larger emphasis (Paget, 1992). Between birth and the age of 5 years, families have the primary responsibility in the development of their children's competencies. There is an important contribution made by parents to their child's giftedness; however there are special needs and problems within the families of gifted children. In addition, parents are often accused of putting pressure on their children (Rimm, 1995).

Parents are more likely to accurately recognize their children's giftedness than are school personnel, including teachers (Delisle, 1992; Louis & Lewis, 1992; Meckstroth, 1991), and this recognition may occur as early as age six (Gogel, McCumsey, & Hewett,

1985). However, Johnson and Lewman (1990) reported gender-stereotypic patterns of parents' perceptions of their children's (3- and 4- year-olds) abilities. Leisure activities were more frequently dance and fine art/motor skills for girls and convergent games and building for boys. Vocabulary was noted as outstanding for girls, while the boys' outstanding abilities were in abstraction, curiosity, and problem solving.

Parental nominations for preschool giftedness screening have been suggested as a useful strategy for involving parents in the assessment process (Davis & Rimm, 1989; Feldhusen & Baska, 1989). Information about a child's self-concept, interests, motivation, and creativity can be obtained from parents through rating scales, questionnaires, and open-ended nomination forms. However, school systems' lack of receptivity of parents' efforts to serve their children has often been identified (Shore, Cornell, Robinson, & Ward, 1991).

Teachers of the Preschool Gifted

The preschool gifted require teachers who provide learning opportunities, intellectual, social and personal, which facilitate positive school life adaptations; yet, working with these students often involves dealing with their boredom with repetitive, unchallenging tasks and frustrations with their inability to accomplish tasks due to growth or developmental discrepancies.

Identification of the gifted by teachers has been reportedly more difficult as the child's chronological age decreases (Fatouros, 1986). Jacobs' (1971) study of kindergarten children found teachers to recognize only 4.3% of their gifted students.

Preschool program goals for the gifted have included thinking skills, intellectual curiosity and persistence in problem solving, creative expression, advanced work tailored to individual competencies, social perceptiveness, and large and small muscle coordination and dexterity (Roedell & Robinson, 1977, p. 9). Strategies for differentiating programming for the very young gifted student include teacher questioning, specific projects, curriculum units, and independent study (Karnes & Johnson, 1991, p. 187-9).

Teachers can play an important role in the prevention of bad study habits, social behavior and self-esteem problems, disinterest, underachievement, and boredom in school by this group. However, as suggested by Roedell (1989), early childhood educators are often unfamiliar with indicators of exceptional potential and educators of older gifted children are unfamiliar with developmentally appropriate practices.

Summary of Literature Review

In this dissertation, giftedness is defined as intellectual ability at or exceeding an IQ of 130 and preschool has been limited to 3 ½ to 6 years. Cognitively, young gifted children have been observed to have high levels of knowledge and thinking abilities. However, the non–intellectual domains have received less attention. These children, often sensing they are different, do not tend to fit among age–peers, and social isolation and conflict can result. Among young children, creativity does not significantly correlate with high IQ. Identification practices should be flexible and multifaceted; educational planning should be based on assessment data. Some caution is warranted in applying the findings of research conducted on older gifted children to the population of preschool

gifted children. Limited information on teacher characterizations of this population exists. Research studies discussing parents and teachers in relation to the gifted preschool children have not been documented in the literature. Parental information on their children, although useful, has been underutilized in the assessment process. Educational settings are often reported as boring, repetitive, and unchallenging for young gifted children.

Brief Summary of the Papers

Paper 1.

Paper 1 is the outcome of an exploratory survey (see Appendix A) examining issues and concerns of parents of gifted young children and preschool/kindergarten teachers surrounding early identification and programming for giftedness. It was designed to examine the necessity of, and attitudes toward, various issues associated with the identification of giftedness in this population, including demonstrated characteristics, the concept of early school entry and information deemed relevant by the respondents to the raising/teaching of this population. The survey was differentiated into two forms, one for parents and another for teachers.

In Paper 1, the observed characteristics reported by parents and teachers were presented. More specifically, the research question addressed was: how similar are characteristics reported by parents and teachers of the preschool gifted?

This paper focused on the results accumulated from the survey question, what were some of the characteristics that led you to observe that your preschool child/student

was gifted? Responses to this question were then tallied according to the following categories: early life, motivation, creativity, ability, and social and emotional functioning.

Ninety-six (96) characteristics were reported by both groups of respondents. Parents recognized unusually long attention spans and extended on-task time more often than teachers did. Poor social skills (difficulty relating to peers, shy and withdrawn) were reported more often by the teacher participants. Teachers also reported that gifted preschoolers can be subjected to being pushed by parents, which can lead to youngsters who "can't play," "aren't creative," "don't solve their own problems," and are "forced to grow up too quickly."

An earlier version of the first paper (see Chapter II) was presented at The 11th World Conference on Gifted and Talented Children in Hong Kong, and published in its proceedings (Sankar-DeLeeuw, 1995, 1997a).

Paper 2.

In Paper 2, the questions investigated in the Giftedness in Young Children Survey (see Appendix A), excluding the characteristics of the preschool gifted (addressed in Paper 1), are discussed. Identification, the concept of early entry, differentiated curriculum, information relevant to raising/teaching this population, and professionals perceived to be able to provide assistance, are some of the issues that are explored. More specifically, this paper examines whether giftedness can and should be identified between the ages of 3 1/2 and 6 years, what information would be beneficial to raise/teach a gifted child, whether the preschool gifted require a differentiated curriculum, whether the preschool gifted should be admitted to kindergarten at a younger age than specified by the

Early Childhood Services (ECS) entry age criteria, and what characteristics (physical, intellectual, social/emotional) are important in determining early entrance of a child.

Ninety-one percent (91%) of parents believed that giftedness can be identified at early ages, in contrast to 78% of the teachers. Seventy-four percent (74%) of parent respondents believed that the preschool gifted should be identified, whereas 50% percent of the teacher respondent group believed it should be done.

The additional information parents found beneficial to raising a gifted child included resources for additional challenge, information on disciplinary techniques, educational options and parenting guidelines.

Teacher respondents varied in the information they reported beneficial from an educator's standpoint. The information requested was how to balance different rates of development to prevent frustration, and advocacy for and education on supportive programming.

Professionals acknowledged by parents to be of service were psychologists, school staff, parent support groups, medical staff, media consultants and radio talk shows, and political lobbyists. Professionals noted by teacher respondents were school staff, psychologists, child development specialists, speech clinicians, sociologists, parents, guest speakers/workshops, and the Association for Bright Children.

Seventy-six percent (76%) of the parents believed that the preschool gifted require a different curriculum to meet their needs, while 32% of the teachers also agreed. Thirty-seven percent (37%) of the parents, and only 7% of teachers, agreed with early entrance into kindergarten. The greatest concern was voiced about the social maturity of early

entrants by both parent and teacher respondent groups, while physical development was of the least concern to both groups.

In the second paper (see Chapter III), issues (i.e., identification, early admission, and programming) pertaining to this population, that were investigated by the surveys, were discussed. An earlier version was published by Roeper Review in a special issue entitled, "Gifted Young Children" (Sankar-DeLeeuw, 1999).

Paper 3.

A qualitative case study research approach to studying five gifted kindergarten students was utilized in the third paper. Very few studies of this population have been written when the children are actually experiencing events, such as school programs, parenting, social relationships and other influences that contribute to their overall development. A preliminary study (Sankar-DeLeeuw, 1997b; see Appendix B) was initiated to develop a parent questionnaire and a participant interview protocol which were revised for use in Paper 3.

The purpose of this study was to: (a) delineate developmental characteristics which apply to this population; and (b) explore their educational needs. These two pieces of information provide the foundation for the provision of developmentally appropriate curricula.

The initial criteria for identifying participants were: a) an intelligence quotient (IQ) score at or greater than 130 on the Stanford-Binet Intelligence Scale IV (Thorndike et al., 1986); and b) an expressive language score equal to or greater than the 75th percentile on the Expressive One-Word Picture Vocabulary Test - Revised (Gardner,

1990). Purposeful sampling, "the selection of particular cases for intensive observation and interviewing according to criteria established by the investigator" (Lundsteen, 1991, p. 124), was then utilized. Four participants were selected to represent distinctiveness of characteristics and a variety of educational settings. A fifth participant, not meeting the cognitive criterion, was also selected to examine incongruity between this child's assessment results, and both his parents' and teachers' perceptions of his exceptional ability. Information on family and early history, development, interests and hobbies were collected through questionnaires, interviews and observations of the participants over a variety of settings and clinical assessments. The data analysis involved two types of coding: open coding and axial coding (Strauss & Corbin, 1990).

The study yielded themes relating to intellectual, achievement, social, affective, physical, aesthetic and creative domains, and parental and teacher influences. Intellectually, the children's general and specific funds of knowledge and memory skills were exceptional. They also pursued answers to philosophical questions. A wide spectrum of academic abilities was represented. Social functioning also varied greatly with respect to the participants' ease of interacting with classmates and intellectual peers, and the levels of associations with children of varying ages. Two participants displayed disruptive behaviors. Likewise, the participants' affective functioning varied greatly; this involved behaviors indicative of vulnerabilities to criticism, sensitivity towards others, perfectionism, and motivation.

Parents identified facilitator and advocate as two key roles they play in raising their children. Boredom and redundancy were experienced by four of the studies'

participants. However, differentiated curriculum was provided, in the form of modified worksheets, story writing, and building tasks.

The third paper was presented at a symposium on the Early Years at the 6th European Conference on High Ability at Oxford University, Oxford, UK (Sankar-DeLeeuw, 1998).

Ethical Considerations.

The ethical guidelines of the Department of Educational Psychology at the University of Alberta were followed; approval by the University of Alberta and permission from parents/guardians and teachers were obtained. The researcher ensured informed consent of the participants and their parents and teachers, provided an opportunity for opting from of the study, and the maintenance of confidentiality and anonymity. The parameters of informed consent were outlined on the Consent Form for Giftedness in Young Children Project (see Appendix E).

Summary

There is little systematic research on the important developmental period of early childhood. Therefore, this research makes a worthwhile contribution to the development and education of gifted children. Parents and teachers are an integral part of a child's development and of any successful intervention; when parents and teachers are not aligned in regard to intervention, the school experience may be in jeopardy. However, studies examining the attitudes of parents and teachers about issues pertaining to the preschool gifted are rare. In addition, the fostering of any gift requires an understanding

of individual strengths and vulnerabilities so that nurturing and enriching environments can be created. Altogether, this series of papers, utilizing survey and case study methodologies, intends to advance the understanding of the development and needs of young gifted children, by providing a rich portrait of their home and school lives.

References

Achenbach, T.M. (1991a). Manual for the Child Behavior Checklist/4-18 and 1991 profile. Burlington: University of Vermont Department of Psychiatry.

Achenbach, T.M. (1991b). Manual for the teacher's report form and 1991 profile. Burlington: University of Vermont Department of Psychiatry.

Abroms, K.I. (1983). Affective development. In M.B. Kernes (Ed.), The underserved: Our young gifted children. Reston, Virginia: ERIC Clearinghouse.

Adderholt-Elliott, M. (1989). Perfectionism: What's so bad about being good. Minneapolis, MN: Free Spirit.

Alberta Associations for Bright Children. (1996, January). Alberta Associations for Bright Children: Members' Handbook. Edmonton, AB: AABC.

Amabile, T. (1989). Growing up creative. New York: Crown.

Anderson, J.W. (1986). Is your child gifted? Growing Parent, 14, 1-5.

Andrews, E. G. (1930). The development of imagination in the preschool child. University of Iowa studies in character, 3, 5-64.

Austin, A.B., & Draper, D.C. (1981). Peer relationships of the academically gifted: A review. Gifted Child Quarterly, 25, 129-133.

Bagnato, S. J., & Neisworth, J. T. (1981). Linking developmental assessment and curricula: Prescriptions for early intervention. Rockville, MD: Aspen.

Bartell, N. P., & Reynolds, W. M. (1986). Depression and self-esteem in academically gifted and nongifted children: A comparison study. Journal of School Psychology, 24, 55-61.

Baumgarten, F. (1930). Wunderkinder psychologische untersuchungen [A psychological investigation of gifted children]. Leipzig: Johann Ambrosius Barth.

Bayley, N. (1969). Bayley Scales of Infant Development. New York: Psychological.

Bloom, B. (1964). Stability and change in human characteristics. New York: Wiley.

Bloom, B. S. (1985). Developing talent in young people. New York: Ballantine.

Brody, L. E., & Benbow, C. P. (1986). Social and emotional adjustment of adolescents extremely talented in verbal or mathematical reasoning. Journal of Youth and Adolescence, 15, 1-18.

Brody, L.E., & Benbow, C.P. (1987). Accelerative strategies: How effective are they for the gifted? Gifted Child Quarterly, 31, 105-110.

Buhler, W.K. (1981). Gauss: A biographical study. Berlin: Springer-Verlag.

Ciha, T. E. E., Harris, R., Hoffman, C., & Potter, M. W. (1974). Parents as identifiers of giftedness, ignored but accurate. Gifted Child Quarterly, 18, 191-195.

Clark, B. (1988). Growing up gifted (3rd ed.). Columbus, OH: Charles E. Merrill.

Clark, B. (1992). Growing up gifted: Developing the potential of children at home and at school (4th ed.). New York, NY: Macmillan.

Davis, G. A. (1989). Testing for creative potential. Contemporary Educational Psychology, 14, 257-274.

Davis, G. A. (1992). Creativity is forever (3rd ed.). Dubuque, IA: Kendall/Hunt.

Davis, G. A., & Rimm, S. B. (1989). Education of the gifted and talented (2nd ed.). Englewood Cliffs, New Jersey: Prentice-Hall.

Delisle, J. R. (1990). The gifted adolescent at risk: Strategies and resources for suicide prevention among gifted youth. Journal for the education of the gifted, 13, 212-28.

Delisle, J. R. (1992). Guiding the Social and Emotional Development of Gifted Youth: A Practical Guide for Educators and Counselors. White Plains, NY: Longman.

Dobbin, M., & Yewchuk, C. (1985). Gifted education: More than a trivial pursuit. Edmonton, AB: University of Alberta.

Doman, G. (1971). Reading and writing before school: The reading revolution at home and at school. London: Cape.

Dorry, G. W. (1994). The perplexed perfectionist. Understanding our gifted, 6, 6.

Eliot, T. S. (1958). The hollow men. In G. Leggett (Ed.), Twelve poets. New York: Holt, Reinhart, & Winston.

Ennis, C.D., & Lazarus, J.C. (1990). Cognitive style and gender differences in children's motor task performance. Early Child Development and Care, 64, 33-46.

Erickson, J. G. (1977). A study of the verbal productive humor of preschool children. Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign.

Fatouros, C. (1986). Early identification of gifted children is crucial . . . but how should we go about it? Gifted Education International, 4, 24-28.

Feldhusen, J. F., & Baska, L. K. (1989). Identification and assessment of the gifted. In J. Feldhusen, J. VanTassel-Baska, & K. Seeley (Eds.), Excellence in educating the gifted (pp. 85-102). Denver, CO: Love.

Feldman, D. H. (1980). Beyond universals in cognitive development. Norwood, NJ: Ablex.

Feldman, D. H. (1986). Giftedness as a developmentalist sees it. In R. Sternberg & J. Davidson (Eds.), Developmental approaches to giftedness and creativity (pp. 31-45). San Francisco: Jossey – Bass.

Feldman, D. H. (1991, July/August). The theory of co-incidence: How giftedness develops in extreme and less extreme cases. Paper presented at the Ninth World Conference on gifted and talented children, The Hague, Netherlands.

Feldman, D. H., & Goldsmith, L. T. (1986). Nature's gambit - child prodigies and the development of human potential. New York: Basic.

Fox, M. N. (1981). Creativity and intelligence. Childhood Education, 57, 227-232.

Fuchs-Beauchamp, K. D., Karnes, M. B., & Johnson, L. J. (1993). Creativity and intelligence in preschoolers. Gifted Child Quarterly, 37, 113-117.

Gallagher, J. J. (1966). Research summary on gifted child education. Springfield, ILL: Office of the Superintendent of Public Instruction.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic.

Gardner, M. F. (1990). Expressive one-word picture vocabulary test (Revised). Orlando, FL: Academic.

Genshaft, J. L., Bireley, M., & Hollinger, C. L. (1995). Serving gifted and talented students: A resource for school personnel. Austin, TX: Pro-ed.

Gogel, E.M., McCumsey, J., & Hewett, G. (1985). What parents are saying. Gifted Child Today, 8, 7-9.

Goldsmith, L. T., & Feldman, D. H. (1985). Identifying gifted children: The state of the art. Pediatric Annals, 14, 709-716.

Gottfried, A. W., Gottfried, A. E., Bathurst, K., & Guerin, D. W. (1994). Gifted IQ Early developmental aspects: The Fullerton Longitudinal Study. New York: Plenum.

Guilford, J. (1956). The structure of intellect. Psychological Bulletin, 53, 267-293.

Guralnick, M.J., & Bennett, F.C. (1987). A framework for early intervention. In M.J. Guralnick, & F.C. Bennett (Eds.), The effectiveness of early intervention for at-risk & handicapped children (pp. 365-382). Orlando, FL: Academic.

Gustin, W.C. (1985). The development of exceptional research mathematicians. In B.S. Bloom (Ed.), Developing talent in young people (pp. 270-331). New York: Ballantine.

Haensly, P.A. (1999). The role of cognitive style in transforming preschoolers' gifted potential. Roeper Review, 21, 272-280.

Hollingworth, L.S. (1926). Gifted children: Their nature and nurture. New York: W.W. Norton.

Hollingworth, L.S. (1942). Children above 180 IQ, Stanford-Binet: Origin and development. New York: World.

Horowitz, F. D. (1987). A development view of giftedness. Gifted child quarterly, 31, 165-168.

Horowitz, F.D., & O'Brien, M. (1985). The gifted and talented. Washington, DC: American Psychological Association.

Jacobs, J. (1971). Effectivenss of teacher and parent identification of gifted children as a function of school level. Psychology in the Schools, 8, 140-42.

Janos, P. M., & Robinson, N. M. (1985). Psychosocial development in intellectually gifted children. In F. D. Horowitz & M. O'Brien (Eds.), The gifted and talented (pp. 149-195). Washington, DC: American Psychological Association.

Johnson, L. J., & Lewman, B. S. (1990). Parents perceptions of the talents of young gifted boys and girls. Journal for the Education of the Gifted, 13, 176-188.

Kagan, U., Rossman, B.L., Day, D., Albert, J., & Philips, W. (1964). Information processing in the child: Significance of analytic and reflective attitudes. Psychological Monographs, 78, 1.

Kalinowski, A.G. (1985). The development of Olympic swimmers. In B.S. Bloom (Ed.), Developing talent in young people (pp. 139-192). New York: Ballantine.

Karnes, M. B., & Johnson, L. (1991). Differentiating instruction for preschool gifted children. In R. Milgram (Ed.), Counseling gifted and talented children. A guide for teachers, counselors, and parents (pp. 179-205). Norwood, NJ: Ablex.

Kaufman, A. S., & Kaufman, N. L. (1983). Kaufman Assessment Battery for Children: Administration and scoring manual. Circle Pines, MN: American Guidance Service.

Kerr, B. (1991). A Handbook for counseling the gifted and talented. Alexandria, VA: American Association for Counseling and Development.

Kirschenbaum, R. J. (1989). An interview with James T. Webb. Gifted Child Today, 12, 10-14.

Kitano, M. (1985). Ethnography of a preschool for the gifted: What gifted young children actually do. Gifted Children Quarterly, 29, 67-71.

Lehman, E. B., & Erdwins, C. J. (1981). The social and emotional adjustment of young, intellectually-gifted children. Gifted Child Quarterly, 25, 134-137.

Lidz, C. S. (1983). Issues in assessing preschool children. In K. D. Paget & B. A. Bracken (Eds.), The psychoeducational assessment of preschool children (pp. 18-31). New York: Grune & Stratton.

Louis, B., & Lewis, M. (1992). Parental beliefs about giftedness in young children and their relation to actual ability level. Gifted Child Quarterly, 36, 27-31.

Lundsteen, S.W. (1991). Ethnographic perspective: From beginning to final product. In N.K. Buchanan and J.F. Feldhusen (Eds.), Conducting research and evaluation in gifted education: A handbook of methods and applications (pp. 114-136). New York: Teachers College.

Marland, S. (1972). Education of the gifted and talented. Report to the Congress of the United States by the U.S. Commissioner of Education. Washington, D.C.: U.S. Government Printing Office.

Maxwell, E. (1995). The changing developmental needs of the gifted: Birth to maturity. In J.L.Genshaft, M. Bireley, & C.L. Hollinger, C.L. Serving gifted and talented students: A resource for school personnel (pp. 17-30). Austin, TX: Pro-ed.

McCarthy, D. (1972). Manual for the McCarthy scales of children's abilities. New York: Psychological Corporation.

McCluskey, K.W., & Walker, K.D. (1986). The doubtful gift. Kingston, ON: Ronald Frye.

Meckstroth, E. A. (1991). Guiding the parents of gifted children: The role of counselors and teachers. In R. Milgram (Ed.), Counseling gifted and talented children: A guide for teachers, counselors, and parents (pp. 95-120). Norwood, NJ: Ablex.

Monsaas, J.A. (1985). Learning to be a world-class tennis player. In B. S. Bloom (Ed.), Developing talent in young people (pp. 211-269). New York: Ballantine.

Montessori, M. (1967). To educate the human potential. Madras: Kalakshetra.

Moran, J. D., Milgram, R. M., Sawyers, J. K., & Fu, V. R. (1983a). Stimulus specificity in the measurement of original thinking in preschool children. Journal of Psychology, 114, 99-105.

Moran, J. D., Milgram, R. M., Sawyers, J. K., & Fu, V. R. (1983b). Original thinking in preschool children. Child Development, 54, 921-926.

Moran, J. D., Sawyers, J. K., Fu, V. R., & Milgram, R. M. (1984). Predicting imaginative play in preschool children. Gifted Children Quarterly, 28, 92-4.

Morelock, M. J., & Feldman, D. H. (1992). The assessment of giftedness in preschool children. In E.V. Nuttall, I. Romero, & J. Kalesnik (Eds.), Assessing and screening preschoolers: Psychological and educational dimensions (pp. 301-309). Needham Heights, MA: Allyn and Bacon.

Morelock, M. J., & Feldman, D. H. (1993). Prodigies and savants: What they have to tell us about giftedness and human cognition. In K.A. Heller, F. J. Mönks, & A. H. Passow (Eds.), International handbook of research and development of giftedness and talent (pp.161-181). Oxford: Pergamon.

Moss, E. (1990). Social interaction and metacognitive development of gifted preschoolers. Gifted Child Quarterly, 34, 16-20.

Nisbet, J.F. (1895). The insanity of genius. London: De LaNore.

Olszewski-Kubilius, P. M. & Subotnik, R. F. (1991). Experimental research. In N.K. Buchanan & J.F. Feldhusen (Eds.), Conducting research and evaluation in gifted education: A handbook of methods and applications (pp. 51-68). New York: Teachers College.

O'Shea, H. (1960). Friendships and the intellectually gifted child. Exceptional Children, 26, 327-335.

Paget, K. D. (1992). Parent involvement in early childhood services. In M. Gettinger, S.N. Elliott, & T.R. Kratochwill (Eds.), Preschool and early childhood treatment directions (pp. 89-111). Hillsdale, NJ: Lawrence Erlbaum.

Parke, B. N. (1989). Gifted students in regular classrooms. Needham Heights, MA: Allyn and Bacon.

Pendarvis, E. D., Howley, A. A., & Howley, C. B. (1990). The abilities of gifted children. Englewood Cliffs, NJ: Prentice-Hall.

Piaget, J. (1952/1936). The origins of intelligence in children (M. Cook, Trans.). New York: International Universities.

Radford, J. (1990). Child prodigies and exceptional early achievers. Glencoe, IL: Free.

Renzulli, J.S. (1978). What makes giftedness? Reexamining a definition. Phi Delta Kappan, 60, 180-184.

Rimm, S.B. (1995). Impact of family patterns upon the development of giftedness. In J.L. Genshaft, M. Bireley, & C.L. Hollinger (Eds.), Serving gifted and talented students: A resource for school personnel (pp. 243-256). Austin, TX: Pro-ed.

Robinson, N. M. (1987). The early development of precocity. Gifted Child Quarterly, 31, 161-4.

Robinson, N.M., & Weimer, L.J. (1991). Selection of candidates for early admission to kindergarten and first grade. In W.T. Southern & E.D. Jones (Eds.), The academic acceleration of gifted children (pp. 29-50). New York: Teachers College.

Roedell, W.C. (1986). Socioemotional vulnerabilities of young children. In J.R. Whitmore (Ed.), Intellectual giftedness in young children: Recognition and development (pp. 17-33). New York: Haworth.

Roedell, W.C. (1989). Early development of gifted children. In J.L. VanTassel-Baska and P. Olszewski-Kubilius (Eds.), Patterns of influence on gifted learners: The home, the self, and the school (pp. 13-28). New York: Teachers College.

Roedell, W.C., Jackson, N.E., & Robinson, H.B. (1980). Gifted young children. New York: Teachers College.

Roedell, W.C, & Robinson, H. (1977). Programming for intellectually advanced preschool children. ERIC Document Reproduction Service No. ED 151 094.

Rohrer, J.C. (1995). Primary teacher conceptions of giftedness: Image, evidence, and nonevidence. Journal for the Education of the Gifted, 18, 269-283.

Sankar-DeLeeuw, N. (1995, July/August). Gifted preschoolers: Surveys of characteristics perceived by parents and teachers. Paper presented at The 11th World Conference on Gifted and Talented Children, Hong Kong.

Sankar-DeLeeuw, N. (1997a). Gifted preschoolers: Surveys of characteristics perceived by parents and teachers. In J. Chan, R. Li, and J. Spinks (Eds.), Maximizing potential: Lengthening and strengthening our stride (Proceedings of the 11th World

Conference on Gifted and Talented Children) (pp. 399-414). Hong Kong: University of Hong Kong.

Sankar-DeLeeuw, N. (1997b, July/August). Case study of a gifted preschooler. Paper presented at The 12th World Conference on Gifted and Talented Children, Seattle, WA.

Sankar-DeLeeuw, N. (1998, September). Case studies of young gifted children – Profiles of promise. The 6th European Conference on High Ability (ECHA), Oxford University, Oxford, UK.

Sankar-DeLeeuw, N. (1999). Gifted preschoolers: Parent and teacher views on identification, early admission and programming. Roeper Review, 21, 174-9.

Schmitz, C.C., & Galbraith, J. (1985). Managing the social and emotional needs of the gifted: A teacher's survival guide. Minneapolis, MN: Free Spirit.

Schneider, B.H., Clegg, M.R., Byrne, B.M., Ledingham, J.E., & Crombie, G. (1989). Social relations of gifted children as a function of age and school program. Journal of Educational Psychology, 81, 48-56.

Shore, B.M. (1986). Cognition and giftedness: New research directions. Gifted Child Quarterly, 30, 24-27.

Shore, B.M., Cornell, D.G., Robinson, A., & Ward, V.S. (1991). Recommended practices in gifted education: A critical education. New York: Teachers College.

Shure, M.B., & Spivak, G. (1974). The PIPS test manual. Unpublished manuscript, Hahnemann Medical College and Hospital, Philadelphia.

Silverman, L.K. (1993a). A developmental model for counseling the gifted. In L.K. Silverman (Ed.), Counseling the gifted and talented (pp. 51-78). Denver: Love.

Silverman, L.K. (1993b). The gifted individual. In L.K. Silverman (Ed.), Counseling the gifted and talented (pp. 3-28). Denver: Love.

Sloane, K.D., & Sosniak, L.A. (1985). The development of accomplished sculptors. In B.S. Bloom (Ed.), Developing talent in young people (pp. 90-138). New York: Ballantine.

Smutny, J.F., Veenker, K., & Veenker, S. (1989). Your gifted child: How to recognize and develop the special talents in your child from birth to age seven. New York: Facts on file.

Sosniak, L.A. (1985). Learning to be a concert pianist. In B.S. Bloom (Ed.), Developing talent in young people (pp. 19-67). New York: Ballantine.

Sosniak, L. A. (1990). The tortoise, the hare, and the development of talent. In M.J.A. Howe (Ed.), Encouraging the development of exceptional abilities and talents (pp. 149-164). Leicester: British Psychological Society.

Sparrow, S. S., Balla, D.A., & Cicchetti, D. V. (1984). Vineland AdaptiveBehavior (Scales Survey Form Manual Interview Edition). Circle Pines, MN: American Guidance Service.

Steele, C. (1990). Cognitive style and the gifted young child. In O.N. Sarcho (Ed.), Cognitive style in early education. New York: Gordon and Breach Science.

Sternberg, R. (1981). A componential theory of intellectual giftedness. Gifted Child Quarterly, 25, 86-93.

Sternberg, R. J., & Davidson, J.E. (1986). Conceptions of giftedness. New York: Cambridge University.

Stile, S.W., Kitano, M., Kelley, P., & Lecrone, J. (1993). Early intervention with gifted children: A national survey. Journal of Early Intervention, 17, 30-35.

Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage.

Tannenbaum, A. J. (1983). Gifted children: Psychological and educational perspectives. New York: Macmillan.

Terman, L. M. (1925). Genetic studies of genius: Mental and physical traits of a thousand gifted children (Vol. 1). Stanford, CA: Stanford University.

Thorndike, R. L., Hagen, E. P., & Sattler, J. M. (1986). Technical manual Stanford-Binet Intelligence Scale (4th ed.). Chicago: Riverside.

Tomlinson-Keasey, C. (1990). Developing our intellectual resources for the 21st century: Educating the gifted. Journal of Educational Psychology, 82, 399-403.

Torrance, E. P., & Caropreso, E. J. (1991). Assessment of preschool giftedness: Intelligence and creativity. In B.A. Bracken (Ed.), The psychoeducational assessment of preschool children (2nd ed., pp. 430-449). Needham Heights, MA: Allyn & Bacon.

Torrance, E. P., Weiner, D., Presbury, J. H., & Henderson, M. (1987). Save tomorrow for the children. Buffalo, NY: Bearly.

Tuttle, F. B., Becker, L. A., & Sousa, J. A. (1988). Characteristics and identification of gifted and talented students (3rd ed.). Washington, DC: National Educational Association of the US.

Webb, J. T., Meckstroth, E. A., & Tolan, S. S. (1982). Guiding the gifted child: A practical source for parents and teachers. Columbus, OH: Ohio Psychology.

Wechsler, D. (1989). Manual for the Wechsler Preschool and Primary Scale of Intelligence (Rev. ed.). San Antonio, TX: Psychological Corporation.

Wexler-Sherman, C., Gardner, H., & Feldman, D. H. (1988). A pluralistic view of early assessment: The Project Spectrum approach. Theory into Practice, 27, 77-83.

White, B.L. (1993). The first three years of life (New and Rev. ed.). New York: Simon & Schuster.

Whitmore, J. R. (1980). Giftedness, conflict, and underachievement. Boston, Mass.: Allyn and Bacon.

Whitmore, J. R. (1986). Preventing severe underachievement and developing achievement motivation. In J.R. Whitmore (Ed.), Intellectual giftedness in young children: Recognition and development (pp. 113-133). New York: Haworth.

Witkin, H.A., & Dky, R.B., Faterson, H.F., Goodenough, D.R., & Karp, S.A. (1962). Psychological differentiation. New York: Wiley.

Williams, T. M., & Fleming, J. W. (1969). Methodological study of the relationship between associative fluency and intelligence. Developmental Psychology, 1, 155-162.

Chapter II - Paper 1

Gifted Preschoolers: Survey of characteristics perceived by parents and teachers

Before the twentieth century, the gifted were associated with "insanity, frailty, and other undesirable compensatory weaknesses" (Nisbet, 1895, cited in Whitmore, 1980). After Terman's (1925) study, finding the gifted to be generally superior in all areas of development, professionals neglected social and emotional vulnerabilities (Kerr, 1991), often believing that the smart ones can work it out for themselves (Delisle, 1992). These areas are as important as cognitive areas of development, and ignoring them can be detrimental for any child, including preschoolers.

This paper is the result of responses to an author-generated survey given to parents of gifted children and preschool/kindergarten teachers on the issues surrounding early identification and programming. The survey was designed to explore the concept of early school entry, information deemed relevant by the respondents to the raising/teaching of this population, and professionals perceived to be able to provide assistance. An examination of the characterizations given to young gifted children by these respondent groups was the focus of this paper.

Review of the Literature

Definitions of Giftedness and Preschooler

Definitions of giftedness evolved from a single intellectual dimension (Terman, 1925) to the recognition of multiple abilities and intelligences (Gardner, 1983; Guilford, 1956; Marland, 1972; Sternberg, 1981). Morelock and Feldman (1992) present the

following definition of gifted children in their chapter on The Assessment of Giftedness in Preschool Children:

> Gifted children are those showing sustained evidence of advanced capability relative to their peers in general academic skills and/or in more specific domains (music, art, science, etc.) to the extent that they need differentiated educational programming. (p. 302)

Research with this population is specifying capabilities that may be the building blocks of giftedness in differentiated areas such as art, music, and science (Goldsmith & Feldman, 1985; Wexler-Sherman, Gardner, & Feldman, 1988).

The age designation for the term "young gifted" has been inconsistently defined in the literature. Studies of gifted preschoolers have focused on several different age distinctions. The terms "young" and "preschooler" have been used to refer to a variety of age spans, or none at all (Moss, 1990), and caution is warranted in the interpretation of these studies. This has led to some confusion when interpreting statements in reference to this population. Nuttall, Romero, and Kalesnik (1992) designated preschoolers in general to be between three and five years old, Hendrick (1994), between two and four years, and Seagull and Kallen (1978), between birth and entry into school. Sattler (1992) vaguely designated them as between three and five, and Lidz (1991) defined them as between two and six years. A summary of the numerous studies involving "gifted preschoolers" or "gifted young children" and their various ages, adapted from the initial submission, is provided in Figure 3-1 (Chapter III, p. 80). Collectively, the studies span birth to over twelve years. The mean predominant age was 5.5 years while the mode was 4 years.

Characteristics of Gifted Preschoolers

"Gifted children, like all other children, are born with temperaments, dispositions, and leanings toward areas of interest early in life" (Webb in Kirschenbaum, 1989), yet they are generally stereotyped as "almost invariably more popular and more socially accepted than children at other levels of intellectual ability" (Gallagher, 1966, p. 42) on the one hand, and "emotionally tense, high-strung, uncoordinated, and bookish" on the other (Tuttle, Becker, & Sousa, 1988, p. 14). Fortunately, these stereotypes have not yet been applied to gifted preschoolers. However, they have been viewed, and described by their parents, as divergent thinkers, having high verbal ability (including large vocabularies) at an early age, highly focused on their interests, having an unusual sense of humor, curious, early readers, having a wide range of interests, yet a demonstrated ability in a single area, persistent, an unusual ability to make abstract connections in learning, and perceptive (Louis & Lewis, 1992; Roedell, 1989; Tuttle et al., 1988; Webb, Meckstroth, & Tolan, 1982). The great divergence in abilities of gifted preschoolers is an important point that will be discussed in this paper.

Social and Emotional Development Specific to Gifted Preschoolers

As numerous writers have stated, the nonintellectual characteristics of the gifted child have received less attention than characteristics of an academic and intellectual nature (Clark, 1992; Gottfried, Gottfried, Bathurst, & Guerin, 1994; Webb et al., 1982). There have been few documented studies focusing on these domains in the early years (Austin & Draper, 1981; Horowitz, 1987; Janos & Robinson, 1985; Lehman & Erdwins,

1981; Roedell, Jackson, & Robinson, 1980), yet, children typically sense, by age three or four, that they are different (Webb in Kirschenbaum, 1989). Lack of understanding has led to the perpetuity of stereotypes of the gifted.

The beginning of preschool or kindergarten can be a critical time for gifted preschoolers. They often cannot find peers at their level with similar interests, which can result in frustration and boredom (Hollingworth, 1942; Webb et al., 1982). These children may develop fear or anxiety about going to school (Kerr, 1991). Gifted children often are younger than their classmates (Gottfried et al., 1994). They often have so much difficulty understanding "why other children cannot keep up with them and why teachers fail to stimulate them to the degree that they need" (Kerr, 1991, p. 124) that they may chose to hide their gifts. However, Lehman and Erdwins (1981) found that young gifted children feel more comfortable with themselves and report more positive feelings regarding themselves and others than their peers. Gifted children may have different sets of peers depending on the activity they are pursuing. A relationship, for instance, with a mentor, may meet some of the social and emotional needs of these children (Webb in Kirschenbaum, 1989).

A sense of belonging is inherent in all children (Whitmore, 1986). Intellectually gifted children need, though not necessarily have, several different kinds of peer groups that are more in line with their differing developmental peaks and valleys in the physical, social and intellectual domains (Webb et al., 1982, p.15). Intellectual exceptionality of gifted children, according to some researchers, does not harm their functioning in other realms of development. Three groups have been noted as exceptions: children whose IQ exceed 160, gifted underachievers, and gifted girls (Gottfried et al., 1994). An additional

exception is gifted young children because, intellectually, they "are particularly vulnerable to feelings of social isolation and/or discomfort and conflict" (Roedell, 1986, p. 26) and "alienation and rejection" (Whitmore, 1986, p. 129). When solving hypothetical social conflicts, advanced verbal social-cognitive abilities of gifted preschoolers have been reported, even when the behavioral output could not be demonstrated (Roedell, 1989; Gottfried et al., 1994), and some found it difficult to share (Roedell, 1978; Roedell et al., 1980; Roedell, 1989). Their advanced vocabulary and unusual fluency can actually make it difficult for them to relate to others.

Researchers disagree about the affective development of gifted children. Gifted individuals have been reported to be emotionally intense, and critical of themselves and others. They should be helped to recognize their feelings, label their emotions, and appropriately express them (Webb et al., 1982). Schmitz and Galbraith (1985) discuss how bright children view themselves, their world, and their characteristics (such as perfectionism and sensitivity) that "set them apart from peers and family" (p. 7). They subsequently comment that "how gifted kids feel on an emotional level doesn't always match logically with their intellectual capabilities" (p. 22) and their needs will depend on maturity level, type of intelligence, environment, and individual personality characteristics (p. 28). As a result, gifted individuals may be frustrated, withdraw, or act out (Dobbin & Yewchuk, 1985). Similar published research with gifted preschoolers could not be found.

Many recently published studies have concluded that the emotional adjustment and social competencies of the gifted are equal to or exceed that of their nongifted peers (Bartell & Reynolds, 1986; Brody & Benbow, 1986; Lehman & Erdwins, 1981;

Schneider, Clegg, Byrne, Ledingham, & Crombie, 1989; Tomlinson-Keasey, 1990). More than four decades ago, Hollingworth (1942) found that gifted children have fewer and older friends and O'Shea (1960) found that they befriend those of similar mental age. However, these studies have focused on the school-age and adolescent years.

Perfectionism can be seen positively as the ability to conceptualize and create higher order productions (Silverman, 1993) and, negatively, as an idea-reality gap (Eliot, 1958, cited from Dorry, 1994). Perfectionism has been identified as being quite prevalent among gifted people of all ages (Hollingworth, 1926; Parke, 1989; Whitmore, 1980). Kerr (1991) defines it as "compulsiveness with regard to work habits, overconcern for details, unrealistically high standards for self and others, indiscriminate acquiescence to external evaluation, and rigid routines"(p. 141). Kerr continues to discuss possible causes, such as inherent tendencies (Adderholt-Elliott, 1989), unawareness of giftedness (Webb et al., 1982), and extrinsic motivation. Abroms (1983) noted that "young gifted children often set high, perfectionistic standards for themselves . . . that may lead to low self-esteem" (p. 125).

Heterogeneous development patterns in gifted young children can be a source of vulnerability (Webb et al., 1982). This vulnerability may be increased by inappropriate levels of expectations being placed in all domains of functioning. However, inconsistencies in developmental levels may be attributable to differential motivation or opportunity, and not solely differential talents (Roedell, 1986).

The social and emotional development of gifted preschoolers cannot automatically be inferred by research conducted on older gifted children or mental age-mates. Further

investigations, focusing specifically on this exceptionality experienced by this age group, are required.

Identification and Assessment Procedures

Although some researchers and clinicians recommend that assessment for giftedness should not occur until basic skills have been mastered (typically grade four), Roedell (1989) emphasizes the desperate need for early identification. In its support, there is a higher probability of extraordinary achievement later in life when young children's gifts are pinpointed and nurtured through appropriate environmental support (Bloom, 1985; Feldman & Goldsmith, 1986; Morelock & Feldman, 1992).

For early identification, Torrance and Caropreso (1991) suggest that a multifaceted, flexible assessment process should be adopted to accommodate for uneven development within social, affective, cognitive, and personal domains. The process should comprehensively explore areas of weakness and strengths. Non-psychometric data, such as parental input into the identification process, are vital, yet often ignored. Parents "recognize their child's potential prior to the time that educators test for giftedness status, which is typically in the early elementary years" (Gottfried et al., 1994, p. 29). Another study supportive of early identification found parents of kindergarten children to correctly identify those who are gifted better than teachers do (Ciha, Harris, Hoffman, & Potter, 1974). Parents should and must be partners in the assessment of their child.

The assessment of intellectual giftedness has most extensively been made through intelligence (IQ) testing. Typically, giftedness is equated with scoring two standard deviations above the mean (Pendarvis, Howley, & Howley, 1990), or classifications of

"very superior" are given scores at and above Full Scale IQs of 130 (Wechsler, 1974, 1991). There are some published standardized tests which have been utilized (Bayley Infant Behavior Record, Bayley, 1969; Kaufman Assessment Battery for Children [K-ABC], Kaufman & Kaufman, 1983; McCarthy Scales of Children's Abilities, McCarthy, 1972; Stanford-Binet IV, Thorndike, Hagen, & Sattler, 1986; Wechsler Preschool and Primary Scale of Intelligence - Revised [WPPSI-R], Wechsler, 1989), although not exclusively, for the identification of the preschool gifted.

There are a number of tests which examine preschool levels of emotional and social functioning, although these tests have more often been equated with the identification of problem areas (such as disturbed or difficult behaviors, emotional maladjustment), not giftedness. This type of assessment can be used to change or manage given behaviors and their ability to predict future behavior or its use as a screening measure may be particularly relevant to the gifted (Martin, 1991). Social competencies can be examined by direct observation, through parent report, and by parents' and teachers' specific comments on the Child Behavior Checklist (Achenbach, 1991a, 1991b). Formal tests of social functioning include the Preschool Interpersonal Problem-Solving Test (Shure & Spivak, 1974), which presents interpersonal conflict situations to which the child is required to produce solutions, and the Vineland Adaptive Behavior Scales (Sparrow, Balla, & Cicchetti, 1984), which examines social functioning and adaptability.

There are a number of problems in assessing young children. Unreliable results may be attained due to their short attention span, transient responsiveness, distractibility, and low verbal skills (Bagnato & Neisworth, 1981; Lidz, 1983). Preschoolers may not demonstrate their entire repertoire of skills in one testing session, perhaps due to an

unfamiliar adult in a new surrounding (Roedell, 1989). Sosniak's (1985, 1990) exploration into the early lives of exceptional musicians revealed that many did not show unique promise at the outset of their training, rather the exceptional talent developed slowly, sometimes over seventeen years. Similar findings were found with people outstanding in sports, mathematics, visual arts, and science (Gustin, 1985; Kalinowski, 1985; Monsaas, 1985; Sloane & Sosniak, 1985). Remarkable signs of early promise may be absent in individuals reaching peak successes in their domains later in life.

The investigation of social and emotional areas for any age group has some inherent methodological problems. These problems are compounded even further by the lack of research on preschoolers. In addition, with a lack of widely utilized standardized measurements and equivalent comparison or control groups, there may be a bias in the identification or selection of research subjects, and a failure to consider potentially important moderating variables (Gottfried et al., 1994). In addition, there is a sensitivity of these areas to environmental factors (Mischel, 1968).

To the opponents of early identification, Roedell (1989) argues for a developmental perspective to the study of ability; the different manifestations of emerging abilities require "comprehensive" study (p. 13). Many feel a need for early assessment procedures to predict later success, thereby viewing giftedness as a label for the possibility of high levels of achievement in adulthood. Roedell (1989) does not believe this to be the case; children identified in their early years may not require continued programming in later years nor should children identified later be deprived of programming (p. 17). Early identification for the prediction of future stars and leaders is undesirable because it may burden some assessors enough to abandon the process

altogether. It is the immediate needs of the child that should be of concern, not futuristic ones (Roedell, 1986).

Programming for Gifted Preschoolers

Early intervention in gifted education has been recognized by a number of researchers. According to Clark (1988), "the more planned educational experiences a child over three has, the better that child does in intellectual, language, personal and social development...Remember that the most important thing in early learning is not the information taught, but the process learned and the attitudes developed" (p. 118). Programming of gifted youngsters should accommodate for children: (1) whose academic and intellectual skills are developing faster than average; and (2) who have mastered much of the curriculum for early education (Roedell, 1989). "Appropriate educational experience" should match "the child's existing level of competence" (Roedell, 1989. p. 17). It should foster the development of individuality, not conformity, and encourage the development of exceptional potential (Whitmore, 1986). Environments should be "psychologically safe"(p. 3) with the encouragement of exploration; they should not be judgmental (Dobbin & Yewchuk, 1985). These criteria result in some skepticism about the adequacy of regular preschools and kindergarten programming to nurture early giftedness.

Early entrance into kindergarten continues to be an area of some debate. Chronological age is often used as the developmental index, however its utility is questioned, particularly for gifted youngsters (Gottfried et al., 1994; Robinson & Weimer, 1991). Chronological age is the single determinant entrance requirement, yet mental ages

may range from three to eight (Smutny, Veenker, & Veenker, 1989). In cases where physical and social development lag behind intellect, programming is often set to cater to weaknesses rather than strengths. What educators fail to acknowledge is that "socialization involves a child's feeling that she or he is accepted by others"; this often results in a denial or hiding of abilities in order to "fit in better with the other children" (Roedell, 1989, p. 15).

Brody and Benbow (1987), McCluskey and Walker (1986), and Tomlinson-Keasey (1990) discuss why concerns over social and emotional development prevent parents and teachers from accelerating gifted children. In the words of Roedell, Jackson, and Robinson (1980) wrote,

> For intellectually advanced preschool-aged children, early school entrance provides an excellent educational option. By entering school early, such children can be provided with an effective match of learning materials to readiness level, and, at the same time, experience a form of acceleration that is least disruptive to the continuity of education. It is probably far better for some children to enter school early and progress along with classmates than to enter school at a later age and experience boredom with an unchallenging curriculum or be skipped one or more grades during the course of education. (p. 86)

Gifted programs for kindergarten are rare, and for preschool, even rarer (Roedell, 1989; Stile, Kitano, Kelley, & Lecrone, 1993). Therefore, what often results is a child who is "out-of-step with a lockstep curriculum" (Webb in Kirschenbaum, 1989). Ideally, programs should have the flexibility to accommodate for differing ability levels, and the opportunity for all children to interact with intellectual peers.

The Study

An exploratory study of the issues and concerns of the parents of gifted preschoolers (presently and retrospectively) and preschool/kindergarten teachers surrounding early identification and programming of giftedness was undertaken using surveys. The intent of this paper is to examine parent and teacher characterizations of giftedness, including similarities and differences between the respondent groups. The remaining survey questions are addressed in Chapter III.

Participants

Participation in this study was voluntary. A parent survey was circulated to the parents of gifted children affiliated with the Alberta Associations for Bright Children (AABC) and its local chapter, the Edmonton Association for Bright Children (ABC-Edmonton). Both organizations, comprised almost exclusively of the parents of gifted children, support the rights of bright students provincially and regionally, respectively. Collectively, both ABC organizations serve 159 members. However, due to time constraints 91 members were randomly selected. A teacher version of this survey was circulated to 44 preschool teachers randomly selected from a directory of 112 preschools licensed in the Edmonton area by the Edmonton Preschool Association and ten (10) kindergarten teachers contacted through Kindergarten Showcase (a conference held by the Edmonton Public School Board to introduce various issues to parents who have children entering kindergarten in the upcoming year). Each survey was mailed to selected respondents with a letter of explanation and a self-addressed, stamped return-envelope.

It is highly unlikely that the children described by the parents are those also described by the teachers. In addition, teachers may not necessarily have had experiences with young gifted children, but the parents likely all had such experiences. Therefore, making inferences between respondent groups may be inappropriate.

Instruments

Questions generated for this survey were based on issues discussed by the ABC members at several adult education meetings (five meetings are held each academic year), as well as a review of the literature. The surveys consisted of ten (10) close-ended questions (with room for desired explanations) and three open-ended questions. Opinions about early school entry, the information deemed necessary by respondents in raising/teaching this population, and professionals perceived to provide assistance were several of the issues investigated by the survey. However, this paper primarily focuses on the characteristics reported by parents and teachers about their children and students, respectively. A letter of introductory remarks and initial questions focused parents and teachers to the 3 ½ to 6 year old age group. The parents were then asked the close-ended question, "Do you have, or have you had, a child in preschool or kindergarten that you suspect is, or suspected at the time was, gifted (regardless of any identification that occurred after age 6)?" Teachers were asked the close-ended question, "Have you ever had a child in your preschool or kindergarten class that you suspected was gifted?" Both groups were asked the open-ended question, "What are some of the characteristics that led you to make the above observation?" The surveys concluded with an option to

provide personal information (name, address, and telephone number). No such survey could be located in published literature.

Methodology

The Giftedness in Young Children Survey was developed to examine the necessity of, and attitudes toward, various issues associated with the identification of giftedness in children between the ages of 3 ½ and 6 years old. Data from close-ended questions were entered verbatim into preset EXCEL SPREADSHEETS, broken down by question. Modifications were made to the spreadsheets analyzing the open-ended questions to allow individual responses and groups of responses to be reported. Responses to the characteristics questions were then compared for parents and teachers.

Analysis

The response rate among the parents surveyed was 51% and among the teachers surveyed was 52%. Nineteen percent (19%) of the parent surveys returned were anonymous, while 32% percent of the teacher surveys were unsigned. Table 2-1 outlines the 96 characteristics reported and the frequencies with which they occurred for both groups of respondents. Since the characteristics within each category are presented in detail, very low percentages for individual characteristics are reported. For example, 4% of 46 parents, and 0% of 28 teachers, observed early walking as a characteristic of giftedness. Only seven characteristics, or 7%, of all the 96 reported characteristics, were not acknowledged by the parent group, while 33 characteristics, of 34%, were unreported by the teacher group.

Also included at the end of Table 2-1, are vulnerabilities associated with giftedness described by some respondents, who expressed concern about potential boredom, frustration, underachievement, etc.

Table 2-1.

Giftedness in Children Survey: Characteristics that led to giftedness observation

	Percentage	
	Parent n=46	**Teacher** n=28
Early life		
Early developmental milestones:		
walking	4	0
talking/language	17	0
object permanence	2	0
toilet trained early	2	0
Early interests or passions:		
in general	2	11
math	7	0
science	9	7
reading	13	4
music	0	4
art	0	4
writing	4	4
computer	0	4

(Table 2-1 continued)

Table 2-1. Giftedness in Children Survey: Characteristics that led to giftedness observation (continued)

Early abilities		
in general	0	7
math	20	14
science	7	0
reading	39	39
vocabulary; language; comprehension	24	4
writing alphabet and words	15	18
music	7	4
physical skills	7	7
artistic; spatial skills	13	7
complex constructs assimilated		
time	4	4
distance	4	0
symbol patterns (place value, infinity)	7	0
proportionality	2	0
cards (bridge)	2	0
chess	2	0
Motivation		
Independence: single-mindedness; defiant with assistance/interference	13	11
in need of reassurances	2	0
Unusually long attention span; extended on-task time	24	4
Observant; alert	9	7
Enthusiastic; even fanatical; initiative; yearning/desire to learn	13	14
"Busy mind"; in need of new challenges constantly; thirst for knowledge	35	25
Self-teaching; "ravenous sponges"	13	4

(Table 2-1 continued)

Table 2-1. Giftedness in Children Survey: Characteristics that led to giftedness observation (continued)

Persistent; Intensive; self-motivated in face of distraction; desire to accomplish much per day	20	11
Energy Level:		
High energy levels; little sleep	11	7
"Sleepers"	0	4
Creativity		
Creative; innovative; elaborates; novel perspectives taken; i.e. draws own pictures rather than coloring in books	11	25
Inventive; experiments, "hands on," takes risks	9	7
Excellent imaginations; makes up own games; pictures tell a story	4	7
Forging new directions	11	14
Ability		
Knowledge storehouse; bright; concept understanding and application; spots inconsistencies; makes unconventional associations; academic readiness	17	18
Quick Understanding; rapid mastery & processing, all seemingly effortlessly	24	21
Advanced questioning skills; curious; inquisitive; evaluates; "explores the world"	39	39
Insightful; intuitive (knowing before taught); capacity for thinking; opinions have a rationale; in-depth ideas	13	21

(Table 2-1 continued)

Table 2-1. Giftedness in Children Survey: Characteristics that led to giftedness observation (continued)

Abilities and interests differ substantially from norm in type and quantity	26	25
Negotiating skills; ability to "argue"	4	0
Reasoning skills; Relationships identified; Problem solver	15	21
Language/vocabulary skills		
in general communicative	13	21
complex & descriptive, larger vocabulary, longer sentences	20	11
Comprehension skills		
in general	4	7
verbal	7	4
spatial	2	0
Memory skills - to detail and facts even from the past; photographic	30	18
Developmental pattern:		
Peaks and valleys in levels for different subject/development areas	9	43
Advanced at everything	9	0
Constructive skills (lego, sticks, puzzles, sand)	4	4
Manual Dexterity/fine motor skills advanced (scissors, pencil)		
1) present	15	7
2) not yet present	2	4
Coordinated	7	4

(Table 2-1 continued)

Table 2-1. Giftedness in Children Survey: Characteristics that led to giftedness observation (continued)

Social & emotional functioning		
Self-assurance and confident	4	0
Emotional Maturity		
1) yes	9	11
2) no	0	7
Ethical; sense of justice	4	0
Highly sensitive		
in general hypersensitive; critical self-observations	7	4
to others	4	0
Some emotional inability to handle thought processes and ideas engaged in	2	0
Self-aware; strong sense of self	7	4
Empathetic	4	0
Serious	2	0
Perfectionistic	2	4
Attentive to details	2	11
Neatness Valued	2	4
Socially:		
leader; nonconformist	9	11
poor socially; difficulty relating to peers; shy and withdrawn	9	32
conformist; desire to fit in	7	0
Different from friends	9	0

(Table 2-1 continued)

Table 2-1. Giftedness in Children Survey: Characteristics that led to giftedness observation (continued)

Disposition:	Well-behaved; compliant; helpful, reliable	9	0
	Bossy; strong-willed	7	0
	Outgoing	2	0
Social skills:	sharing, turn-taking, cooperation, listening	4	4
	dislike for group situations	4	7
Socializes with older children		7	0
Sense of humor:	present	4	0
	strange	2	0
Behaviors often commented about by other parents/adults		11	0
Development similar to that of an older child		11	7
Subject to:			
Boredom; laziness; uninterested; painful school experience		28	18
Underachievement		7	0
Developing negative attitudes toward school		9	0
Under–stimulation		4	7
Inappropriate behaviors; isolation		9	7
Losing confidence and self-esteem		4	7
Frustration (motor skills not keeping pace with cognitive ability; or quick pace of subject turnover, additional time on-task)		17	7
Depression		2	0
Pushed by parents -> can't play, aren't creative, don't solve own problems; forced to "grow up" too quickly		0	21

Of the 96 reported characteristics, most were reported by similar percentages of parents and teachers, including: sensitivity, observation skills, excellent memory skills, innovation, insightful, large knowledge storehouses, inquisitiveness, large vocabularies, reasoning skills, self-teaching, persistence, enthusiasm, critical self–observation abilities,

and high energy levels. In addition, both respondent groups reported similar characteristics within each domain.

Parents reported the attainment of developmental milestones (walking, object permanence, and toilet training), while both parents and teachers observed early academic interests (science, reading, or writing). Parents reported early math interests, while teachers reported early interests in music, art, and computers. Both groups reported early abilities in the areas of math, reading, writing, music, physical skills, artistic and spatial skills, and the understanding of time. Parents also observed early science abilities and the assimilation of complex constructs (i.e., distance, symbol patterns, proportionality, cards and chess).

Within the motivation domain, both groups reported characteristics of independence and single–mindedness, observation skills, enthusiasm or desire to learn, persistence, self-teaching ("ravenous sponges"), high energy levels, and the constant need for new challenges. The indictors of creativity reported by both groups included novelty in perspectives taken, innovative, imagination, and the forging of new directions. Within the intellectual and academic domains, commonalties between parents and teachers were also found. Respondents observed characteristics including knowledge storehouses, quick understanding, inquisitiveness, insight, large vocabularies, memory and reasoning skills, manual dexterity, and coordination. Within the social and emotional domains, respondents reported emotional maturity, self–awareness, high sensitivity and critical self–observations, perfectionism, nonconformance and leadership. The two respondent groups noted both characterizations of cooperative social skills and a dislike for group situations. Both groups reported development similar to that of an older child. Although

not characteristics, parents and teachers also noted concerns that these children may be prone to common vulnerabilities – boredom, laziness, and painful school experiences, under–stimulation, inappropriate behaviors and isolation, diminished confidence and self-esteem, and frustration.

Parents reported unusually long attention spans and extended on-task time, the fact that other adults commented about their children, and early vocabulary/language more often than did teachers. The teachers reported emotional immaturity, social difficulties (relating to peers, shy and withdrawn), developmental and academic peaks and valleys, and early abilities in general. In addition, teachers more frequently reported that gifted preschoolers could be subjected to being pushed by parents. Some expanded this vulnerability to say it resulted in youngsters who "can't play," "aren't creative," "don't solve own problems," and are "forced to grow up too quickly."

Discussion and Recommendations

Since the characteristics within each category are presented in detail, very low percentages for individual characteristics are reported. Therefore, determining similarities and differences across respondent groups would statistically inflate relational values.

The results of this study show the characteristics reported by parents of gifted children and preschool/kindergarten teachers, fall into three distinct groups: those identified by parents early in the life of their gifted child, which were consistent with those noted by teachers, those reported by parents but not by teachers, and those reported by teachers and not by parents. Most of the reported characteristics fell into the first

group. Parents reported long attention span and early language abilities observed in the preschool years. Teachers, although acknowledging early general ability, reported social and emotional vulnerabilities including poor social skills, heterogeneous development, and emotional immaturity. The impact on the transition from home to preschool/kindergarten may be affected by these differences. Should this be the case, devices to facilitate this transition will be required. Further investigation is necessary.

Several of these findings are consistent with Schetky (1981). However, some uncertainty exists as to the age group she focused on because 5, 10 and 11 years old examples were studied. Characteristics such as challenging authority, independent thinking, discrepancies between maturation of physical, emotional and intellectual domains, interpersonal sensitivity, "environment of intensified expectations" (p. 3), vulnerabilities to underachievement, social difficulties, withdrawal and depression, were all reported in this study. In addition, she purports that high energy drives have physical and psychological causes: a high level of curiosity and a diminished need for sleep.

Compared to studies with older gifted children, many similar characteristics are noted. Davis and Rimm's (1985) high self-confidence and independent nature, and Vespi's (1989) setting high expectations, being highly self-critical, and striving for perfection are present in this younger age group. However, giftedness in preschoolers is complicated by the heterogeneous development of domains. This recognition is crucial to the adequacy of educational programming.

All exceptional children do not have the same characteristics; they express their desires in unique ways. It is via acceptance of the differences that all domains will be nurtured. A child does not have to display all or even a majority of these reported

characteristics to be considered for identification. Observing a number of traits in one child, however, may be indicative of a need for closer examination. More importantly, the existence of one or two characteristics exhibited by a child should never be used to solely identify giftedness. Being gifted does not guarantee emotional or social maturity. Achievements in all realms contribute to self-acceptance and a sense of belonging. Although there is a positive outlook on the socioemotional development of the gifted, there is a need for more guidance and understanding. The fostering of all gifts requires an understanding of individual vulnerabilities so that nurturing and enriching environments can be created.

References

Achenbach, T. M. (1991a). Manual for the Child Behavior Checklist/4-18 and 1991 profile. Burlington: University of Vermont Department of Psychiatry.

Achenbach, T. M. (1991b). Manual for the teacher's report form and 1991 profile. Burlington: University of Vermont Department of Psychiatry.

Abroms, K.I. (1983). Affective development. In M. B. Kernes (Ed.), The underserved: Our young gifted children. Reston, Virginia: ERIC Clearinghouse.

Adderholt-Elliott, M.(1989). Perfectionism: What's so bad about being good. Minneapolis, MN: Free Spirit.

Austin, A. B., & Draper, D. C. (1981). Peer relationships of the academically gifted: A review. Gifted Child Quarterly, 25, 129-133.

Bagnato, S.J., & Neisworth, J.T. (1981). Linking developmental assessment and curricula: Prescriptions for early intervention. Rockville, MD: Aspen.

Bartell, N. P., & Reynolds, W.M. (1986). Depression and self-esteem in academically gifted and nongifted children: A comparison study. Journal of School Psychology, 24, 55-61.

Bayley, N. (1969). Bayley Scales of Infant Development. New York: Psychological Corporation.

Bloom, B.S. (1985). Developing talent in young people. New York: Ballantine.

Brody, L.E., & Benbow, C. P. (1986). Social and emotional adjustment of adolescents extremely talented in verbal or mathematical reasoning. Journal of Youth and Adolescence, 15, 1-18.

Brody, L.E., & Benbow, C.P. (1987). Accelerative strategies: How effective are they for the gifted? Gifted Child Quarterly, 31, 105-110.

Ciha, T.E., Harris, R., Hoffman, C., & Potter, M.W. (1974). Parents as identifiers of giftedness, ignored but accurate. Gifted Child Quarterly, 18, 191-195.

Clark, B. (1988). Growing up gifted (3rd ed.). Columbus, OH: Charles E. Merrill.

Clark, B. (1992). Growing up gifted: Developing the potential of children at home and at school (4th ed.). New York, NY: Macmillan.

Davis, G.A., & Rimm, S.B. (1985). Education of the gifted and talented. Englewood Cliffs, New Jersey: Prentice-Hall.

Delisle, J. R. (1992). Guiding the social and emotional development of gifted youth: A practical guide for educators and counselors. White Plains, NY: Longman.

Dobbin, M., & Yewchuk, C. (1985). Gifted education: More than a trivial pursuit. Edmonton, AB: University of Alberta.

Dorry, G.W. (1994). The perplexed perfectionist. Understanding our gifted, 6, 6.

Eliot, T.S. (1958). The hollow men. In G. Leggett (Ed.), Twelve poets. New York: Holt, Reinhart, & Winston.

Feldman, D.H., & Goldsmith, L.T. (1986). Nature's gambit - child prodigies and the development of human potential. New York: Basic.

Gallagher, J.J. (1966). Research summary on gifted child education. Springfield, ILL: Office of the Superintendent of Public Instruction.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic.

Goldsmith, L.T., & Feldman, D.H. (1985). Identifying gifted children: The state of the art. Pediatric Annals, 14, 709-716.

Gottfried, A.W., Gottfried, A.E., Bathurst, K., & Guerin, D.W. (1994). Gifted IQ - Early developmental aspects: The Fullerton Longitudinal Study. New York: Plenum.

Guilford, J. (1956). The structure of intellect. Psychological Bulletin, 53, 267-293.

Gustin, W.C. (1985). The development of exceptional research mathematicians. In B.S. Bloom (Ed.), Developing talent in young people (pp. 270-331). New York: Ballantine.

Hendrick, J. (1994). Total learning: Developmental curriculum for the young child (4th ed.). Don Mills, ON: Macmillan College.

Hollingworth, L.S. (1926). Gifted Children: Their Nature and Nurture. New York: Norton.

Hollingworth, L.S. (1942). Children above 180 IQ, Stanford-Binet: Origin and development. New York: World.

Horowitz, F.D. (1987). A development view of giftedness. Gifted Child Quarterly, 31, 165-168.

Janos, P.M., & Robinson, N. M. (1985). Psychosocial development in intellectually gifted children. In F. D. Horowitz & M. O'Brien (Eds.), The gifted and talented (pp. 149-195). Washington, DC: American Psychological Association.

Kalinowski, A.G. (1985). The development of Olympic swimmers. In B.S. Bloom (Ed.), Developing talent in young people (pp. 139-192). New York: Ballantine.

Kaufman, A.S., & Kaufman, N.L. (1983). Kaufman Assessment Battery for Children: Administration and scoring manual. Circle Pines, MN: American Guidance Service.

Kerr, B. (1991). A Handbook for counseling the gifted and talented. Alexandria, VA: American Association for Counseling and Development.

Kirschenbaum, R.J. (1989). An interview with James T. Webb. Gifted Child Today, 2, 10-14.

Lehman, E.B., & Erdwins, C.J. (1981). The social and emotional adjustment of young, intellectually-gifted children. Gifted Child Quarterly, 25, 134-137.

Lidz, C.S. (1983). Issues in assessing preschool children. In K.D. Paget & B.A. Bracken (Eds.), The psychoeducational assessment of preschool children (pp. 18-31). New York: Grune & Stratton.

Lidz, C.S. (1991). Issues in assessing preschool children. In B. A. Bracken (Ed.), The psychoeducational assessment of preschool children (pp. 18-31). Needham Heights, MA: Allyn & Bacon.

Louis, B., & Lewis, M. (1992). Parental beliefs about giftedness in young children and their relation to actual ability level. Gifted Child Quarterly, 36, 27-31.

Marland, S. (1972). Education of the gifted and talented. Report to the Congress of the United States by the U.S. Commissioner of Education. Washington, D. C.: U.S. Government Printing Office.

Martin, R. P. (1991). Assessment of social and emotional behaviour. In B. A. Bracken (Ed.), The psychoeducational assessment of preschool children (2nd ed., pp. 450-464). Needham Heights, MA: Allyn and Bacon.

McCarthy, D. (1972). Manual for the McCarthy scales of children's abilities. New York: Psychological Corporation.

McCluskey, K.W., & Walker, K.D. (1986). The doubtful gift. Kingston, ON: Ronald Frye.

Mischel, W. (1968). Personality and assessment. New York: Wiley.

Monsaas, J.A. (1985). Learning to be a world-class tennis player. In B. S. Bloom (Ed.), Developing talent in young people (pp. 211-269). New York: Ballantine.

Morelock, M.J., & Feldman, D.H. (1992). The assessment of giftedness in preschool children. In E.V. Nuttall, I. Romero, & J. Kalesnik (Eds.), Assessing and screening preschoolers: Psychological and educational dimensions (301-309). Needham Heights, MA: Allyn and Bacon.

Moss, E. (1990). Social interaction and metacognitive development of gifted preschoolers. Gifted Child Quarterly, 34, 16-20.

Nisbet, J.F. (1895). The insanity of genius. London: De LaNore.

Nuttall, E.V., Romero, I., & Kalesnik, J. (Eds.). (1992). Assessing and screening preschoolers: Psychological and educational dimensions. Needham Heights, MA: Allyn and Bacon.

O'Shea, H. (1960). Friendships and the intellectually gifted child. Exceptional Children, 26, 327-335.

Parke, B.N. (1989). Gifted students in regular classrooms. Needham Heights: Allyn and Bacon.

Pendarvis, E.D., Howley, A.A., & Howley, C.B. (1990). The abilities of gifted children. Englewood Cliffs, NJ: Prentice-Hall.

Robinson, N.M., & Weimer, L.J. (1991). Selection of candidates for early admission to kindergarten and first grade. In W.T. Southern & E.D. Jones (Eds.), The academic acceleration of gifted children (pp. 29-50). New York: Teachers College.

Roedell, W.C. (1978, August 30). Social development in intellectually advanced children. In H.B. Robinson (Chair), Intellectually advanced children: Preliminary findings of a longitudinal study. Symposium presented at the annual convention of the American Psychological Association, Toronto.

Roedell, W.C. (1986). Socioemotional vulnerabilities of young children. In J.R. Whitmore (Ed.), Intellectual giftedness in young children: Recognition and development (pp. 17-33). New York: Haworth.

Roedell, W.C. (1989). Early development of gifted children. In J.L. VanTassel-Baska and P. Olszewski-Kubilius (Eds.), Patterns of influence on gifted learners: The home, the self, and the school (pp. 13-28). New York: Teachers College.

Roedell, W.C., Jackson, N.E., & Robinson, H.B. (1980). Gifted young children. New York: Teachers College.

Sattler, J.M. (1992). Assessment of children (Rev. 3rd ed.). San Diego, CA: Jerome M. Sattler.

Schetky, D.H. (1981). The emotional and social development of the gifted child. Gifted Child Today, May/June, 2-4.

Schmitz, C.C., & Galbraith, J. (1985). Managing the social and emotional needs of the gifted: A teacher's survival guide. Minneapolis, MN: Free Spirit.

Schneider, B.H., Clegg, M.R., Byrne, B.M., Ledingham, J.E., & Crombie, G. (1989). Social relations of gifted children as a function of age and school program. Journal of Educational Psychology, 81, 48-56.

Seagull, E.A.W., & Kallen, D. J. (1978). Normal social and emotional development of the preschool-age child. In N.B. Enzer with K.W. Goin (Eds.), Social and emotional development: The preschooler (pp. 3-46). Chapel Hill, NC: Walker.

Shure, M. B., & Spivak, G. (1974). The PIPS test manual. Unpublished manuscript, Hahnemann Medical College and Hospital, Philadelphia.

Silverman, L.K. (1993). A developmental model for counseling the gifted. In L.K. Silverman (Ed.), Counseling the gifted and talented (pp. 51-78). Denver: Love.

Sloane, K.D., & Sosniak, L. A. (1985). The development of accomplished sculptors. In B. S. Bloom (Ed.), Developing talent in young people (pp. 90-138). New York: Ballantine.

Smutny, J.F., Veenker, K., & Veenker, S. (1989). Your gifted child: How to recognize and develop the special talents in your child from birth to age seven. New York: Facts on file.

Sosniak, L.A. (1985). Learning to be a concert pianist. In B.S. Bloom (Ed.), Developing talent in young people (pp. 19-67). New York: Ballantine.

Sosniak, L.A. (1990). The tortoise, the hare, and the development of talent. In M.J.A. Howe (Ed.), Encouraging the development of exceptional abilities and talents (pp. 149-164). Leicester: British Psychological Society.

Sparrow, S.S., Balla, D.A., & Cicchetti, D.V. (1984). Vineland Adaptive Behavior: (Scales Survey Form Manual Interview Edition). Circle Pines, MN: American Guidance Service.

Sternberg, R. (1981). A componential theory of intellectual giftedness. Gifted Child Quarterly, 25, 86-93.

Stile, S.W., Kitano, M., Kelley, P., & Lecrone, J. (1993). Early intervention with gifted children: A national survey. Journal of Early Intervention, 17, 30-35.

Terman, L.M. (1925). Genetic studies of genius: Mental and physical traits of a thousand gifted children (Vol. 1). Stanford, CA: Stanford University.

Thorndike, R.L., Hagen, E.P., & Sattler, J.M. (1986). Technical manual Stanford-Binet Intelligence Scale (4th ed.). Chicago: The Riverside.

Tomlinson-Keasey, C. (1990). Developing our intellectual resources for the 21st century: Educating the gifted. Journal of Educational Psychology, 82, 399-403.

Torrance, E.P., & Caropreso, E.J. (1991). Assessment of preschool giftedness: Intelligence and creativity. In B.A. Bracken (Ed.), The psychoeducational assessment of preschool children (2nd ed., pp. 430-449). Needham Heights, MA: Allyn & Bacon.

Tuttle, F.B., Becker, L.A., & Sousa, J.A. (1988). Characteristics and identification of gifted and talented students (3rd ed.). Washington, DC: National Educational Association of the US.

Vespi, L. (1989). Social/Emotional traits of G/LD children. Unpublished Masters' Thesis, University of Alberta. Edmonton, Alberta: University of Alberta.

Webb, J. T., Meckstroth, E.A., & Tolan, S.S. (1982). Guiding the gifted child: A practical source for parents and teachers. Columbus, OH: Ohio Psychology.

Wechsler, D. (1974). Manual for the Wechsler Intelligence Scale for Children. San Antonio, TX: Psychological Corporation.

Wechsler, D. (1989). Manual for the Wechsler Preschool and Primary Scale of Intelligence (Rev. ed.). San Antonio, TX: Psychological Corporation.

Wechsler, D. (1991). Wechsler Intelligence Scale for Children (3rd ed.). San Antonio, TX: Psychological Corporation.

Wexler-Sherman, C., Gardner, H., & Feldman, D.H. (1988). A pluralistic view of early assessment: The Project Spectrum approach. Theory into Practice, 27, 77-83.

Whitmore, J.R. (1980). Giftedness, conflict, and underachievement. Boston, Mass.: Allyn and Bacon.

Whitmore, J.R. (1986). Preventing severe underachievement and developing achievement motivation. In J.R. Whitmore (Ed.), Intellectual giftedness in young children: Recognition and development (pp. 113-133). New York: Haworth.

Whitmore, J.R. (1989). Re-examining the concept of underachievement. Understanding Our Gifted, 2, 1, 7-9.

Chapter III - Paper 2

Gifted preschoolers: Parent and teacher views on identification, early admission and programming

Critical to improving the chances for optimal development is the need for identification of, and intervention with, those with special needs at an early age (Guralnick & Bennett, 1987). This is true for all exceptionalities, including the gifted and talented. Unfortunately, unlike the other areas of exceptionality, gifted education has not been perceived as an area of concern because of the belief that the gifted are able to work it out for themselves (Delisle, 1992). Yet, children within this exceptionality have unique needs and ignoring one or some developmental aspect can cause deleterious effects.

The focus of this article is the investigation of the responses a survey completed by parents and preschool/kindergarten teachers about the preschool gifted. The findings of the survey were divided into two articles. The first reporting characteristics of preschool gifted children, was presented at the 11th WCGTC Conference in Hong Kong, and later published in its proceedings (Sankar-DeLeeuw, 1997). In this paper, commonalities among, and differences between, parent and teacher support for early identification, differentiated curriculum, and early entry, are discussed, and information deemed necessary by parent and teacher respondents, about raising and teaching this population, are presented. It was published in an earlier version by Roeper Review in a special issue entitled, "Gifted Young Children" (Sankar-DeLeeuw, 1999).

Literature Review of Preschool Gifted

The review of the literature deals with a discussion of terminology (giftedness and preschooler), characteristics of gifted preschoolers and their cognitive, social and emotional development. Research involving the parents and teachers of gifted children is also summarized.

Definitions of Giftedness and Preschooler

There are many competing conceptions of giftedness (Sternberg & Davidson, 1986) with definitions of giftedness ranging from a single intellectual dimension (Terman, 1925) to the recognition of multiple abilities and intelligences (Gardner, 1983; Guilford, 1956; Marland, 1972; Renzulli, 1978; Sternberg, 1981). Morelock and Feldman (1992) present the following definition of gifted children in their chapter on The Assessment of Giftedness in Preschool Children:

> Gifted children are those showing sustained evidence of advanced capability relative to their peers in general academic skills and/or in more specific domains (music, art, science, etc.) to the extent that they need differentiated educational programming. (p. 302)

Although the age designation for the term "gifted preschooler" has been consistently defined in the literature as ages 3 to 4 or 3 to 5 years, there have been inconsistent age reference to the term "young gifted." Refer to Figure 3-1 which summarizes a number of studies. Collectively, the studies span birth to over twelve years. The mean age was 5.5 years while the mode was 4 years. Caution is warranted in the interpretation of studies on the preschool gifted; information gleaned from a resource

Figure 3-1

"Young" Gifted: Age variance in research studies

Researcher(s)	Reference Term	Ages Applied												
		Birth	1	2	3	4	5	6	7	8	9	10	11	12+
Abraham & Hartwell (1985)	"gifted children", "preschool child"				/	/	/	/						
Bagnato & Neisworth (1981)	"early intervention"	X	X	X	X	X	X	X	X	/	/	/	/	/
Benbow (1986)	"identified early"										/	/	/	X
Burke (1989)	"young gifted"			X	X	X	X	X	X	X				
Burns & Tunnard (1991)	"gifted preschoolers"				X	X								
Ehrlich (1980)	"giftedness in the early years"				X	X	X	X	X					
Fatouros (1986)	"giftedness in very young children"				X	X								
Gottfried, Gottfried, Bathurst, & Guerin (1994)	"early developmental aspects"		X	X	X	X	X	X	X	X				
Johnson & Lewman (1990)	"young gifted boys and girls"				X	X								
Karnes (1983)	"young gifted children"						X	X	X	X				
Kitano (1989)	"young gifted children"						X							
Kitano (1990)	"young children"			X	X	X	X	/	/	/	/	/	/	/
Lehman & Erdwins (1981)	"young intellectually-gifted children"									X	X	X	X	X
Lehman & Erdwins (1981)	"younger gifted children"									X	X	X	X	X
Louis, Feiring, & Lewis (1992)	"gifted preschoolers"				X	X	X							
Mathews & Burns (1987)	"preschool gifted child"				X	X	X							
Roedell (1986)	"young gifted children"				X	X	X	X	/	/	/	/	/	/
Roedell, Jackson, & Robinson (1980)	"gifted young children"			/	X	X	X	/	/	/	/	/	/	/
Sandel, McCallister, & Nash (1993)	"preschool gifted children"			X	X	X	X							
Silverman (1986)	"young gifted children"				X	X	X	X	X	X	X			
Smutny & Blocksom (1990)	"preschool gifted children"					X	X							
Smutny, Veenker, & Veenker (1989)	"gifted child"		X	X	X	X	X	X	X					
Smutny, Veenker, & Veenker (1989)	"gifted preschooler"				X	X	X							
Webb, Meckstroth, & Tolan (1982)	"gifted child"			/	/	/	/	/	/	/	/	/	/	/
Wexler-Sherman, Gardner, & Feldman (1988)	"early assessment"					X	X							
Wexler-Sherman, Gardner, & Feldman (1988)	"young children"					X	X							
Wolf (1989)	"young gifted children"				X	X	X	X						
Wolfe (1989)	"gifted preschooler"				X	X								
Wright (1990)	"precocious preschoolers"				X	X	X							

(adapted from Sankar-DeLeeuw, 1997)

X X X X X Ages emphasized in study

/ / / / / Ages noted in study

requires careful consideration of the definition of giftedness utilized by the author and the age designation given to "preschooler." This study designates a preschooler as between the ages of 3 1/2 and 6 years.

Characteristics of Gifted Preschoolers

There is some similarity in descriptors used in characterizing the preschool gifted. Developmental unevenness, or asynchrony, has been noted by a number of researchers (Delisle, 1990; Hollingworth, 1942; Webb, Meckstroth, & Tolan, 1982). "The dissonance between the 10-year-old brain, the 7-year-old body, and the 6-year old social response system...is easily understood by children and adults alike and fraught with psychological pitfalls" (Genshaft, Bireley, & Hollinger, 1995, p. x).

The preschool gifted have been described by their parents as:

- divergent thinkers
- highly focused on their interests
- curious
- becoming early readers
- persistent;

and as possessing:

- high verbal ability (including large vocabularies for their age) at an early age
- an unusual sense of humor
- a wide range of interests, yet a demonstrated ability in a single area
- an unusual ability to make abstract connections in learning
- a keen perceptiveness

(Louis & Lewis,1992; Roedell, 1989; Tuttle, Becker, & Sousa, 1988; Webb et al., 1982).

Characterizations of the preschool gifted by teachers, however, have not been an area of focus in the literature. Rohrer (1995) found a two-dimensional conception of giftedness to be held by four primary (two kindergarten and two first grade) teachers: classroom performance (extremely unusual intellectual and/or academic ability) and affective style (intensity, high visibility, and/or uniqueness). Sankar-DeLeeuw (1995, 1997) described the characterizations of young gifted children reported by parents and preschool/kindergarten teachers. Parents recognized unusually long attention spans and extended on-task time more often than teachers did. Teachers also reported traits, including discordant development, emotional immaturity, socialization difficulties, and a tendency of being pushed by parents, which were not reported by parents.

Cognitive Development Specific to Gifted Preschoolers

There are a number of developmental differences from the general population which have been detected by parents of gifted children, including greater awareness and intensity from birth, and early language ability (Maxwell, 1995). Kitano's (1985) study of gifted preschoolers found a number of cognitive-related behaviors, including high levels of accumulated knowledge and thinking abilities, spontaneous incorporation of academic activities in free play, and prelogical thinking. In addition, an avoidance of, and discomfort with, ambiguity was observed.

Social and Emotional Development Specific to Gifted Preschoolers

The beginning of preschool or kindergarten can be a critical time for gifted preschoolers. They often cannot find peers at their level with similar interests, which can result in frustration and boredom (Hollingworth, 1942; Webb et al., 1982). They may develop fear or anxiety about going to school to the degree that they may choose to hide their gifts. In general, they often have difficulty understanding "why other children cannot keep up with them and why teachers fail to stimulate them to the degree that they need" (Kerr, 1991, p. 124).

When solving hypothetical social conflicts, advanced verbal social-cognitive abilities of gifted preschoolers have been reported, even when the behavioral output could not be demonstrated (Roedell, 1989; Gottfried, Gottfried, Bathurst, & Guerin, 1994); some found it difficult to share (Roedell, 1989; Roedell, Jackson, & Robinson, 1980). Their advanced vocabulary and unusual fluency can actually make it difficult for them to relate to others. To the contrary, Lehman and Erdwins (1981) found that young gifted children feel more comfortable with themselves and report more positive feelings regarding themselves and others than their peers.

Research on the affective development of gifted preschoolers could not be found.

Parents

Not only has there been an increased intensity and quality of parental involvement in early childhood services in recent years, the role of families in these services has had a larger emphasis (Paget, 1992). Between birth and the age of 5 years, families have the primary responsibility in the development of their children's competencies. There is an

important contribution made by parents to their child's giftedness; however there are special needs and problems within the families of gifted children. In addition, parents are often accused of putting pressure on their children (Rimm, 1995).

Johnson and Lewman (1990) reported gender-stereotypic patterns of parents' perceptions of their children's (3- and 4- year-olds) abilities. Leisure activities were more frequently dance and fine art/motor skills for girls and convergent games and building for boys. Vocabulary was noted as outstanding for girls, while the boys' outstanding abilities were in abstraction, curiosity, and problem solving. Parents "recognize their child's potential prior to the time that educators test for giftedness status, which is typically in the early elementary years" (Gottfried et al., 1994, p. 29). Involving the parents in the identification process has been supported, yet, the practice has not been widely adopted (Paget, 1992).

Teachers of Preschool Gifted Children

Preschool gifted children require teachers who provide learning opportunities, intellectual, social and personal, which facilitate positive school life adaptations; yet, working with these students often involves dealing with their boredom with repetitive, unchallenging tasks and frustrations with their inability to accomplish tasks due to growth or developmental discrepancies. In addition, the identification of gifted children by teachers has been reportedly more difficult the younger the child (Fatouros, 1986). However, teachers can play an important role in the prevention of bad study habits, social behavior and self-esteem problems, and disinterest, underachievement, and boredom in school by this group.

Summary of Literature Review

This literature review has provided a framework for the study reported in this article. The terms "giftedness" and "preschooler" have been discussed, and the age designation for preschooler was assigned as between 3 ½ and 6 years. Caution is warranted in applying the findings of research conducted on older gifted children to the preschool gifted. This statement is particularly true in the area of emotional development. Sensitivities, intensities, and perfectionism cannot automatically be implied to this population.

Research studies discussing parents and teachers in relation to gifted preschool children have also been presented. The need for a comprehensive investigation into the views of parents and teachers about young gifted children, identification, early admission and programming, does not exist in the literature and such information is necessary for successive collaborations by these groups in the identification of, and programming for, this population.

The Survey

An exploratory study of the issues and concerns of the parents of gifted preschoolers and of the preschool/kindergarten teachers of gifted children about early identification and programming for giftedness was undertaken using an author-generated survey, the Giftedness in Young Children Survey. The survey was designed to examine teacher and parent attitudes toward various issues associated with the identification of giftedness in this population, including characteristics the children demonstrated, the

concept of early school entry and information deemed relevant by the respondents to the raising/teaching of this population. Both teacher and parent forms were identical, except for one question.

A letter of introductory remarks and initial questions focused parents and teachers on the 3 1/2 to 6 year old age group. The parents were asked the close-ended question, "Do you have, or have you had, a child in preschool or kindergarten that you suspect is, or suspected at the time was, gifted (regardless of any identification that occurred after age 6)?" Teachers were asked the close-ended question, "Have you ever had a child in your preschool or kindergarten class that you suspected was gifted?" All teacher and parent respondents replied in the affirmative. The survey then asked the research questions (see below). The survey concluded with an option to provide personal information (name, address, telephone number), involvement in gifted education on the parent version (i.e., as parent, ABC member, teacher, principal), and other grades taught on the teacher version. Each mailout was accompanied by a letter of introduction and a self-addressed, stamped envelope. The same deadline was given as a return date for both groups.

Research Questions

Teachers and parents were asked the following questions: 1) do you believe that giftedness can be identified between the ages of 3 1/2 and 6 years?; 2) do you believe that giftedness should be identified between the ages of 3 1/2 and 6 years?; 3) what additional information would you have found beneficial to raise/teach a gifted child? what professionals could have provided such information?; 4) do you believe that gifted children in this age group require a curriculum that is different from average in order to

meet their unique needs?; 5) do you believe that gifted preschoolers should be admitted to kindergarten at a younger age than specified by the Early Childhood Services (ECS) entry age criteria?; 6) what characteristics are important in determining early entrance of a child? physical? intellectual? social/emotional? if all, equally? Their responses to these questions form the basis for this article.

Methodology

Sample

This study took place in Alberta, a rich multi-cultural society with good public school systems attended by all but a very small percentage of school-aged children. Respondents were not asked to indicate racial, marital, or SES particulars because, given the limited range of diversity within the population sampled, such particulars may have identified respondents. Parents were not asked to identify exceptional educational characteristics (i.e., ADHD, LD). The number of boys and girls was approximately equal.

Due to time and budgetary constraints, the parent survey was circulated to 91 randomly selected members of the 159 members in the Alberta Associations for Bright Children and the Association for Bright Children - Edmonton. The majority of the responses came from parents in Edmonton. The response rate was 51% and anonymity was maintained by 19% of the parent surveys returned.

The teacher survey was circulated to 44 preschool teachers randomly selected from a directory of 112 preschools licensed in the Edmonton area by the Edmonton Preschool Association and ten (10) kindergarten teachers contacted through Kindergarten Showcase (a conference held by the Edmonton Public School Board to introduce various

issues to parents who have children entering kindergarten in the upcoming academic year). The teacher response rate was 52% and anonymity was maintained by 32% of the teacher surveys returned.

It is highly unlikely that the children described by the parents are those also described by the teachers. In addition, teachers may not necessarily have had experiences with young gifted children, but the parents likely all had such experiences. Therefore, drawing inferences between respondent groups may be inappropriate.

Procedure

The remaining six questions of the Giftedness in Young Children Survey, not addressed by Sankar-DeLeeuw (1995, 1997), are the focus of this article. Data from the close-ended questions were entered into preset spreadsheets verbatim, and broken down by question. Modifications were made to the spreadsheets analyzing the open-ended questions to allow individual responses and groups of responses to be reported.

Analysis

Comparisons were made between parent and teacher response frequencies. Relevant comments from respondents were also used to qualify specific issues.

Results and Discussion

Question 1: do you believe that giftedness can be identified between the ages of 3 1/2 and 6 years? Ninety-one percent of parents believed that giftedness can be identified

at early ages, while 78% of the teachers surveyed reported that identification can be made early.

Question 2: do you believe that giftedness should be identified between the ages of 3 1/2 and 6 years? Seventy-four percent of parent respondents believed that the preschool gifted should be identified, in contrast to 50% of the teachers. A qualification to a parent's yes answer was that "frustration and a desire to fit in strike early; the brightest are often the best chameleons, acting like everyone else, and inwardly cursing their difference." A parent who replied "no" qualified the answer with "parents tend to know how to nurture their children, and the parents are the major influence at this stage." Three parent respondents checked both yes and no; one of them stated that "it depends on how well the child and parents are coping." Two parents did not respond to this question.

Two teacher respondents checked both yes and no, and two teachers did not answer. Two teachers supporting identification noted "every child's individuality should be respected and their developmental timetable encouraged" and "...because giftedness is a special need and if identified early enough we can provide special programming; they won't be labeled as having a "behavioral" problem."

Question 3: what additional information would you have found beneficial to raise/teach a gifted child? what professionals could have provided such information? Additional information requested by parents included resources for additional challenge (materials, toys and methods), information on disciplinary techniques (anger management, coping with high emotional rages, frustration, and independence), educational options (testing early, learning styles, thought processes, types of intelligences, dealing with systems which "hold gifted children back"), and parenting

guidelines (individuality, creativity, imagination, high energy levels, affective qualities, coping with natural disasters/wars/frightening events, socialization with adults and older agemates). Creel and Karnes (1988) found parents reported a need for information on available programs, discipline, underachievement and advocacy.

Teacher respondents varied in the information they reported beneficial from an educator's standpoint. The information requested was how to balance different rates of development to prevent frustration, advocacy for, and education about, supportive programming (i.e., definition of gifted, activities – both challenging and play-based, "success rate" for acceleration – academically and socially). One respondent stated how "being a parent of a gifted child helps." Another reported that tests should not be "available to test 3 year olds . . . too many parents think they can 'create' a gifted child." while yet another stated "at this age, it's probably best not to know. I don't feel that preschool programs should be heavily academic. Gifted children need to learn how to play before they begin formal learning."

Professionals whom parents believed would be helpful were psychologists (child and family counsellors, psychometrists), school staff (principals, teachers, special needs teachers, school counsellors, preschool/daycare staff), parent support groups (Association for Bright Children), medical staff (doctors, pediatricians, public health nurse), media consultants and radio talk shows, and political lobbyists. One respondent generally stated "those that understand."

Professionals noted by teacher respondents were school staff (consultants, educators and counsellors), psychologists, child development specialists (capable of identifying norms for different age groups), speech clinicians, sociologists, parents (who

seek extra stimulation supportive of their children), guest speakers/ workshops, and the Association for Bright Children.

Question 4: do you believe that gifted children in this age group require a curriculum that is different from average in order to meet their unique needs? Seventy-six percent of the parents surveyed believed that preschool gifted children require a different curriculum, and 32% of the teachers agreed. Two parents' qualifications to affirmative responses stated "they need challenges even at a young age" and "Early Childhood Services (ECS) requires children to move quickly from one activity to another and [it] is frustrating to those who can concentrate and want to spend more time on projects." A teacher opposing this practice stated, "I've had success with providing open-ended activities. These kind of children often take more time to complete a regular activity because of detail and excellence in quality." Another teacher noted that "gifted children will excel [sic] in any program, however a program geared specifically to enhance their skills would allow them to progress further."

Question 5: do you believe that gifted preschoolers should be admitted to kindergarten at a younger age than specified by the Early Childhood Services (ECS) entry age criteria? Kindergarten programming in Alberta exists for those who, by March 1st, are 5 years of age. It is possible for a child to have 2 years of kindergarten. To date, there are no early entry programs in place, but a number of appeals are made each year. Thirty-seven percent of the parents, but only 7% of teachers, agreed with early entrance into kindergarten. Braga (1971) also found negative attitudes by primary teachers toward early entrance. A qualification made by a parent's affirmative answer stated "our daughter . . . is currently reading Charlotte's Web. She has to wait until September . . . to

enter ECS to learn A B C D . . . why?" A parent opposing this option stated "the preschool years can be so wonderful for a parent(s) to develop security, self-esteem, moral values, friendship, trust, etc. that are so very much needed before academic intervention. A child needs to be a child. Their brilliance can take away some childhood years." A teacher supporting early entry stated, "if they are physically and emotionally mature (and many are!), they actually benefit from a group setting," whereas a teacher opposing it noted "definitely not. They need time to develop socially and emotionally as well. (In many cases it is even more necessary for these children)."

Question 6: what characteristics are important in the determining the early entrance of a child? physical? intellectual? social/emotional? if all, equally? Although 7% of teachers agreed with early entrance, all but two answered this question.

Forty-one percent of parent respondents acknowledged the importance of physical characteristics (i.e., gross and fine motor skills, height, weight) in determining the early entrance of a child, yet this domain was believed to be important by 65% of teacher respondents. Two parent respondents were unsure how to answer.

The intellectual domain was considered to be important for early entrance consideration by 70% of the parents and 73% of the teachers. One parent respondent and one teacher respondent were unsure how to answer.

Social-emotional development was considered to be important for early entrance consideration by 89% of the parents, and 92% of the teachers. One parent respondent checked both yes and no for this domain and one parent was unsure how to answer.

Thirty-three percent of parents believed all three domains had equal importance in early entrance consideration, while 43% did not report these domains to have equal

importance and 13% were unsure or did not believe in the practice of early entrance. A fairly even division existed between teachers who consider all three domains to be equal and those who do not, 42% and 46% respectively.

The greatest concern indicated, by both parent and teacher respondent groups, was in reference to the social maturity of early entrants, while the physical development was of least concern. Some similarity exists with the McCluskey and Walker (1986) warning that "students who are accelerated, though qualified academically, may be too immature socially, physically, and emotionally to achieve at the higher level of placement" (p. 12).

There have been few documented studies focusing on these domains in the early years (Austin & Draper, 1981; Horowitz, 1987; Janos & Robinson, 1985; Lehman & Erdwins, 1981; Roedell, Jackson, & Robinson, 1980). Nonintellectual characteristics of gifted children have received less attention than characteristics of an academic and intellectual nature (Clark, 1992; Gottfried et al., 1994; Webb et al., 1982). Yet this study revealed that both parents and teachers acknowledge domains, other than intellectual, as important, and, in the case of teachers, social/emotional and physical domains are as important as the intellectual domain.

Conclusion

This article explores the commonalities and discrepancies between parent and teacher conceptions of giftedness and views on identification, early admission, and programming within this age range which have not previously been addressed. Early identification has been recommended and supported (Bloom, 1985; Feldman, 1980) and the importance of appropriate environmental support stressed (Feldman & Goldsmith,

1986). Yet only half of the surveyed teachers in this study believed that early identification should be done. Great discrepancy exists between parents and teachers surveyed as to the value of the educational early entry option.

References

Abraham, W., & Hartwell, L.K. (1985). Early identification of the preschool child: A study of parent and teacher effectiveness. Gifted Education International, 3, 127-129.

Austin, A.B., & Draper, D. C. (1981). Peer relationships of the academically gifted: A review. Gifted Child Quarterly, 25, 129-133.

Bagnato, S.J., & Neisworth, J.T. (1981). Linking developmental assessment and curricula: Prescriptions for early intervention. Rockville, MD: Aspen.

Benbow, C. (1986). SMPY's model for teaching mathematically precocious students. In J.S. Renzulli (Ed.), Systems and models for developing programs for the gifted and talented (pp. 1-25). Mansfield Center, CT: Creative Learning.

Bloom, B.S. (1985). Developing talent in young people. New York: Ballantine.

Braga, J.L. (1971). Early admission: Opinion versus evidence. Elementary School Journal, 72, 35-46.

Burke, L. (1989). Identifying and serving the young gifted: A program for reaching classroom teachers. Gifted child today, 63, 10-12.

Burns, J.M., & Tunnard, J.D. (1991). Public programming for precocious preschoolers. Gifted Child Today, Nov/Dec, 56-60.

Clark, B. (1992). Growing up gifted: Developing the potential of children at home and at school (4th ed.). New York, NY: Macmillan.

Creel, C.S., & Karnes, F.A. (1988). Parental expectancies and young gifted children. Roeper Review, 11, 48-50.

Delisle, J. R. (1992). Guiding the social and emotional development of gifted youth: A practical guide for educators and counselors. White Plains, NY: Longman.

Ehrlich, V.Z. (1980). Identifying giftedness in the early years: From three to seven. In S. Kaplan (Ed.), Educating the preschool/primary gifted and talented (pp. 3-22). Ventura, CA: National/State Leadership Training Institute on the Gifted and Talented.

Fatouros, C. (1986). Early identification of gifted children is crucial . . . but how should we go about it? Gifted Education International, 4, 24-28.

Feldman, D.H. (1980). Beyond universals in cognitive development. Norwood: Ablex.

Feldman, D.H., & Goldsmith, L.T. (1986). Nature's gambit - child prodigies and the development of human potential. New York: Basic.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic.

Genshaft, J.L., Bireley, M., & Hollinger, C. L. (1995). Serving gifted and talented students: A resource for school personnel. Austin, TX: Pro-ed.

Gottfried, A.W., Gottfried, A.E., Bathurst, K., & Guerin, D.W. (1994). Gifted IQ Early developmental aspects: The Fullerton Longitudinal Study. New York: Plenum.

Guilford, J. (1956). The structure of intellect. Psychological Bulletin, 53, 267-293.

Guralnick, M.J., & Bennett, F.C. (1987). A framework for early intervention. In M.J. Guralnick, & F.C. Bennett (Eds.), The effectiveness of early intervention for at-risk & handicapped children (pp. 365-382). Orlando, FL: Academic.

Hollingworth, L.S. (1942). Children above 180 IQ, Stanford-Binet: Origin and development. New York: World.

Horowitz, F.D. (1987). A development view of giftedness. Gifted child quarterly, 31, 165-168.

Janos, P.M., & Robinson, N.M. (1985). Psychosocial development in intellectually gifted children. In F.D. Horowitz & M. O'Brien (Eds.), The gifted and talented (pp. 149-195). Washington, DC: American Psychological Association.

Johnson, L.J., & Lewman, B.S. (1990). Parents perceptions of the talents of young gifted boys and girls. Journal for the Education of the Gifted, 13, 176-188.

Karnes, M.B. (Ed.). (1983). The underserved: Our young gifted children. Reston, VA: ERIC Clearinghouse on Handicapped and Gifted Children.

Kerr, B. (1991). A Handbook for counseling the gifted and talented. Alexandria, VA: American Association for Counseling and Development.

Kitano, M. (1985). Ethnography of a preschool for the gifted: What gifted young children actually do. Gifted children quarterly, 29, 67-71.

Kitano, M. (1989). The K-3 teacher's role in recognizing and supporting young gifted children. Young Children, 44, 57-63.

Kitano, M.K. (1990). Intellectual abilities and psychological intensities in young children: Implications for the gifted. Roeper Review, 13, 5-10.

Lehman, E.B., & Erdwins, C.J. (1981). The social and emotional adjustment of young, intellectually-gifted children. Gifted Child Quarterly, 25, 134-137.

Lewis, M. & Louis, B. (1991). Young gifted children. In N. Colangelo & G. Davis (Eds.), Handbook of gifted education (pp. 365-81). Needham Heights, MA: Allyn & Bacon.

Louis, B., Feiring, C., & Lewis, M. (1992). Identifying gifted preschoolers (teacher's manual and videotape). New Brunswick, NJ: Institute for the Study of Child Development.

Louis, B., & Lewis, M. (1992). Parental beliefs about giftedness in young children and their relation to actual ability level. Gifted Child Quarterly, 36, 27-31.

Marland, S. (1972). Education of the gifted and talented. Report to the Congress of the United States by the U.S. Commissioner of Education. Washington, D.C.: U.S. Government Printing Office.

Mathews, F.N., & Burns, J.M. (1987). An assessment challenge: Developing screening procedures for the preschool gifted child. Journal for the Education of the Gifted, 10, 215-225.

Maxwell, E. (1995). The changing developmental needs of the gifted: Birth to maturity. In J. L.Genshaft, M. Bireley, & C. L. Hollinger, C. L. Serving gifted and talented students: A resource for school personnel (pp. 17-30). Austin, TX: Pro-ed.

McCluskey, K.W., & Walker, K.D. (1986). The doubtful gift. Kingston, ON: Ronald Frye.

Morelock, M.J., & Feldman, D. H. (1992). The assessment of giftedness in preschool children. In E.V. Nuttall, I. Romero, & J. Kalesnik (Eds.), Assessing and screening preschoolers: Psychological and educational dimensions (pp. 301-309). Needham Heights, MA: Allyn and Bacon.

Paget, K.D. (1992). Parent involvement in early childhood services. In M. Gettinger, S.N. Elliott, & T.R. Kratochwill (Eds.), Preschool and early childhood treatment directions (pp. 89-111). Hillsdale, NJ: Lawrence Erlbaum.

Renzulli, J.S. (1978). What makes giftedness? Reexamining a definition. Phi Delta Kappan, 60, 180-184.

Rimm, S.B. (1995). Impact of family patterns upon the development of giftedness. In J.L. Genshaft, M. Bireley, & C. L. Hollinger (Eds.), Serving gifted and talented students: A resource for school personnel (pp. 243-256). Austin, TX: Pro-ed.

Roedell, W.C. (1986). Socioemotional vulnerabilities of young children. In J.R. Whitmore (Ed.), Intellectual giftedness in young children: Recognition and development (pp. 17-33). New York: Haworth.

Roedell, W.C. (1989). Early development of gifted children. In J.L. VanTassel-Baska and P. Olszewski-Kubilius (Eds.), Patterns of influence on gifted learners: The home, the self, and the school (pp. 13-28). New York: Teachers College.

Roedell, W.C., Jackson, N.E., & Robinson, H.B. (1980). Gifted young children. New York: Teachers College.

Rohrer, J.C. (1995). Primary teacher conceptions of giftedness: Image, evidence, and nonevidence. Journal for the Education of the Gifted, 18, 269-283.

Sandel, A., McCallister, C., & Nash, W.R. (1993). Child search and screening activities for preschool gifted children. Roeper Review, 16, 98-102.

Sankar-DeLeeuw, N. (1995, July/August). Gifted preschoolers: Survey of characteristics perceived by parents and teachers. Paper presented at The 11th World Conference on Gifted and Talented Children, Hong Kong.

Sankar-DeLeeuw, N. (1997). Gifted preschoolers: Surveys of characteristics perceived by parents and teachers. In J. Chan, R. Li, & J. Spinks (Eds.), Maximizing potential: Lengthening and strengtening our stride (Proceedings of The 11th World

Conference on Gifted and Talented Children) (pp. 399-414). Hong Kong: University of Hong Kong.

Sankar-DeLeeuw, N. (1999). Gifted preschoolers: Parent and teacher views on identification, early admission and programming. Roeper Review, 21, 174-9.

Silverman, L.K. (1986). Parenting young gifted children. In J.R. Whitmore (Ed.), Intellectual giftedness in young children: Recognition and development (pp. 73-87). New York: Haworth.

Smutny, J.F., & Blocksom, R.H. (1990). Education of the gifted: Programs and perspectives. Bloomington, IN: Phi Delta Kappa Educational Foundation.

Smutny, J.F., Veenker, K., & Veenker, S. (1989). Your gifted child: How to recognize and develop the special talents in your child from birth to age seven. New York: Facts on file.

Sternberg, R. (1981). A componential theory of intellectual giftedness. Gifted Child Quarterly, 25, 86-93.

Sternberg, R. J., & Davidson, J.E. (1986). Conceptions of giftedness. New York: Cambridge University.

Terman, L.M. (1925). Genetic studies of genius: Mental and physical traits of a thousand gifted children (Vol. 1). Stanford, CA: Stanford University.

Tuttle, F.B., Becker, L.A., & Sousa, J.A. (1988). Characteristics and identification of gifted and talented students (3rd ed.). Washington, DC: National Educational Association of the United States.

Webb, J. T., Meckstroth, E.A., and Tolan, S.S. (1982). Guiding the gifted child: A practical source for parents and teachers. Columbus, OH: Ohio Psychology.

Wexler-Sherman, C., Gardner, H., & Feldman, D.H. (1988). A pluralistic view of early assessment: The Project Spectrum approach. Theory into Practice, 27, 77-83.

Wolf, J.S. (1989). Consultation for parents of young gifted children. Roeper Review, 11, 219-221.

Wolfle, J. (1989). The gifted preschooler: Developmentally different, but still three or four years old. Young Children, 44, 41-48.

Wright, L. (1990). The social and nonsocial behaviors of precocious preschoolers during free play. Roeper Review, 12, 268-274.

Chapter IV - Paper 3

Case Studies of Gifted Kindergarten Children - Profiles of Promise

The early years have been considered formative, and critical, to subsequent cognitive, social and emotional development, yet research on young children has focused on commonalities; individual differences and abnormally advanced development are often viewed as, "'troublesome noise' rather than objects of interest in themselves" (Robinson, 1993, p. 507). Despite considerable growth in the field of school psychology, identification of, and intervention with, the young gifted have received little emphasis; most notably neglected are gifted school-entry-aged children. So few areas with respect to the young gifted have been researched that much uncertainty still exists about the nature and fostering of giftedness and talent at this age.

There has been a preponderance of retrospective studies in the examination of the early lives of the highly gifted (Albert, 1980; Cox, 1926; Goertzel, Goertzel, & Goertzel, 1978). Bloom's (1985) study on world-class achievers found their early years to consist of warm and gentle nurturance. Prodigies, whose adult-level talents emerge by middle childhood, are rarely addressed prior to school entry (Feldman & Goldsmith, 1986; Radford, 1990). The accuracy of parent and teacher identification has also been examined. Because of biased sampling from high socioeconomic areas, early studies of the young gifted tended to conclude that they were superior in all facets of development. Unfortunately, these studies have instituted firmly held "beliefs" that these children are able to overcome their problems independently and will rise to the top, regardless of any intervention provided.

This study utilized an in-depth, qualitative case study research approach, as described by Bogdan and Biklen (1992), to investigate the lives of gifted kindergarten children. When studying sub-populations of gifted students, it is difficult to obtain large population samples and it is not possible to employ random selection as the identification of the gifted and talented within this age group is not common practice. Very few studies of this population have been undertaken in "present time," when the children are actually experiencing events, such as school programs, parenting, social relationships and other influences that contribute to their overall development. By focusing on the present, characterizations of particular and idiosyncratic features of the child's development and more detailed attention to environmental factors influencing the individuality and diversity of this population can be acquired. Retrospective studies, by contrast, are subject to the inaccuracies of the recollections of older memories. This study allowed growth and change experiences to be observed firsthand.

There have been a number of research case studies conducted within gifted education. Children with IQs exceeding 180 (Hollingworth, 1942), gifted twins (Witty & Coomer, 1985), eminent historical figures (Goertzel & Goertzel, 1962), adolescents (Flack, 1983), world class performers (Bloom, 1985), prodigies (Feldman & Goldsmith, 1986), and the radical acceleration of an Australian extraordinarily gifted child (Gross, 1986) are all examples of research utilizing this methodology. Case study techniques were used to develop theory unique to special populations of gifted individuals. Whitmore and Maker (1985) focused on gifted individuals with disabilities, including those with hearing, visual, and physical impairment, and learning disabilities. However, these research studies, with the exception of Gross (1986), have focused on intellectual

and academic characteristics rather than the overall development of these individuals within a social and academic setting.

In previous studies of young gifted children, I have focused on several issues surrounding giftedness in this population (i.e., characteristics, identification, early school entry, parenting and teaching information) using an author-generated, exploratory survey which was circulated to parents of gifted children and preschool/ kindergarten teachers (Sankar-DeLeeuw, 1995; 1997; 1999). Although parent and teacher respondents commonly identified the majority of reported characteristics of giftedness, teachers emphasized emotional immaturity and pushy parents (Sankar-DeLeeuw, 1995; 1997). Even though both respondent groups believed that early identification can be accomplished, they differed in their support of the practice. A qualitative case study methodology was selected to further investigate these issues.

Early life experiences can powerfully impact on attitudes toward learning and later achievements in education. The purpose of this study was to: (a) delineate developmental characteristics; and (b) explore educational needs which apply to the young gifted. This information can be used to provide the foundation for the provision of developmentally appropriate curricula.

Methodology

Participant Selection

In order to obtain subjects, this study was publicized through a number of channels, including support groups for parents of gifted children, public and separate school boards throughout Alberta, preschool and early childhood education

organizations, early childhood and gifted councils of the Alberta Teachers' Association, charter schools for the gifted, and chartered provincial psychologists known to have a particular interest in gifted and talented children. A broadcast letter, nomination form, and consent forms, all utilized in the selection process, can be found in Appendices C to E. The initial criteria for identifying participants were: a) an intelligence quotient (IQ) score at or greater than 130 on the Stanford-Binet Intelligence Scale IV (Thorndike, Hagen, and Sattler, 1986); b) a chronological age between 5 and 6 during the years 1997-1998; and c) an expressive language score equal to or greater than the 75th percentile on the Expressive One-Word Picture Vocabulary Test - Revised (Gardner, 1990). Of the twenty-four nominations (four girls and twenty boys) received, twelve met the specified criteria.

From these twelve, four participants were selected to represent: a) distinctiveness of characteristics; and b) a variety of educational settings. A fifth participant, Xiang-Huo, although not meeting the cognitive criterion, was also selected for the reasons explained below. All five children were between five years, seven months (5-7) and five years, eleven months (5-11) of age at the outset of the study. With the exception of Xiang-Huo, their IQs ranged from 131 to 141. The students' expressive language measures ranged from the ninety-fourth to above the ninety-ninth percentiles (age equivalents between 7-10 and 11-11). Three children underwent cognitive assessments independently of this project: Patrick, who needed an IQ measurement as a requirement for entrance into a charter school; Xiang-Huo, at his teachers' suggestion, to determine current intellectual and academic functioning; and Jane, whose assessment was used to explore programming options because she was eager to begin school.

In the interest of maintaining confidentiality and anonymity, the children and their families were asked to provide pseudonyms for themselves, while pseudonyms where assigned to the children's teachers, classmates, and friends. Identifying particulars of the schools were also modified.

Patrick was nominated by his kindergarten teacher who noted that he "excels verbally and shows strength in logical reasoning." He was chosen because his reading and writing skills are at the kindergarten level (age and grade appropriate), and because he attended one of the two charter schools specializing in the education of students who are gifted and talented. Physically, Patrick was observed to be very small, yet at 5-11, he was the oldest in the study. He was very affectionate, engaging, and especially verbal. In his kindergarten classroom, which consisted of fourteen students, Patrick was very popular and often was the first one picked by his classmates for paired activities. Moreover, Patrick's closest friend was six years older; their favorite activity was to "make action movies" in their neighborhood. He was also described, and observed, as being very comfortable in adult company. He also enjoyed many sports, including Taekwondo, swimming and tennis. Patrick's parents, both high school graduates (UK educated), were a sales manager and a registered nurse. Patrick has a ten-year old sister.

Xiang-Huo was nominated by his kindergarten teachers, both of whom described him as, "reading, running a computer with ease, doing high level math (multiplication & division), [and as having] good oral language skills." Reported behaviors, and his parents' and teachers' confidence that his assessment results (IQ=116) far underestimated his ability were the driving force behind his inclusion. Initially, there was surprise and shock by both parents and teachers in reaction to Xiang-Huo's low assessment scores

(attained independently from this project). Comments on the psychological assessment report stated that he was "very verbal throughout, although difficult to admit [that he] didn't know [an] answer... eager to try more challenging items... often completed uninteresting tasks with [his] eyes closed or not looking at the paper and refused to do some (non-compliance)... [and on creative tasks, there was] not a lot of effort, [he] hurried through." Xiang-Huo looked older than his age would indicate, but he was the youngest in the study. Very quickly, he revealed his independence, humor, and self-challenging nature (i.e., spoke without ending a sentence or taking a breath, and drew without lifting his pencil from the page). Xiang-Huo's school, an independent preschool and kindergarten, provided individualized programming and a small student-teacher ratio based on the Project Approach (Katz & Chard, 1989), encouraging young children to explore their environment and express themselves through an in-depth study of a particular topic. There were twenty-two (three preschool and nineteen kindergarten) students and four teaching staff in his classroom. Xiang-Huo's mother was the general manager of a computer company, and his father was a professor of engineering sciences. Xiang-Huo's eleven-year-old sister was a source of information for him; he often rummaged through her school bag for books to read and exercises to complete. Xiang-Huo is first generation Chinese Canadian. Although English is predominately spoken at home, Xiang-Huo converses in fluent Chinese to his paternal grandparents, who also live with his family.

Cole was nominated by his kindergarten teacher and his parents. He was characterized by his nominators as "inquisitive, determined, goal oriented, [having a] strong sense of humor, introspective, very energetic, [and] tenacious...he would

'practice' for quite a length of time." In addition, he was interested in a variety of sports (basketball, speed skating), academics (particularly math and reading), and constructing things from Lego, Knex, and other building devices (evident during his assessment by his strengths in abstract/visual skills and pattern analysis). Cole was chosen because, in addition to the above-mentioned characteristics, he was noted by his parents and teacher as not being sensitive to other children in his classroom, and furthermore because Cole's school is a district site for The Academic Challenge Program [ACP]. His kindergarten class had twenty-six students. His teacher stated that ACP "is a way of looking at the world differently, a way of being able to process information that is different from other children and you can see it in kindergarten... Cole is able to process information instantaneously... his mind is spinning with questions. It is not taught." In discussing school demographics, she continued, stating, "these kids come well-trained... it's the area. These people [adult community in surrounding area] are educated. They know that its important to read to their child every night. They talk to their children, they take them places...and it shows." Cole had an eleven-year-old sister. His mother was a high school teacher, and his father was a graphics designer. According to Cole's parents, his sister "straightens" Cole up about things, his voice of reason.

Jane was nominated by her kindergarten teacher and her parents. Her teacher described her as "bright [with] very good attending skills." Her mother noted "her reading skills, 'take charge' attitude, love [for] challenges, [and] fear of failure and ridicule." She was chosen because of her observational skills, focused concentration and motivation, engaging nature, and very precise language use. During the initial home visit, Jane illustrated several science experiments on static electricity, performed a music

recital, and appeared to read flawlessly with emotion and seemingly little effort. Jane also attended ACP, although at a different district site than Cole. There were fifteen students in her classroom. Jane's mother was a communication and marketing specialist and private consultant, and her father was an independent businessman. Jane was an only child. Access to a diary, kept throughout Jane's mother's pregnancy through to the present, made an interesting addition to this study's data collection.

Sawyer was nominated by her preschool teacher from the previous year, and her parents. Her nominators described her as having "an advanced vocabulary and a high level of reading comprehension. She readily sees relationships, detects patterns, makes generalizations, and is able to transfer her knowledge from one area to another... She is highly observant and has an excellent eye for, and memory of, detail. She is very rule- and routine-oriented." She was chosen because her nominators also noted her overwhelming shyness and nervousness with new people or situations. Her kindergarten teacher was surprised by Sawyer's nomination, describing Sawyer as "a selective mute" at the beginning of school, which continued for four months, and how she socially lagged behind, spending all of her time by herself, hiding in the reading center, reading, although never reading out loud. Sawyer's teacher continued, commenting, "you couldn't tell she was in the room." Sawyer was extremely shy initially, and not entirely comfortable with her meeting with the researcher, although she did allow her mother to leave the room after approximately twenty minutes together. She was not willing to guess under any circumstance (i.e., prompting, support) and waited to be told how to respond, or to state her response. She appeared anxious and insecure with her own ability. She was most at ease with the verbal memory tasks. Over time, she was challenged by the assessment

process and persisted through all elements. Her behavior strongly suggested that her measured scores may be an underestimation of her ability. Sawyer attended an inclusive, multi-cultural school setting where the teaching staff use Gardner's (1983) theory of multiple intelligences to acknowledge gifts in different areas occurring across all grades, kindergarten to six. There were nineteen students in her classroom, including one autistic child (with a funded aide). Sawyer's mother was a stay-at-home mother, although she had completed one year of a university arts degree. Her father, a lawyer for eight years, was completing a doctoral degree in business. Sawyer also has a four-year old brother.

Data Gathering

Standardized Assessments.

A number of achievement tests were utilized for: (i) reading, the Woodcock Reading Mastery Test - Revised (WRMT-R; Form G; Woodcock, 1987) and the Woodcock-Johnson Tests of Achievements - Revised (Woodcock & Johnson, 1989); (ii) receptive language, the Peabody Picture Vocabulary Test - Revised (PPVT-R, Form L; Dunn & Dunn, 1981); (iii) math, the Canadian edition of KeyMath Revised: A Diagnostic Inventory of Essential Mathematics (KeyMath-R; Form A; Connolly, 1991), the Woodcock-Johnson Tests of Achievements - Revised (Woodcock & Johnson, 1989); (iv) fine motor skills, the Developmental Test of Visual-Motor Integration (Fourth edition)(VMI; Beery, 1997); and (vi) memory, the Woodcock-Johnson Tests of Cognitive Ability (WJ-R COG; Woodcock & Johnson, 1990). These tests were individually administered to the children over a number of meetings ranging from one to three hours, with settings including at their homes, schools, and the author's office. The order of test

presentations was the same for all subjects and no more than two tests where given to any one child on any one occasion.

The difficulty in attaining reliable assessment information of children of this age was appreciated. Individual intellectual and academic assessments of the participants varied across a continuum from efficient, quick, and on-task behaviors that produced high degrees of confidence in the measured outcomes to long, sporadic responses requiring much encouragement, which resulted in lower levels of reliability in the measured scores. Xiang-Huo's independent intellectual assessment raised some concern with the rapport development, patience, redirection and increased time, often required in the reliable and valid appraisal of young gifted children. Sawyer's academic assessments were completed in uncomfortably hot weather and at her home while her brother was downstairs watching videos; Sawyer really wanted to be a part of that video activity. Her results may be an underestimation in some areas due to these distractions. However, the intellectual assessment results provided all the parents, except for Xiang-Huo's, with confirmation of their long-held hunches and suspicions about their respective child's abilities.

Observations.

Observations occurred in a number of settings (homes, schools, and other settings in which the children were involved, e.g., skating arenas, music bands, art and swimming classes), as outlined by Bogden and Biklen (1992). Each setting was observed at least four times (spaced over three months) and certain times of the day worked better for some observations. Samples of behavior from several different times of day over several occurrences were attained. Although the individual participant is the targeted subject,

observations also involved large or small groups of individuals at the above-mentioned settings. Setting visits were accessed over approximately a one hour duration, with specific observations lasting two to ten minutes.

A continuum of observation, as outlined by Heath (1985), was employed, from non-reactive to reactive: non-participating observer, transient observer, observing participant, and participant observer. A variety of record mechanisms were utilized in this investigation, including journal entries, audio and videotape recordings, and time sampling.

Questionnaires.

A Parent Questionnaire was developed for the study (see Appendix F) and completed by the parents of each participant to provide information on their child's birth and medical history, personal experiences, and parental perceptions of functioning. A Teacher Questionnaire was also developed for the study (see Appendix G) and completed by the teachers of each participant in order to provide information on the child's cognitive (expressive and receptive language), psychomotor (coordination), and social functioning.

Interviews.

Interviews were used to review information obtained from questionnaires, clinical testing, observations, and other sources of information. Semi-structured and focused interviews, as outlined by Borg and Gall (1989), were conducted with the children, and their parents and teachers. Interviews with the children were based on a protocol

developed for the study (see Appendix H). As was expected, interviews with this age group also consisted of informal and unplanned opportunities with the participants themselves. Interviews with parents and teachers were based on their respectively completed questionnaires. Three to four hours over two, or three, sessions were utilized with the parents and teachers of each participant (each session lasting between 30 and 120 minutes and held approximately one to two months apart). Two hours over two to three sessions were held with each participant; the first of which were held as extension of the first interview with respective parents. All interviews were audiotaped, and subsequently transcribed verbatim. Prior to each subsequent interview, parents and teachers received a transcription of the previous interview. They were encouraged to read their copy and make any corrections or clarifications. Interviews were used to develop content ideas and suggested directions for final interviews.

Data Analysis

Data collection and analysis are simultaneous processes in qualitative research (Merriam, 1988; Yin, 1994). In accordance with Yin's (1989) method of establishing a case study data-base, an ingredient to enhance the reliability of case studies, a data-base of the information collected from these cases was created and maintained. Following review by respondents, interview and questionnaire transcripts were entered into the data-base. All of the test and observational data, including the transcripts, were triangulated to assure the reliability and validity of this process (Creswell, 1994). Data analysis from this data-base involved two types of coding: open coding and axial coding (Strauss & Corbin, 1990). From open coding, patterns, categories, and themes emerged from the

data through "the process of breaking down, examining, comparing, conceptualizing, and categorizing data" (Strauss & Corbin, 1990, p. 61). The themes that emerged were circulated to the respondents for their review, and further input. As Patton (1987) suggests, there were no a priori categorizations that were imposed on the data. Axial coding put the data "back together" by initiating connections among the categories derived in open coding (Strauss & Corbin, 1990). Each datum, such as "Need for stimuli/keeping busy" was compared to other data relating to the child's need to be kept busy to detect incidents of specific phenomena.

Results of Thematic Analyses

Thematic analyses of the database, from the coding procedures described above, resulted in systematic data reduction into patterns and then themes. Consistent with a qualitative design, the themes are developed into narrative descriptions (Creswell, 1994), to appreciate how they are exhibited in young gifted children. The following categories were generated: intellectual/ achievement domain, social domain, affective domain, physical domain, aesthetic and creative domain, and parent and teacher influences.

Intellectual/Achievement Domain

Knowledge/Concept Comprehension/Pattern Analysis.

The children's extensive amounts of acquired, or background knowledge, were commonly noted by their respective parents and teachers. Patrick's teacher described his acquired knowledge as "tremendous," and Xiang-Huo's teacher described his as "vast." Cole's knowledge was also qualified as extensive for his age, by his teacher. He

exhibited an understanding of concepts beyond what a child at this age usually comprehends. Jane's teacher described her as "bright, well-stimulated, [and an] eager learner." Sawyer's pattern analysis, at age three and a half, was so well-developed, explained her father, that she identified the little dipper in the sky. She transferred this to a home visit with her play school teachers. In an atlas, she pointed out the entire solar system, including identifying Jupiter and naming its moons. One of her preschool teachers relayed the awe she experienced at having witnessed this incident.

Memory.

All the parents and teachers commented on the children's excellent memory skills. Patrick had memorized lines of movies and songs (including Toy Story, Titanic). According to Patrick's teacher, "he has an incredible memory, and if something's said to him once, and it's just interesting enough for him... he's a sponge, he's learned it, he remembers it, he'll bring it up at the right time at the right place." Sawyer and Xiang-Huo were described by their parents and observed to have similar retention levels for movies, Jurmanji and Austin Powers films, respectively. Her parents, as the earliest indicator (age 18-19 months) of her giftedness, agreed upon Sawyer's memory. The Highwayman, a long poem in an illustrated book, was often read to Sawyer because she could follow along with the pictures. One night, her father, distracted in mid-sentence by her mother, stopped, and Sawyer filled in the rest of it. On an Alaskan holiday, involving a lot of driving, entertainment was reciting poems; Sawyer corrected her parents, filling in uncompleted lines. From the age of three years, she remembered the sources of her books and she often compared books to their accompanying movies. After watching the

movie Toy Story, a year after reading the book, Sawyer remarked to her mother that sections of the movie were not covered by the book and that perhaps "Mary's Mom," who had given it to her, had forgotten these pages.

Performances on the Short Term Memory subtest of the Stanford-Binet Intelligence Scale - IV were extremely high for Sawyer (exceeding the 99th percentile), Jane (98th percentile), Patrick (95th percentile) and Cole (92nd percentile). Xiang-Huo's score was estimated to be within average limits. Due to limited time, the Woodcock-Johnson Psychoeducational Battery - Revised: Tests of Cognitive Ability was only completed by Patrick, Cole and Jane. This test provides very broad ranges for an achieved score within this age group, therefore, the error associated can be very large. Both boys had difficulty with the name memory and visual matching tests, yet could retain the few names recalled after a delay. All did well remembering sentences. Patrick excelled on visual closure tasks, while Cole and Jane performed well on visual-auditory learning, cross-out, and word memory tasks. Jane and Patrick exhibited strengths in picture recognition. Areas of strength for Cole were his short-term retrieval and delayed visual-auditory recall, while processing speed and short- and long-term retrieval were strengths for Jane.

Philosophy.

All the children have pondered questions about the universe, religion, mythology, and our planet, Earth, from a very young age. Most recently, Patrick had been asking about Medussa. Xiang-Huo often asked his parents about God, and was concerned about the Earth and recycling. Cole considered dying and the after-life. Jane had an early

recognition that the planet was only a dot in the universe. Her interests also included the origin of life, and death. Sawyer was interested in, and concerned about, the environment, and had an early fascination with the solar system.

Reading, Math and Spelling Skills.

The children's academic abilities were noted at early ages. From younger than three years of age, Xiang-Huo's reading ability and math skills had frequently been noticed and commented about to his parents by friends, his teachers, and visitors to his home. Jane's play school teachers commented on her ability to read and understand German. In addition, from early on, many family members and friends said that Jane read [English] exceptionally well.

Academic skills in reading, math and spelling varied greatly across the participants. Academically, Patrick functioned at the level of same-age peers, whereas Xiang-Huo and Cole surpassed peers in all the academic skills (math and science, reasoning, and problem solving). The assessment of the components of reading (letters, words, phonetic skills and comprehension) revealed that Xiang-Huo exceeded the ninety-eighth percentile, while Cole, Jane and Sawyer were all at or above the eighty-ninth percentile. Patrick was within the average and high average ranges, between the fiftieth and eighty-fifth percentiles. Sawyer was very unwilling to complete the math subtests; this resulted in an inability to arrive at final assessment scores. Math skills were above the ninety-ninth percentiles for Cole and Xiang-Huo. Patrick fell between the fortieth and seventy-third percentiles. Jane scored at the eighty-fourth percentile.

In a classroom exercise, Xiang-Huo described the quarter he received from the tooth fairy as twenty-five times better than the expected penny. He explained he would need to lose three more teeth in order to buy something at the Dollar Store, "plus a bit for GST!" Asking questions was a challenge; adults can follow his reasoning, but his classmates cannot. Although his abstract verbal abilities exceeded that measured of all other participants, his interest in visual-perceptual-based activities (crafts, puzzles) was low. He closed himself off to the latter, often stating, "no, I don't like puzzles," or, "I don't do puzzles." "Cole has taught himself the whole reading system [and] his academics are right off the charts," explained his teacher. He knew ten/hundred/thousand placement values, showing to classmates examples including, "1 000 plus 100 equals 1 100."

At-home reading activities were of common interest for all the participants in the study. There were a number of special topics of interest in their reading. For Patrick, it was Egypt, mummies, snakes, music, volcanoes, Indiana Jones, Greek mythology, and the Goosebumps series. Xiang-Huo enjoyed reading mysteries, word puzzle books and math workbooks. For Cole, it was dreams, sports, and Canadian flags. For Jane, it was volcanoes and nature. Sawyer was particularly interested in butterflies, plants, insects, and, most especially, cats.

Differences existed between the extent of home and school reading for all the children. None of the children chose reading during classroom free time; reading time only appeared to be tolerated by all. Classroom reading materials appeared to be within appropriate reading levels for, although not always accessed by, Patrick, Xiang-Hio, Cole and Jane. For two participants, Jane and Xiang-Huo, at-home reading was a solitary

(with little parent support) experience. However, Jane also appeared to enjoy the "center stage" aspect of reading out loud to her class. Sawyer's reading level exceeded most books in her classroom. Even though resources did not match Sawyer's abilities, she repeatedly perused the same non-print, biggest picture book during class reading time and solitary reading exercises involving the ordering of scattered segments of different poems (six or eight poems in one pocket) which she easily accomplished. Observations revealed Patrick's heavy memory reliance when reading; his tendency was to read by recognition rather than phonetic application. However, he usually perceived the meaning and humor in passages that were read to him.

Standardized assessment of the participants' spelling abilities produced scores ranging from the thirty-fourth (Patrick) through to the ninety-sixth (Jane, Sawyer, and Xiang-Huo) percentiles. The children's performance on the Woodcock Johnson Tests of Achievement - Revised (Woodcock & Johnson, 1989) revealed spelling skills exceeding the ninety-fifth percentile for Xiang-Huo, eighty-fifth percentile for Jane and Sawyer, seventy-fifth percentile for Cole and thirty-fourth percentile for Patrick. All the children's editing skills (i.e., use of periods, commas, and capitals), with the exception of Xiang-Huo, who was not assessed, exceeded the seventy-fifth percentile. On numerous occasions when observed in class, Cole was very evasive with spelling exercises. For example, descriptions of daily news events were consistently completed quickly, including a drawing, but with very little printing in their composition. Similarly, Xiang-Huo utilized a number of avoidance tactics when asked to write, including the construction of signs to accompany his newly created "hotels" and "stores." In contrast,

Sawyer enjoyed creating new words through different ones; for example: PAR + IS = PARIS; SING + A + POR + E = SINGAPORE.

Language.

First words were spoken under one year of age by all the children except Patrick, who first spoke at eighteen months of age. Although delayed in speaking, Patrick seemed to retain everything he heard; according to his mother, "he spoke just naturally." His parents recognized his verbal abilities when he was about three years old. Jane's mother stated that she knew the alphabet at nine months. Sawyer's parents described her early speech as "an explosion of language," yet, like Patrick, she did not tend to repeat things. When she spoke, her language was incredible and she was noted as having advanced language skills.

All the children excelled in expressive language. Patrick and Cole loved sharing ideas. Patrick demonstrated immense strength, with quick comprehension of abstract ideas; his definitions for rotate ("spin") and volcano ("an erupting mountain") were very quickly added to class discussions. Xiang-Huo easily and clearly expressed himself, using sarcasm very effectively. Jane's clear, articulate, mature sentence structure and grammar were observed and commented upon by her parents and teacher. Sawyer's teacher found her language to be typical of a much older child. The children's expressive language measure, used as an entrance criterion for this study, ranged from the ninety-fourth (Cole) to the ninety-ninth (Patrick, Jane) percentiles. Sawyer's score exceeded the ninety-ninth percentile; an age equivalent measure of eleven years, eleven months (11-11) was determined.

With respect to their receptive language, all the children had a very good understanding of classroom concepts and directions. According to Jane's teacher, Jane consistently asks if she does not understand something. The receptive language measures on the Peabody Picture Vocabulary Test- Revised (Dunn & Dunn, 1981) exceeded the ninety-eighth percentile (approximately above the age equivalent of nine) for Jane, ninety-first percentile for Sawyer, and eighty-ninth percentile for Patrick. Cole and Xiang-Huo were within the average to high average ranges, between the sixtieth and eighty-sixth percentiles. Perhaps as a means of producing challenge, initially both Sawyer and Jane jokingly answered with the opposites of many of the responses required before providing the appropriate responses. They were very amused by it! Patrick, Sawyer, and Jane were all visibly upset by an item on dissection, while Cole laughed, stared and responded, "cool!"

Social Interaction with Others

Friends.

All the children tended to prefer their own company to that of other children, particularly when working on self-initiated activities, both in and out of school.

Patrick socialized within the greatest age variability of playmates (kindergarten to grade six). Patrick, according to his teacher, "is very much liked by his peers. He is cooperative and considerate." He interacted with every one of his thirteen classmates in a variety of activities. Older children also enjoyed Patrick's presence.

Xiang-Huo's mother voiced her concern about him not having friendships with the boys in either his class or in their neighborhood. He could be impatient and

defensive. On one occasion in his classroom, Xiang-Huo, appearing frustrated with the elementary level at which many children were investigating a hotel building project, began to loudly voice his needs. With some direction from his teacher, he began a solitary parallel play exercise (building an ice cream shop) while the group built their hotel. In addition, Xiang-Huo had been working on grade one and two workbooks at home, and wanted to work on them at school as well. He often stated how no one played with him and that he would "just do them," complete the workbooks instead. His teacher felt that the other children were keen to have connections with him, but many times he shut them down; in response to someone's comment, Xiang-Huo said, "I already know all that, I don't need to know any more of that."

Cole's teacher portrayed his social ability as very low. He loved to be the center of attention and needed to learn to be sensitive to others' ideas, opinions and needs. Cole often enjoyed announcing his presence in, or re-entry into, the class after some time away. He chose to play with immature children who were making choices that were not always appropriate for the circumstances, but "he may not be mature enough to pick children at his intellectual level," his teacher explained. The end of the kindergarten year led to some loneliness for Cole; his classmates chose not to play and interact with him.

Jane's teacher described her as "confident, kind and considerate." Although she preferred girls as friends, having three close girl friends, Pierre, a comic, and Cameron, quiet and intelligent, were also considered her friends. Jane's best friend in the class, and also a neighbor on her street, was Janet. They spent a lot of time together, both in and out of school. However, some hostility presented itself at the end of the kindergarten school year. Janet repeatedly ran ahead towards a decided activity or goal, not walking together

as they had in the past (Janet exceeded Jane in physical activity). Jane cried about the situation. Jane's mother and Janet's mother both agreed not to get involved. After some passage of time, a connection between Jane and Janet's brother developed with no change or resolution of the situation with Janet. Janet told her brother not to treat Jane nicely, to which Jane replied with a letter, which essentially stated, "I hate you and love your brother!" This situation had not been resolved and presented a challenge to Jane's dominant and sympathetic interactive style as noted above.

Sawyer's play school teacher discussed how gentle her peers were with her; "...children attempted to talk, some encouraged her to play, and others were okay to have her there. She held back for a long time and did lots and lots of observing." Sawyer's kindergarten teacher mentioned that she had a couple of students in the class whom she just recently started "being buddies with," and that her closest friends were Ben, Denise and Patti (Ben and Denise were with her through one and two years of play school, respectively). Sawyer's parents stated that Sawyer "doesn't have friendships in sort of the traditional sense... she doesn't ask for people to come over, she won't talk on the phone to anybody." On one occasion, Denise and Patti "were by the bus stop with their mothers and Sawyer really wanted to go say hi to them…[in attempting to go over]... she ducks down and drags her feet, goes limp, and goes kind of silly...so she can't even walk to her friends and say hi." With Ben, she would occasionally talk. According to Sawyer's mother, her behaviours are "sociopathic...she's so detached from people." Even when her play school teachers came for a home visit, Sawyer "screams and runs and hides." Sawyer's father described their concern that "she may not be relating to the

kids...There does seem to be this process where strong friendships are being formed in the kindergarten class, and she might be excluded."

Older Children/Adults.

When interacting with others in some form of play, pairing with older children was preferred and enjoyed by all the participants. Patrick maintained a close friendship with a boy six years older. Jane's mother described how Jane's friend, Petra, one year older, had been "a source of knowledge." Jane described how Petra helped her figure out that "La" is for "Llama" for her next piano lesson. Three participants enjoyed the company of adults. Patrick, his mother commented, "is certainly very comfortable with them [adults]. I always put it down to being in the squash club and watching adults; he'd interact with them." Observations have recurringly shown that Xiang-Huo prefers to be with adults when engaged in activities at centers and exploring outside. He often viewed his teachers as his peers. Jane's mother commented that Jane considered herself an equal to adults.

Intellectual peers.

Participant interactions with "like minds" in the classroom greatly varied, including their awareness of each other's competencies and abilities, seeking one another out on tasks, and compatibility in working together.

Patrick was aware of other kids' competencies. He commented about one classmate's elaborate Lego building of a spacecraft - justly due and appreciated. Patrick was able to share materials and jointly attempted a landing pad for their creations. His

teacher commented, "he's very accepting of people, who they are, and where they're at. He works with everybody...I don't know if Patrick is aware of his strengths. He may have been complimented on [it], but I don't think he himself has figured out ...that [he] really knows a lot more about certain things."

Xiang-Huo's teacher stated that he had "equals" in the classroom, "even though he may not access them, Evan and Jonathan...Evan is really good at...[being] inclusive and creating very elaborate schemes with play. Xiang-Huo was not interested in that type of play; he was not interested at all in Lego or any kind of manipulative activities. The only type of play that [Xiang-Huo would do is] socio-dramatic play... He's trying to make connections, but mostly with adults."

Cole infrequently took advantage of potential intellectual equals in his class. His teacher identified his intellectual peers as Edward and Paul. Cole may have initially worked with them and generated some ideas, but the completion of a project together would not happen, as Cole tended to take over. He didn't leave room for their ideas. For Cole to know that they were at his level, "they would need to gravitate towards him, and they tend to stay away...They don't see him as someone who wants to share ideas," explained his teacher.

Jane's teacher described how Jane and Cameron, the brightest boy in the class, enjoyed the "house center... taking little pieces of colored rice and putting them into the dinosaurs' mouths because they were actually giving them some medicine or food or something." Cameron's mother, having rarely seen him play with a girl, said, "I think it's a meeting of the minds that's the attraction." Her teacher then described a very quiet child in the class, "Esther may be more advanced in writing, but ... her receptive and

expressive vocabulary may not be quite as sophisticated as Jane's." They have, near the end of their kindergarten year, been spending time together at centres and during circle time.

For Sawyer, Lynda, Ben and Spencer were intellectual peers in her classroom. "They are very bright, but... they do not take into consideration other people's feelings." Of the three classmates, Sawyer interacted with Ben the most often. They had attended the same play school the previous year. Very little dialogue was exchanged between them and interactions focused on solitary, parallel play which often involved drawing.

Self- versus other-centered.

The children differed in their abilities to conform to group norms and see the points of view of others.

According to Patrick's teacher, "a lot of kids come running to him [for paired activities] ...He almost waits for someone to come to him, and they do; they'll fight over Patrick," regardless of the activity. She felt that Patrick's social ability contributed to, and increased his intellectual level; he somehow did better because he was quite comfortable in himself compared to a child who was ostracized. He had no difficulty interacting with any child on any activity in the classroom.

Xiang-Huo's teacher believed that his introduction to school caused him to realize that he was not going to be the only kid in school. She explained, "as much as he has an understanding of the world around him, I think that when he walked in that first day, [he thought] that it would just be him and a teacher." Xiang-Huo did get over this shock, and he "does let others have ownership for their own ideas." One example involved a

discussion of how the weather is determined. Although Xiang-Huo offered satellites as a possibility, when a classmate suggested that the birds tell us, he gave it some thought as to why this was not plausible, and then stated his thoughts in a very sincere way. In contrast, during a paired reading exercise between Xiang-Huo and a classmate, Jessica, a story was being enjoyed by both when the word click was reached by Jessica, who could not pronounce it, but was attempting it phonetically. Xiang-Huo snapped, "can't you read?" In contrast, his teacher described a group reading situation where Xiang-Huo was reading with another child who was just learning to read. His response to being asked to read to her, was reading very quickly. When asked to read slowly, he pointed things out, " 'red bike, blue bike,' and as the red bike words were written in red, and the blue bike's were written in blue, and he says, 'see, the red bike is written in red. That's how you know it says, red bike. See the bike.' And he did it so nicely... with so much compassion, and then she read it back to him... he patted her on the back and he said, 'you did a good job.' And those are brilliant moments for him to make connections with other human beings." In another situation, Xiang-Huo, when exploring various water levels in a variety of containers at the water table, was joined by Aaron, a preschool child, who entered the scene and worked at the table also. With the two side by side, Aaron proclaimed "we're making stew!" to which their teacher supported, "what are you going to add?" Aaron enthusiastically responded, "onions!" Xiang-Huo, very quickly expounded, "we're not making stew, we're making chemistry!" and continued to add water to the containers. Xiang-Huo did not appear to be cognizant of the awe others had about his own reading ability. On one occasion, a number of classmates observed his reading, yet Xiang-Huo's fast pace, monotone voice, and cursory presentation of the

accompanying pictures, resulted in the loss of his audience. His teacher commented that Xiang-Huo "can figure us out very quickly. He's very intuitive...And he can sometimes be cruel about that."

Cole's teacher discussed how, although five-year-olds tend to be self-centered, "if you watch that [kindergarten] group, there are many individuals who are caring about each other... [one student] will go out of his way to help someone else. I tell Cole, 'now other people have sat there and listened to you, now you need to listen to them.' I'm concerned because I can't seem to get him to enjoy it: I see an unhappy kid doing it. I see him as, 'oh, I have to do this again, I have to listen to her, I have to listen to those kids, but I would really rather talk about what I'm going to do.'" At recess, Cole was by himself, bored, kicking sand in the playground and looking around. No one joined him. When the author pointed out a soccer game being played, Cole noted, "I'm better, I can kick the ball over the fence." The return to class was met with a group discussion about bones. Upon its presentation to the class, Cole knew the name (bone) and said it out loud, only to be ignored. When everyone was told it was a bone, Cole yelled out, "I said that, I said that!" It appeared that he desperately wanted the children to know that he knew the name.

In play groups before the outset of school, Jane's mother observed how she would "watch all the kids, what they are doing, how things are working." Her intensive stare, quite obvious to the author at the initial meeting, was captured by the mother's description of a lunch with some of her friends. "I was still carrying her, so she was three months, still a baby... and she just looked at each person individually around the table to the point where they fell silent, uncomfortable, [and] said 'oh, my'... they had never been

scrutinized by an infant." Jane does not observe people with the same intensity as she once did. She often migrated to the assistance of other children who were having difficulty in class. Jane also asserted that she likes her own way. In fact, she was angered by attempts to change her approach, often stating "I'll do it my way and you do it your way." This statement was particularly directed to her mother in regard to changing Jane's grasp of scissors.

Sawyer's teacher stated that Sawyer, although understanding and tolerant of those needing extra help, would not offer assistance. When asked to help with the children who do not know how to speak English well, perhaps by reading simple stories, Sawyer refused consistently and adamantly. She did interact with two ESL students, Patti and Denise; they wrote letters to each other. Sawyer appeared contented that they could do that with her because there was not really anyone else who was motivated or willing to, even if he/she could. In addition, Sawyer's mother revealed a number of commonalities between her daughter and Mark, a child with autism in her classroom. They both had strong passions for space, Star Wars, and Jumungi. As well, body awkwardness, anti-social tendencies, and disconnections between their feelings and behaviors were evident for both.

Affective Domain

Emotional intensity and sensitivity.

Emotional intensity and sensitivity varied across participants. This theme included their abilities to connect with the needs and ideas of others, their need to be

correct, and the behaviors they exhibited in reaction to low comfort levels (i.e., separation from parents, first day at school).

Jane's mother relayed how she would "react with tears if she is even looked at the wrong way. She will sometimes misinterpret someone's sad or non-expressive face as a reflection of something wrong with her...[she is] very sensitive to interference with her own plan... [and] needs to know she can be successful before beginning anything... [yet] can see failure ahead, so is reluctant to try...she is so sure about herself, that if you make any suggestion about anything, [the] fight's on, [it] doesn't matter what it is, [the] selection of clothing, type of shoes, don't need mitts, don't want a hat, want to wear this coat... if I give her a choice then that's OK." In addition, her mother explained how Jane could very easily introduce herself to other people and had, more recently, become afraid to make a fool of herself and be different from those around her.

Jane's teacher described Jane's sensitivity to include a wide range of understanding of other people's needs; she could "fit in with other children, and knows how to handle conflicts with other children, [which] is directly related to the dialog between her mom and her." Her teacher continued to discuss how, with the most challenging children, Jane would often take them alongside, assessing what was needed in a given situation, very quickly. "Jane said, 'do you notice that she really doesn't talk much, and when you want to play with her she doesn't?' And I said, 'why do you think that is and what can we do to help her?' So right away Jane said, 'I can take her with me when I go to art because I know that she likes art.' She's really contributed to this child's opening up." Jane didn't just look for kids that are mentally compatible, she would extend herself to anyone. In contrast, her mother explained how easily Jane's own

feelings would be hurt and how embarrassed she was at a request to throw her gum away, in front of a friend.

Patrick demonstrated an unusual invulnerability to the actions of others during his Taekwondo lessons; he appeared to be undisturbed by the twenty older and more advanced classmates around him. He was a white belt and the class had the entire continuum of belts represented, although he was by far the youngest and smallest student. He maintained the proper stance, practised and performed desired routines repetitively and on cue (many other students were confused), and bowed as required (entering and exiting the room) at all times. Patrick performed the last and most complicated routine correctly while the rest of his group required interventions from the instructor.

Sawyer, according to her parents, seemed very insensitive to others, yet "her sensitivity to herself is more intense than her sensitivity to people." Sawyer possessed a "heightened sense of self-consciousness . . . sometimes if she's very relaxed, she'll be dancing around, but if somebody comes in or if she feels that . . . she hasn't done particularly good . . . she just looks a little uncomfortable . . . because she knows what she wants to do and . . . her body just doesn't comply." Her mother described the death of her ten-year old cat Boogie. "Sawyer seemed strangely detached . . . seemed more upset when two fish we'd had for three weeks died . . . she has even used Boogie's death to try to manipulate us." Her reactions were intellectual or factual, rather than emotional.

Sawyer had experienced a number of toilet accidents, almost daily throughout play school and before the start of kindergarten, beginning in the summer until, according to her mother, she relaxed in kindergarten. At the end of kindergarten, Sawyer's soiling behavior returned. Her mother discussed Sawyer's recent admission of not wanting to go

to grade one. Beginning at age two, Sawyer also had a tendency to pick holes in her arms and face, in some cases to the point of bleeding; "it went right through the first year of play school and then it sort of stopped during that summer . . . and then just before school [kindergarten] started . . . and she did it for the first part of the new school year of play school and then it went away." Sawyer's play school teacher described how "extremely difficult" it was for Sawyer to separate from her mother over the beginning several months of play school:

> she clung to Mom's leg...At times Mom had to pry her hands off and I would need to pull her away. I would hold her, or be near. Her head would be down, shoulders drooped, hands limp or sucking her thumb. She covered her ears with her hands when it got too noisy. She was agitated when someone looked at her. After trust in the teachers, the routine, and the other children was established, she began to uncurl...

Sawyer was silent for almost four months of the beginning of kindergarten.

Both Cole and Xiang-Huo could be very competitive. Near the conclusion of kindergarten, Cole repeatedly shouted, "I'm going into academic challenge, not grade 1!" Both Cole's teacher and teacher's aide described his need to learn tact, flexibility, self-control, and acceptance; Cole's mother also agreed with all these traits, and added that growth was required in his level of self-awareness. Xiang-Huo was observed to say on a number of occasions, "I want to show you how smart I am." This was in regard to reading, math, building, and science activities. An incident involving Xiang-Huo reading to some classmates was considered showing off by another classmate. Xiang-Huo's teacher explained that he was "operating at such a high level that he can't... break the

concept down into small enough bites. This might contribute to some of his social difficulties." His mother commented, "sometimes he really shuts himself down to communicate with other kids, and he's very... suddenly just feeling hurt." Xiang-Huo had very little interaction with his designated group around activity tables and with the remainder of the class.

Humor.

An animated sense of humor was a characteristic common to all the participants. Xiang-Huo's, Patrick's, and Cole's teachers specifically described them as having a great sense of humor. Patrick "perceives humor... that the average kindergarten student may not." Cole, in one situation involving a substitute teacher, responded "everyone it's time for recess!" when it was announced that it was time to put books away. Some children laughed, and the substitute teacher, quiet for a moment, smiled too. His teacher stated, "You can kid around, at an adult level... he can understand more mature humor."

On the first day of kindergarten, Jane's teacher, Ms. Smith, said to the children, "you can call me Teacher, Ms. Smith, or Ms. S, but never late for dinner." Jane was the only one to laugh. There were a number of excerpts from Jane's mother's diary revealing Jane's humor. One incident occurred at age five years, six months. Jane's mother admonished her to clean up her toys and get dressed, to which Jane responded, 'Gee Mom, you must have a million rules. Even God has [only] ten."

Perfectionism.

The children demonstrated several signs of perfectionism and placed unrealistic pressures on themselves.

Patrick's mother described his need to master all toys, including those well-above his age level. He "will put in hours to get things right... [and] will return to projects over and over." She felt that these pressures have been construed by other adults as pressure and high expectations she and Patrick's father placed on him. Patrick's teacher noted that his perfectionistic tendencies often led to frustration; "if he just doesn't know the answer, he doesn't want to admit it... he'll cry and he'll say, 'I didn't mean that...this is what I meant.'" An observation of Patrick's language arts activity revealed him to first draw a dinosaur and later elaborate his "story" with the addition of a gorilla. After eight minutes of work on this task, Patrick erased everything on his page. When asked why he erased it, he responded, "those don't look anything like a dinosaur and gorilla." There have been a number of occasions where Patrick has been observed to erase all of his work from the page.

Jane's mother described Jane's early reading as an example; "when she was just starting out, she'd read a sentence, and she'd hit a word she didn't know, and she'd stop...[I would] hear her sounding it out and then she'd say it again and again, and again with the right accent... and go 'ahhh... so that's what that word is!' and then go back to the beginning and read the sentence."

Sawyer's mother commented how Sawyer "doesn't try things either until she is sure she can do it or not at all. Even her language, she didn't 'practise' words, she just did them!" Sawyer's teacher commented that "even in kindergarten students don't want

to take risks. They don't want to make a mistake. I'm only starting to let them use erasers. I would not let them use erasers because they would be erasing and erasing. They want to know exactly how to spell things. I want them to go through the scribbling and consonant stages."

Motivation.

Overall, the children were described by their parents and teachers as being very motivated by tasks of interest, but varying degrees of prompting and encouragement were needed to focus them on tasks of low interest.

Patrick needed to be reminded to stay on task, especially for any writing and cutting assignments. He was bored with the tedious nature of some of the tasks. Just holding a sheet of paper would be enough to prevent him from cutting into a desired object. "He loves to talk to his neighbor...[and] therefore takes [more] time completing the task," explained his teacher. Xiang-Huo responded primarily to extrinsic rewards and struggled with praise, encouragement and support. His mother stated a concern that he was not sufficiently challenged at school; at home, particularly when on the computer, he could be extremely motivated. "He'll work in there for hours. He never quits." On one occasion, Xiang-Huo was observed during a class reading/discussion of the Butterfly Alphabet Book. By the time the letter "M" was reached, he moved up to the very front. By the letter "S," he was briefly distracted by some children moving on the couch. At the letters "T and U" he sat right in front of the book, looking directly at the print. He said the entire alphabet with the class when asked, speeding ahead at times, but completed it

with the group. However, during the second read through, he was not attending or participating.

Cole, according to his teacher, "is very motivated and concentrates for a very long time when it is a task he initiates or generates. He usually cooperates in doing assigned tasks, but doesn't always put forth his best effort, often rushing to get through. He is self-directed and intrinsically motivated." She continued that Cole will "do things quite quickly and not spend time with it...once a week [the class will] focus on a person and tell what you like about them [in paper form]. He dashes through that so quickly. He could do a beautiful job for them, but he won't do it." He did not actively seek challenge; when presented with challenge, the teaching assistant explained, "he's capable of doing it, but it takes a long time...[or] if it's really easy for him, he gets bored, so he doesn't want to spend the time doing it... so he quits... or goes to the science center and looks at the plants." His mother commented that, since the age of two and a half years, Cole would practice basketball on the deck outside for 1 to 1 ½ hours at a time by himself. This focus was later seen with baseball, math, reading, and computers.

Jane and Sawyer persevered, completing all tasks, even those chosen by their teachers, without needing assistance or reminders to stay on task. This observation marks a change from her play school year; her play school teacher discussed how Sawyer frequently arrived withdrawn and needed to be drawn into the play activities. "She loves to find out about the world from her own safe space and in her own time." Sawyer did not respond to excess praise, attention, or encouragement. Sawyer's mother stated, as early on as toilet training, "the more we praised, the less she was inclined... it was a nightmare."

Rules, Order, and Peacekeeping versus Chaos.

The children varied in their acceptance and following of rules, requirements for order, and peacekeeping. Bedtimes, rules of conduct, the need for organized bedrooms and playrooms, and daily transitions are discussed within this theme.

Bedtime was consistent and unchallenged by Patrick and Cole, each with at least ten hours of sleep per night. Although erratic bedtime hours were experienced, Sawyer did fall asleep after reading. Challengers of bedtime rules were Xiang-Huo and Jane.

Although Jane demanded organization around her, her bedroom and playroom were kept in chaos. Jane had rules of conduct that she expected others to abide by; if another child was misbehaving, she was disdainful of that child's behavior. If the teacher left the room, Jane would even berate the children to mind their manners. However, as both Jane's mother and teacher explained, she is quick to defend and help the underdog, standing up to adults and children twice her age and size. Her mother continued, "often the accused backs off as they are stunned by such a little girl holding her own with excellent verbal skills. Her air of self-righteousness is daunting as well, when in the face of what she sees as bullyism."

Sawyer enjoyed a semblance of order in chaos. Sawyer's mother stated that she had always been messy; her thousands of books and clothes were in disarray. She could find anything in this condition, knowing where all her things were located. On one occasion, Sawyer connected brownies brought home for dinner with her book Scarlet Monster Was Here. In the story, the main character had moved into a new home; to make friends, she made brownies and pickled beets. That was the only relation to brownies; not only did she make the connection, but she also found the book. In

addition, Sawyer was adamant about storing books with their accompanying tapes, or a book and its video, together. Membership in one book club resulted in receiving two books together. Naturally she would read them together, and they were forever in pairs, "like friends," she explained.

A continuum of behaviors was reflected in the children's abilities to deal with school transitions and rules. Both Patrick's and Jane's teachers discussed how daily transitions and rules were very easy for them. Sawyer's teacher stated that, even though her class had difficulty with transitions, for Sawyer, they "are not that difficult... [and] she is pretty well on task, not just sitting there but doing what is required." However, Cole, "in his eagerness to share his ideas...often forgets classroom procedures. He often needs reminders about routines and expectations." Xiang-Huo disregarded classroom rules altogether. During my first visit to Xiang-Huo's school, the class was watching a short video; this had been a part of this particular day's (Tuesday) daily school-leaving routine since the beginning of the year. Prior to his mother's arrival, Xiang-Huo was complaining that the show was "boring" and rather stubbornly attempted to get his teacher to do something else with him. The moment he saw his mother peering in the window, he ran to her, whipping the door open, and yelling "come on mom, let's go home!"

Need for Stimuli/Keeping Busy.

The need to have something to do at all times was recognized in the participants in a number of ways. Xiang-Huo and Jane were notably "raring to go" when they awoke

and were difficult to put to sleep at night. Both respective sets of parents reported that their child felt that something important would be missed.

Participants watched between seven (Patrick and Cole) and thirty (Sawyer) hours of television each week, including cartoons, segments on the Discovery Channel, Rugrats, and Wishbone. Child- and parent-selected movies were also watched, including Mighty Ducks and Space Jam. According to Jane's mother, "I get a lot of people say that she watches too much TV, but she's interested in so many things, [its] not like she sits there all the time." According to Sawyer's mother, she "watches [TV] a lot... videos... she watches them again and again and again until she's saturated." Repeating a line from Jurmangi, Sawyer said, "Mom, Dad, I'm home! It's me Alice!" whenever she walked in the door. Sawyer watched, memorized, and then used lines when she and her brother play-acted.

Participant involvement in organizations and clubs ranged from one activity, swimming for Sawyer, through to eleven structured activities, for Jane. Cole had mastered expert ski runs, and he swam and power skated. Patrick was linked to ten different organizations, including Taekwondo and drama. Xiang-Huo attended gymnastics and piano lessons. All organized activities were one hour per week, with the exception of Xiang-Huo's piano and Patrick's Taekwondo, which were three hour per week commitments.

Home activities, although not structured, included computer time and science experiments for Xiang-Huo and Jane, and hockey, baseball, cycling, and swimming for Cole. Checkers and chess were also noted for Xiang-Huo, Cole and Jane. Sawyer and Cole seldom went to sleep without reading.

Weekly computer usage varied greatly across participants, although all families owned a computer. Xiang-Huo had his own computer since the age of two. The time spent on the computer ranged from two (Patrick) through to fourteen (Xiang-Huo) hours during the week on a variety of activities, including Jumpstart, Mathstorm, Kidspix, Solitaire, and Puzzle Mania. Jane enjoyed geography, math, and word manipulation programs. Sawyer systematically explored all of her programs. Xiang-Huo has also been surfing the Internet. Both he and Jane installed their CD programs themselves.

Cole, according to his mother, "is a little boy that...feels like there's so much to do and that he hasn't got enough time to do it." Cole stated that, when he grows up, he "wants to play in the NHL in the winter, then a worker man, doing buildings, and then ...play baseball and basketball in the summer." His teacher recognized that he is interested in everything around him, "he was so busy... [that I had a] problem with him concentrating on... my tasks, what I wanted him to do."

Physical Domain

A developmental profile was constructed for each child from birth to present. Early eating and sleeping habits were normal, yet both girls tended to be fussy eaters. Unassisted walking occurred between eleven (Xiang-Huo and Jane) and fifteen (Sawyer) months.

Great variability existed in the participants' physical development. Patrick and Cole expressed their passion about, and exhibited talent in, a number of sports. The remaining three children tended to avoid physical endeavors, and for Jane, a fear of physical activity was demonstrated.

Patrick's gross motor ability, according to his teacher, could be summarized as "tremendous athletic abilities...[playing sports] since he was 2 ½... He shows all of this at our school playground and during physical education." Patrick has been commented upon by spectators for his Taekwando, gymnastics, skiing, and biking ability. His mother stated, "Patrick has great balance and is very determined at most things he tries," and people refused to take Patrick to the park because of the acrobatics (head down, flips) he performed. Likewise, friends, neighbors, and other children's parents noted Cole's athletic ability since the age of two and a half years. Cole's teacher stated that he was "quite an athlete... very well coordinated, but he tended to run over other people and not watch where he's going." He has played hockey and basketball in the basement or on the driveway since he was three. Power-skating was his more recent sport interest and he was very driven. In contrast, Xiang-Huo's teacher stated that he "seldom engages in gross motor activities; he explains that he's 'tired' or 'sick.'" He was observed in gym class bouncing on a large ball down a set up ramp; he fell twice on his elbow and face; a typical occurrence according to his teachers. Jane and Sawyer also participated in physical activity. According to her mother, Jane's "physical activity is not a strong suit; she has an innate sense of danger in all areas, and recognizes instinctively that sports can cause injury." Jane was afraid of being physically hurt and feeling pain. When she really hurt herself, she wouldn't cry. "She held it in. I think she was more embarrassed because she was clumsy and thought the pain of embarrassment through tears was worse...[yet] she is really empathetic to someone else's pain, whether physical or emotional...she is quick to console." Sawyer tended to move awkwardly and stiffly, often walking and running on her toes. Sawyer's parents described her beginning swimming lessons a

month after she began kindergarten; the initial lessons consisted of her hanging and walking along the edge only. After six months of weekly lessons, Sawyer had still not gone under the water.

All the participants found fine motor activities to be time consuming and/or challenging. Patrick showed little interest in coloring and cutting. His teacher stated that "his printing [is] much better since the beginning of the year, but [he] finds coloring too time consuming." In a cutting/building exercise where a half dozen shapes were to be cut out and glued in a spaceship design, Patrick was frustrated with his inability to stay out of the shapes, rather than remaining on or outside the designated lines. After faulting on three shapes, he joined a group doing "rubbings" of various space artifacts. Xiang-Huo rarely chose fine motor experiences, such as printing, drawing, painting or Lego." However, he used scissors adeptly and printed clearly. Cole's fine motor skills were very good, yet he often rushed through as if he would prefer to do something else. Jane's grasp of scissors was unique, and she preferred it. Jane's teacher stated that "Jane finds writing a challenge...[especially] when the spelling is not provided for her."

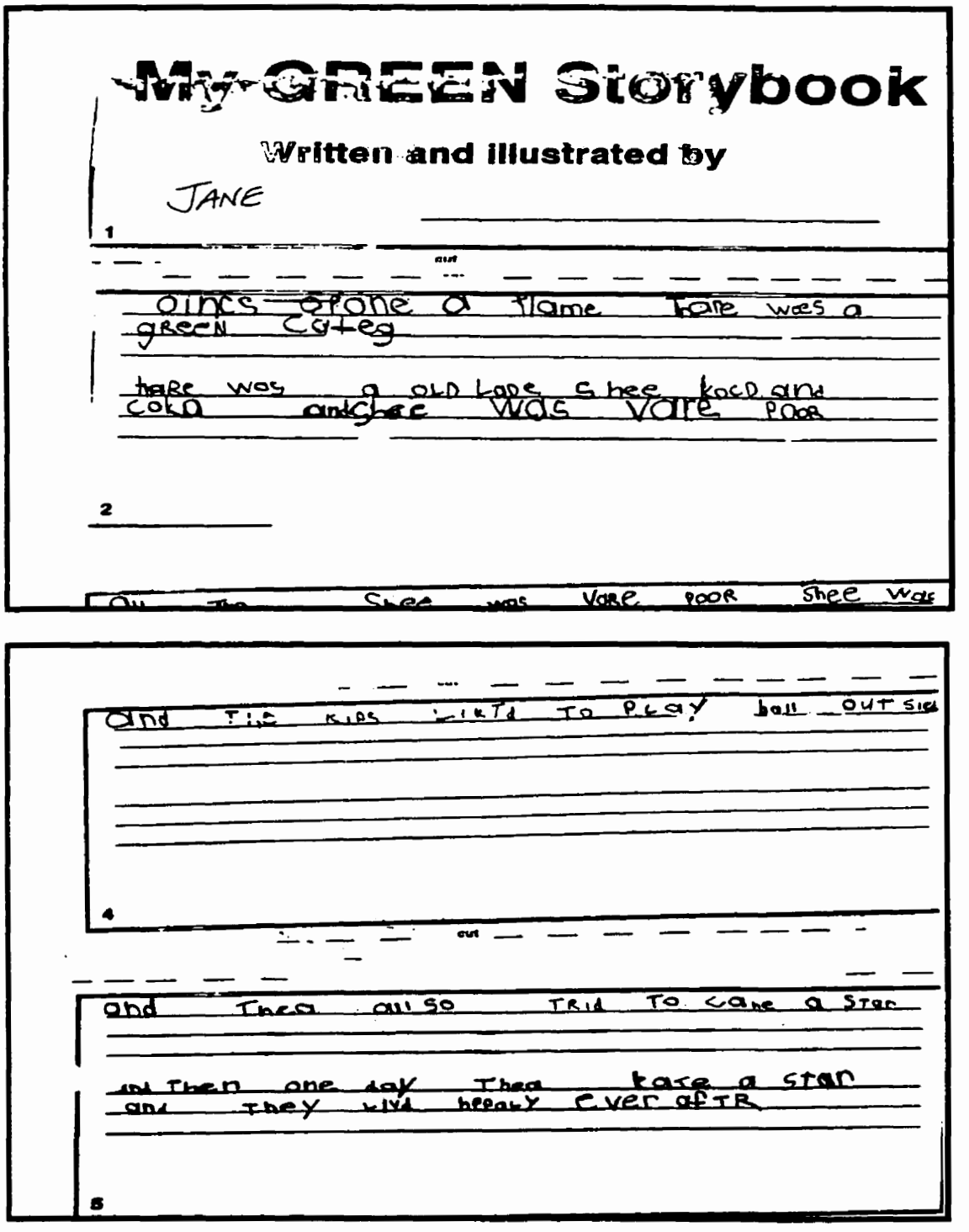
Three writing samples (see Figures 5-1 to 5-3) were selected to represent the variety of products the children produced. Independent writing samples from Xiang-Huo and Cole could not be included as both boys chose to complete workbooks (matching, fill in the blanks) or write on the computer at home or school; very little writing was done. Jane and Patrick produced their writing samples at school, while Sawyer produced hers at home (all were completed at the end of the school year). A sample of Jane's writing is included in Figure 4-1. She utilized phonetically accurate spellings ('coteg' for cottage, 'all tho' for although) and "standard" story-telling beginnings (once upon a time) and

endings (they lived happily ever after) commonly used in oral recitations, rarely in the written work, of age-mates. Sawyer's teacher described her fine motor skills as being "not as neat as [they] could be...she just needs to take her time when she does her work." On a number of occasions where Sawyer's printing technique was observed in her classroom, she covered her eyes; not seeing where she was writing, the resulting letters were skewed and messy. In addition, Sawyer did not look at the designated spelling listed on the board. She barreled right through, mistakes scribbled out, not erased. Her teacher commented, "one of her goals could be to spend more time on her work and take more time to do it neatly." A sample of Sawyer's writing is provided in Figure 4-2. It is a letter she wrote to her grandmother. The content is divided into, and written in, three columns (read from right to left). Sawyer misspelled and self-corrected 'what' without erasing, merely crossing out her first attempt ('wat'). She made no spelling mistakes. Patrick's writing sample illustrated the vast amount of growth he had made in this area; all earlier written work had involved the use of pictures without letters or words. A sample of Patrick's writing is provided in Figure 4-3.

All the children enjoyed The Beery Buktenica Developmental Test of Visual-Motor Integration (Beery, 1997); this test involves the drawing of various presented shapes. All the children, with the exception of Cole, scored in the average range, functioning between the forty-seventh (Patrick) and eighty-first (Xiang-Huo) percentiles. These results reflect a broad average range for this age group. Cole scored in the high range, at the ninety-sixth percentile. It was apparent that he enjoyed the novelty of the exhibited diagrams, some involving elaborate combinations and overlays.

Figure 4-1

Jane's writing sample



(Figure 4-1 continued)

Figure 4-1. Jane's writing sample (continued)

Translation: Once upon a time, there was a green cottage.

There was an old lady. She cooked and cooked and she was very poor.

Although she was very poor, she was happy and she loved her children.

The children loved to play balls.

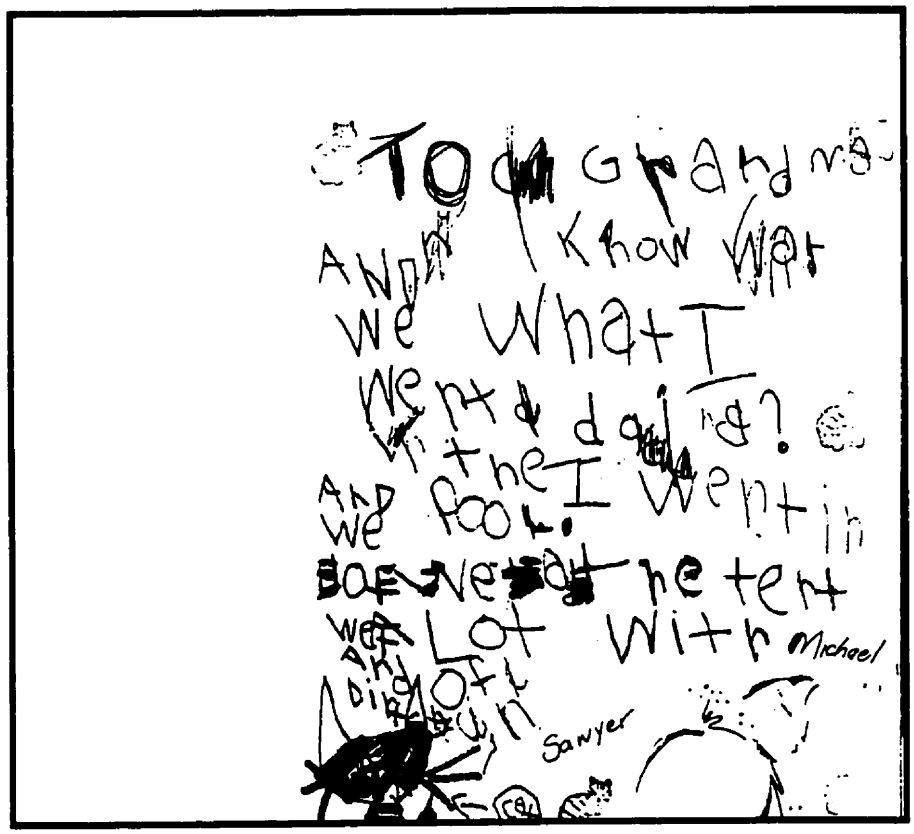
And the kids liked to play ball outside.

And they also tried to catch a star.

And then one day they caught a star and they lived happily ever after.

Figure 4-2

Sawyer's writing sample



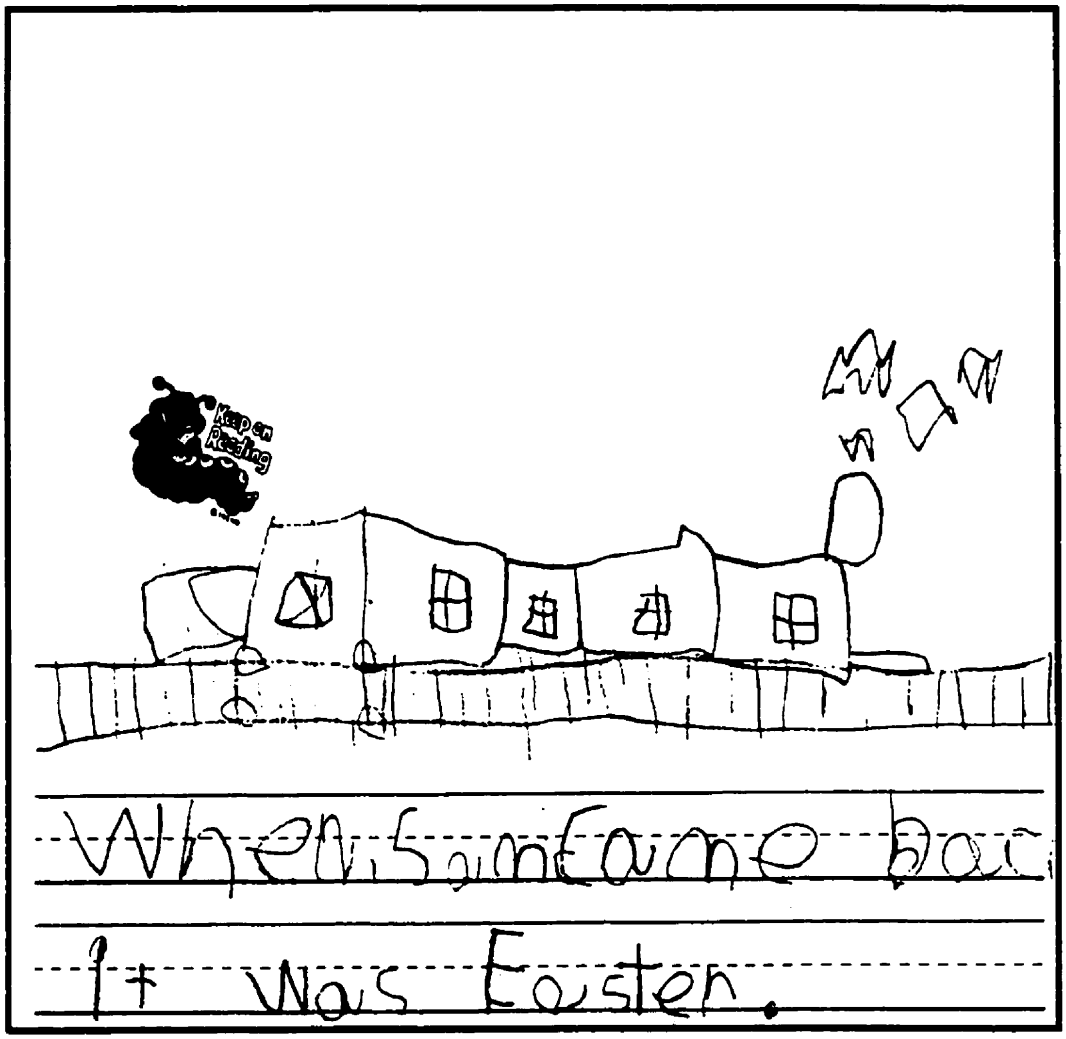
Translation (begins far right, middle column and finally, farthest left):

To Grandma

	And	Know ~~wat~~
	we	
	went	What I am
	in the	doing?
And	pool.	
we	We had	I went in the tent
got	lot	
wet	of	with Michael.
and	fun	
dirty.		
		Sawyer

Figure 4-3

Patrick's writing sample



Translation: When Sam came back, it was Easter.

Aesthetics and Creativity

This domain presented itself within a number of different situations for each child. Music and drama classes, designing a tree house, making movies, different classroom centres, and dramatic play, all provided vehicles for the production of creative products.

Patrick's mother commented on a tree house being built during the summer. He "designs the tree house every night and he's got the drawbridge, a bed, and a sand pit underneath, and maybe a mattress to jump on when jumping out of the tree house, and the swing bridge, and the moat ... Joshua [he's a grade six student at the Charter School who lives down the street] likes to do projects as well. Joshua's got a video camera [and] would do the acting and he [Patrick] would video it." Drama and singing were of special interest to Patrick, who participated in a community theatrical club. Piano was of interest to both Jane and Xiang-Huo, who were taking lessons at the Yamaha school and the Provincial Conservatory of Music, respectively. Xiang-Huo had already given six public recitals prior to and during the course of this study. A special recital was given to his kindergarten class near the end of the year. His piano teacher stated that he has natural ability.

Patrick's creativity has been observed in free play work (house centre, castle and Lego), and in discussions, including a "planet school" rotating around the solar system and a statement about pollution, "it's to the earth like cigarettes are to the lungs." Xiang-Huo, although he enjoyed blocks, painting, and cutting, often produced repetitive patterns, more from a problem solving than creative aspect. Xiang-Huo could create very elaborate schemes for socio-dramatic play, when language was involved. Yet his play

was quite immature; he often played along side other children with his own scheme and rarely dealt with their input. Cole was observed to be particularly creative at the craft table. Jane preferred the exploration of creative expression at the home centre rather than the art centre. Sawyer spent a lot of free time at the children's chalkboard drawing her pet cats, which were distinctively cat-shaped.

The play of two participants with their siblings was described as creative and elaborate. Cole's sister and he "have a ritual...when they bought a new beanie baby... they had a ceremony where... the new beanie baby was introduced to every single member of the family." She often initiated play, and Cole maintained and prolonged it. According to both of Sawyer's parents, Sawyer's brother is the imaginative one, instigating things and she brings it to an intellectual level. "She directs and he acts...she'll quote line by line what he's supposed to say."

Two standardized creativity measures were used, informally by the researcher, following the intent of the instructions in the manual. The Thinking Creatively with Pictures (Torrance, 1962) was really enjoyed by Patrick, drawing detailed pictures from vague triggers and giving elaborate descriptions of all the items drawn. On one occasion, he integrated two individual triggers to produce one response combining both. Xiang-Huo did not enjoy these tests and experienced difficulty in completing all tasks asked of him. Cole provided good elaboration of the initial triggers presented. However, mostly common products were provided and his titles were often short with few adjectives. Jane responded on the elaboration of a trigger with one shape, a "gourd," repeatedly drawn, and entitled it, "The Desert Food." The remaining titles all contained "my" in them. Her drawings were all neatly completed. For the Thinking Creatively in Action and

Movement (Torrance, 1981), Patrick produced over thirty responses on the request for movement. He used sport actions to produce several, varying speeds, positions, and limb involvement. Cole produced twenty responses with varying positions, yet his hands were always utilized. Jane produced twelve responses, all standing upright. Creative behaviors involving physical movement were produced with greater variety and apparent ease with the two participants most involved in sport.

Aesthetic connections were made for two participants. Jane, at five years of age, visualized The Lion, the witch and the wardrobe. She "saw" the book play out in her mind and could vividly recount particulars from the book. Cole had consistently experienced vibrant and meticulously detailed dreams.

Atypical themes

There were three themes that, although not applying to all the children, require some mention: disruptive behaviors, concealment of ability, and imaginary friends.

Disruptive Behaviors.

For two children in this study, disruptive behaviors began to occur within their respective classrooms.

Observations of Xiang-Huo during group reading revealed some very difficult behaviors, including fidgeting and staring around the room. Xiang-Huo continued to challenge established routines. For instance, at the end of the day, the children were given a five- or ten-minute warning before cleanup, and Xiang-Huo often chose to begin a project and was not willing to negotiate. If allowed to finish, he would start something else. On activities that he did not want to do, he would read in a corner or start cutting

optical illusions (spiral formations). He corrected his teachers very disruptingly. At home, his sister Long-Long was an enabler for some of his negative behaviors, often letting him get away with things. Even when she received something new and Xiang-Huo wanted it, his teacher explained, Long-Long will give it to him to meet his needs. His teacher's image of their relationship was one of "Xiang-Huo stomping through the house, doing what he wants, and Long-Long is following behind him kind of picking up the pieces."

Cole, from the age of two and a half years, demanded attention and distracted both his parents with his antics. When asked to stop, he'd mock, "I'm not doing it." More recently, daily school transitions are difficult for him. Reading and math resources do not appeal to him, and according to his teacher, "...he wants to sit with his friends, he doesn't want to sit and do a project. I've tried this at the writing center too and he said, 'I don't know what to do here.' I said, 'let's do a book, what do you want to do?' 'Well, I like Christmas.' He did a story about what Santa would bring. He got one page done, but it was too much work. He did not want to go back to that." Cole was observed to often chat about power skating, basketball, and hockey, or walk around the class. "Cole takes the path of least resistance," continued his teacher. He had repetitive appearances at the art centre over the weeks, contrary to a rule that all centres must be visited before repeat visits occur. In addition, during News Sharing, it was very difficult to establish and maintain with Cole a prolonged attentive and alert posture. He loved sharing information verbally with those sitting within earshot of him.

Concealment of ability.

There have been some situations where the children have concealed their abilities from others around them. Sawyer's teacher described how Sawyer did not speak to anyone in class, her or her classmates, until four months from the first day had passed. "As soon as they [her classmates] realized that she could also read, I think she was holding back and did not want anyone to know that she could read so she wouldn't be different...when she realized the kids knew she could read and that it was acceptable, then it was OK."

Imaginary Friends.

Patrick and Sawyer did not have any imaginary friends. Xiang-Huo, at age three, wanted to be the literary character, Arthur. Cole's stuffed animals were his friends when he was three to four years of age. Jane, for at least three years, had an integrated relationship with a "friend" named Denny. They played tag and raced; Jane made sure that each of them had a turn at winning. Denny ran away once because Jane was being bossy, but did come back. Denny was available whenever Jane felt lonely.

Parent and Teacher Influences

Parental Roles.

Parental roles involved numerous areas and were multifaceted: teacher, coach, role model, facilitator, and provider of information.

Both Cole's and Patrick's mothers discussed how patience is required to foster independence.

According to Patrick's mother, being a good role model involves setting an example for life-long learning, including coaching and participating in various activities (i.e., sports or reading). Both she and Patrick's father played Level A squash and tennis, and went cross-country skiing with their children. Jane's father was more physical and active than her mother with Jane; they swam, sled, and skated. Cole's mother viewed the home as modeling life-long learning, with the freedom to make choices, pursue interests, and have risk-taking experiences in a safe environment. Xiang-Huo's parents valued education and the sciences (math, science and computers). Xiang-Huo's teacher did not "believe that they are pushing, not anymore than any other family...They want him to realize his potential." Patrick's mother discussed one parent role as having to censor the TV their children watch. Although Patrick was preoccupied with Egypt, the great pyramids and archaeology, his parents felt that he was too young for the Indiana Jones movie series due to their violent and scary nature; at a friend's sleep over, he watched one of the movies, loved it, and really wanted to see the other movies in the series, but his parents did not allow him to see them. Discovering, not chartering, their child's identity was a role Patrick's father included for himself as a parent. Patrick's mother discussed the marvel and delight she and her husband experience in "discovering who their children are...[and] watching them grow and develop," placing little value on their assumptions about them, rather supporting their children's own evolution.

Providing for their children's basic, emotional, and developmental needs was another identified parent role. Allowing their children to do things themselves, encouraging responsibility and offering choice were fundamentals to the provision of stimulating (intellectual, physical) experiences appropriate for the children's

developmental level (i.e., discussing daily news, songs, books, and traveling together). Jane's father travels a great deal, so "it's part of our life to view the whole world as reachable." Jane has flown to Winnipeg, San Diego, Disneyland, New Zealand, and Hawaii. Jane's mother commented that, as she "progressed and learned, we gave her what she needed or changed her routine as necessary." This included learning the alphabet and making letters with a pencil; "she always set the agenda for what she was ready to do or try. If she got frustrated, we would put the items away and say, 'Let's try again another time,' and give her something else to do. The next time she was better... Jane has always been eager to do more, and learn more. I am always willing to teach her or get her anything she needs." Both of Cole's parents are advocates for his education. Listening to the child's thoughts and feelings was reported by Patrick's, Cole's, and Jane's mothers.

Teacher Styles.

Each teacher outlined several interesting styles or unique approaches to the participant's teaching needs, including the use of choice and variety, the incorporation of spontaneous material, child-directed topics and activities, group discussions, and individualized assignments.

Lynne, Xiang-Huo's teacher, discussed the Project Approach (Katz & Chard, 1988) as providing "lots of choice and we would meet any child's needs... However for Xiang-Huo, this is difficult because...he knows so much already... it may come down to even one-on-one teacher to child [interaction]." Lynne stated that "sometimes [I] feel sorry for him. He must just think, 'what are they doing?' " Kiera, Patrick's teacher, was

willing to change planned activities as others presented themselves. When Patrick brought in a model Egyptian mummy, "we dropped everything... sat around Patrick...and he took apart the model...[it] turned it into a big learning experience." She adapted curricular expectations with her students' favorite things and, for most, acceleration. Caroline, Cole's teacher, used very elaborate and in-depth centers which were child-directed; the children chose which centre they wanted, chose activities they wanted to do, and Caroline presented the class with new options for novel and "old" materials. During the author's first entrance into the classroom, a tour was being given by Caroline through 'Kindertown' (the umbrella theme for the month), showing each of the different 'buildings' (centres) throughout the town and a host of activities available at each place. Michelle, Jane's teacher, presented exercises to the entire class with an overview of the possibilities; her students were able to incorporate these suggestions at their individual activities. Jane was also provided with individual writing assignments, with selected subject matters, or open-ended approaches about any topic she desired.

All the teachers conveyed their desire to challenge their students without causing frustration. Kiera had fourteen different curricula, all at their own level, "all of them actually are doing K+, close to grade one [work], and well into grade one for the language reading and writing." Lynne apologized for reading Dr. Seuss books, and yet when the challenge is presented, "not everyone picks up on the challenge, including Xiang-Huo...there is a hint of laziness. I don't like to say that about 6 year olds, I don't think that they are inherently lazy, but there have been some patterns formed where he wants to get away with the bare minimum." The approach taken with Xiang-Huo was that Lynne specifically introduced a topic for him. The computer system on the library, the

Internet, and optical illusions, are examples of topics he showed some connection to, yet would not explore them further. Caroline questioned her "role as a kindergarten teacher... This is a play-based program, and in grade one he will be asked to complete assignments... I struggle with this, with kids like Cole. He is not unique. I would like to see them using that brain power...I do not want to force too much, because it is only kindergarten."

The teachers' use of external motivators varied greatly. Kiera very rarely used stickers. She stated that her job included the fostering of self-appreciation in her students' work. In Cole's classroom, students received stickers for sharing news; if something was completed particularly well in this exercise, stickers were received for the effort. "Something that we've done for Cole," explained Shannon, his teacher's aide, "to get him to expand on things a little, like there'll be an activity and its so easy for him, so we try and encourage him to go a little further... we give him a sticker as a reward for doing that...He's not very eager to do that. He wants to get things done now, get it over with." Allison, Sawyer's teacher, explained her 'gotcha' program as "little pieces of paper placed in a jar...[that are] called gotchas. I gotcha being good, I gotcha working hard... they write their own name on a piece of paper and put it in the container." Every Friday, a name was drawn to pick a prize from a treasure chest.

Teacher Roles.

The roles adopted by all the teachers included: facilitator, observer, parent-substitute, confidant (to parent), and companion (peer).

Patrick's teacher, Kiera, explained a number of roles that she adopts during the day: classroom facilitator and parent (a warm and loving character around them). She often produced activities for individual student needs and group needs. Xiang-Huo's teachers, Lynne and Liz, were very supportive of his mother, acting as confidants and discussing things of benefit for Xiang-Huo, including his difficulties in leaving, attendance, and socializing with the other children and their families. Xiang-Huo's mother was rewarding him at every pick-up time; a new game or candy was brought every time. His teachers reviewed a number of parenting techniques with her, including modeling effects, reinforcement of positive behaviors and punishment (removal of TV or computer). His teachers were also facilitators in learning, companions and friends, and role models for socially acceptable ways of dealing with frustration and tolerance of others' mistakes. Michelle and Caroline, Jane's and Cole's teachers, respectively, believed their role was to observe, accept ideas, and discuss differing views. For Caroline, some learning situations need to encourage interactions between students, while others should develop independence (autonomy). Allison, Sawyer's teacher, believed that facilitating growth in all areas, cognitive, social, physical and emotional, was essential, although in practice, it was very difficult to orchestrate.

Discussion

The identification and assessment of special needs in young children can be challenging and difficult. Young children can be independent (choosing alternative and more desired ways of utilizing presented materials), non-compliant (a stubborn unwillingness to complete presented tasks or stating the opposite to desired responses),

can perseverative (set on the completion of current tasks as directed on earlier tasks), uncoordinated (difficulty adapting to quick growth spurts), distractible (by stimuli in the environment, including family activities and routines when assessments occur in their own homes), have short attention spans (requiring quick transitions between tasks, interesting materials and activities, off-topic dialogue between item/subtest presentations and frequent breaks), and develop unevenly (spurts and lags in growth). Young children are often unfamiliar with examiners and assessment settings and the establishment of adequate rapport may require the presence of a familiar adult during the initial stages of the first, or each, meeting. For those children who are shy or introverted, the unfamiliarity may result in their choosing not to respond to any novel or difficult tasks. Standardized test data can be less reliable (standard errors of measurement tend to be higher) and less valid (inadequate ceiling levels, inappropriate content with higher functioning levels) for young children. The maintenance of appropriate levels of patience and redirection, and extended assessment times (resulting from long, sporadic responses requiring much encouragement) are common concerns in the reliable and valid appraisal of young children.

These difficulties can exist when assessing young children with any special needs, and there is no denying that, for some children with exceptionalities, several years in school may be required for capture in their school systems' identification nets. Nevertheless, it is commonly accepted practice to work with these challenges in the early identification and assessment of nearly the entire spectrum of special needs; it is commonly believed that valuable information about classification and early implementation of placement and instructional modifications can be provided by the

process. However, young gifted children are commonly, and unjustly, left until the mid-point of their elementary school career.

The early identification of gifted and talented children should be supported and adopted as common practice. As with any other children with special needs, young gifted children deserve appropriate family supports and educational planning (Hayden, 1985; Whitmore, 1980); these practices can also help avoid problems which might be experienced in later childhood or adult life, including the development of underachieving behaviors and concealment of ability (Roedell, 1989). Furthermore, children identified as gifted at a young age tend to continue to be identified as having high ability and accomplishment later in life (Milner & Elrod, 1986; Mönks, 1992).

This in-depth, exploratory, current time, qualitative case study investigation of gifted kindergarten children contributes an important, and unique, perspective to the existing literature on this population's experiences of growth and change. This approach permitted a holistic and descriptive design which actually examined these children and those associated with them, exploring areas of uncertainty in our understanding of their development in environmental (home and school) contexts. Most research has focused on retrospectives when collecting information on the young gifted; these approaches rely heavily on the biased and selective memories of events over time. Adhering to the essential case study properties outlined by Merriam (1988) and Yin (1994), this paper serves to provide focused, prototypical accounts and dynamic descriptions within the context of these children's usual lives to contribute to the further understanding of this population.

As with any other methodological approach, case study research has a number of advantages and limitations. On the positive side, it provides: 1) a holistic view through a variety of sources of evidence (interviews, observations, documents) anchored in real-life situations (Yin, 1994); 2) a rich descriptive illuminative picture, weaving description, speakers' words, fieldnote quotations, and the researcher's interpretation (Yin, 1994); 3) facilitation of phenomenon research in cases where the boundaries between the phenomenon and context are not clearly evident (Yin, 1994); 4) an ideally suited medium to investigate and describe events or individuals characterized by their rarity, such as gifted children (Foster, 1986); and 5) analytic generalizations which can be expanded to generalize theories (Yin, 1994). The limitations of this approach include: 1) its time consumption and massive documentation; 2) its demands on the investigator's "intellect, ego and emotions are far greater than those of any other research strategy" (Yin, 1994, p. 56); therefore, there exist objectivity limitations due to researcher sensitivity and integrity as the researcher is the primary instrument of data collection (Merriam, 1988); and 3) criticisms for lack of rigor, little basis for scientific generalization or statistical generalization (Merriam, 1988). Given that this study is the first in-depth investigation of young gifted children in the Canada, attention to this population's individuality and growth as influenced by environmental factors could best be achieved by case study methodologies. The findings from this study have also been compared to the existing literature.

The characteristics commonly identified in gifted children are a misunderstood area. The inclusion of physical attributes and temperament, not synonymous with the gifted, do exist, perhaps as a legacy of Terman's (1925) perception of the gifted as

healthy, well-adjusted, and attractive. The commonly noted characteristics for young gifted children have included similar points (Lewis & Louis, 1991; Parke & Ness, 1988; Roedell, Jackson, & Robinson, 1980; Sankar-DeLeeuw, 1997). Louis (1988) discussed four skills most often mentioned by parents of young children as indicative of giftedness - expressive language, memory, abstract thinking, and development ahead of peers. The literature on young gifted children requires more finely tuned delineation and differentiation of these children's characteristics than currently exists.

There are inconsistencies across studies on this population with respect to participant age designations. Sankar-DeLeeuw's (1995, 1997) discussion of the ages considered in studies with the term "young" revealed a range from two to over twelve years, with three to five years of age being the most commonly considered. In this study, the term "young" was defined as between the ages of 5 and 6 years. These specified ages were chosen to avoid difficulties in large developmental changes across participants. Studies have noted, however, that parental identification of giftedness commonly occurs at earlier ages (Anderson, 1986; Ciha, Hannis, Hoffman, & Potter, 1974; Jacobs, 1971; Karnes, 1988; Louis & Lewis, 1992) and that parents typically know that their children are unusual before they enter school (Golant, 1992). In this study, all the parents identified characteristics indicative of their children's atypical abilities at very young ages, in some instances as young as two and a half years old. Expressive language ability, memory skills, keen observational skills, academic and athletic prowess, sense of humor, and independence were specifically delineated.

Teacher identification of young gifted children, on the other hand, can be difficult (Ciha et al., 1974), and tends to worsen at lower grade levels (Gear, 1976; Jacobs, 1971).

Teachers tend to focus on mature, high-achieving students (Whitmore, 1982). Complications in the teacher identification of giftedness existed for two children in this study; one teacher doubted her student's nomination and later supporting identification data, while another participant's teacher and teacher aide doubted their perceptions following the presentation of unsupportive assessment data.

The working definition of giftedness incorporated into this study was as broad and encompassing as possible; it is important to cast a wider net over the gifts and talents of the young because development is uneven at this age. Giftedness was defined as those children (five and six years of age) at or above the: 1) ninety-fifth percentile on intellectual, and 2) seventy-fifth percentile on expressive, assessments. The latter criterion was instituted to facilitate the verbal engagements required by participants in classroom exchanges and for collecting interview data.

Nomination data revealed a remarkable population of kindergarten students. At the outset, a ratio of five boys to every one girl was nominated. Why were so many more boys nominated? Within this age group, is the acknowledgment of gifts and talents in girls less likely? No support for this hypothesis could be located from earlier studies. Should this discriminatory pattern continue into formalized school system programming, it would be disturbing. In addition to the five children selected, eight additional nominees (providing interesting perspectives into the areas of artistic, memory and problem-solving domains), also met the study's entrance criteria. However, due to limited resources and time, they could not be included in this study.

Purposeful sampling from those meeting these cognitive and expressive criteria allowed the selection of five children with a diverse range of abilities, interests and

behaviors, and within different educational settings. This enabled the present-time investigation of very different children. The participants selected included: two girls, Sawyer and Jane, and three boys, Patrick, Cole, and Xiang-Huo. Sawyer, according to her parents and preschool teacher, in addition to having advanced vocabulary and reading skills, was overwhelmingly shy and nervous with new people and situations. Her kindergarten teacher was surprised by her nomination into this study and stated that Sawyer was "a selective mute" at the beginning of school. Jane, according to her teacher and parents, possessed exceptional reading and attending skills, and a fear of failure and ridicule. She attended a school that is a district (Edmonton Public Schools) site for The Academic Challenge Program [ACP]. ACP is designed to provide a more challenging academic program for students who excel in both academic and cognitive functioning. ACP supports those who are gifted and talented. although programming is not designated for only gifted and talented students; it also caters to students with high ability and high achievement. Kindergarten students within these sites are not eligible for ACP, as programming begins in the first grade. However, narrower groupings, although not homogeneous, within these classes, also exist given the community's demographics and the draw from outside the school area.

Patrick attended one of the province's two charter schools for the gifted. It already adopted modified practices throughout all grades, including kindergarten. According to his teacher, Patrick excelled verbally, was very popular, and performed at the kindergarten level academically. Of the fourteen students in Patrick's classroom, twelve students had IQs between 130 and 150. Cole also attended ACP, although at a different district site than Jane. He, according to his parents and teacher, was inquisitive,

determined and very energetic. Xiang-Huo attended a private kindergarten and underwent a private assessment; to the shock and disbelief of his parents and teachers, his intellectual ability was placed within the high average range. His teachers described his oral and reading skills, computer finesse, and humor as advanced. These participants, and their families and classroom settings, were the subjects of thorough scrutiny required for investigations utilizing case study approaches.

Despite their diversity, commonalities were evident even at such young ages, although some common characteristics were presented with varied expressions. Developmental asynchrony (Morelock, 1992), or unevenness, was also very evident in each child's profile and caused some difficulty in separating out giftedness from age-appropriate behaviors. This study generated the following major themes: Intellectual/Achievement Domain, Social Domain, Affective Domain, Physical Domain, Aesthetic and Creative Domain, and Parent and Teacher Influences.

Within the intellectual/achievement domain, a number of themes were generated. The children's knowledge base/concept comprehension/pattern analysis, memory, and rule following/requirements for order were intellectual themes. Within the academic realm, their language, reading, math and spelling skills were explored. Fine motor skills, including writing abilities (presented within the physical domain in the results section earlier in this paper), are discussed within the context of academic skills within the intellectual domain.

Within the intellectual area, the participants demonstrated a number of common abilities. The children's general and specific fund of knowledge was exceptional. In addition, the quest for answers on philosophical questions was also commonly

experienced. Consistent with Parke and Ness (1988), exceptional memory skills were commonly reported for all the children by their parents and teachers. Standardized testing, however, did not support this statement when applied to Xiang-Huo. The cognitive assessment, completed privately prior to the outset of this study, placed his short-term memory within average limits. Xiang-Huo's music teacher contrarily described his ability to play musical pieces after quick, initial exposures. The linking of extraordinary memory capabilities to poems, stories, songs and movies was commonly demonstrated by Patrick, Xiang-Huo, and Sawyer. Three participants (Jane, Cole, and Patrick) performed within the superior range for abstract cognitive measures (i.e., pattern generation). Xiang-Huo's strength was exhibited in verbal, not visual, abstractions. Observations of Sawyer at home support her advanced abstract skills in pattern generation and contradict her standardized measure of this ability.

The participants' abilities within the academic spectrum represented age levels of five or six through to above twelve years. Language, math, writing, reading, and spelling abilities were the academic areas examined. Superior expressive and receptive language skills were observed and measured for all the children. Superior math abilities, exceeding age equivalents of seven years, were measured for Xiang-Huo and Cole, while the functioning of Jane, Sawyer and Patrick was measured at age appropriate levels. None of the children chose reading activities during free time. With the exception of one participant, Patrick, all the children exceeded the eighty-ninth percentile on reading and its component tasks. The children within this superior reading ability group exhibited the following skills: predicted feasible endings of words, phrases, and sentences; compared information to own background knowledge, does it make sense?; read for meaning versus

identifying letters/words; shifted in speed and approach (dependent on type and purpose of reading); formulated expectations about the way a passage was to develop; and used the passage's graphic, syntactic, and semantic cues to speed-read and improve comprehension. These elements have been noted also in composites of good readers (Cooper & Petrosky, 1976). Sawyer's relative non-observance to details of physical print may be indicative of a trait commonly identified in older readers; a strong connection to ascertaining desired meaning from print, rather than the subtleties of it, is illustrated. Cole and Xiang-Huo did minimal writing in school. Yet, both boys excelled in spelling skills, and fine motor abilities were high and age appropriate, respectively.

Stereotypical thinking holds that gifted students excel in all areas. However, many exhibit average ability in most areas but special ability in only one. Academic findings for Jane and Sawyer delineated average to high average writing and math skills asynchronous to superior reading and spelling skills. Xiang-Huo's high reading, math, and spelling skills appeared asynchronous to his average fine motor skills. These three participants' functioning appears to be consistent with earlier studies (Roedell, Jackson, & Robinson, 1980). For Patrick, all academic skill levels, including writing, are within appropriate age and grade levels, while Cole maintained high functioning levels across all academic areas.

How essential are reading and verbal precocity to the identification of young gifted? To programming? These are the precocious behaviors most often noticed. Although several studies have found that a high percentage of gifted students were early readers (Bonds & Bonds, 1983; Brown & Rogan, 1983; Feldhusen, VanTassel-Baska, & Seely, 1989), reading on its own does not guarantee that gifted behaviors follow. Four of

the children in this study exhibited high abilities in both, while one, Patrick, was reading age-appropriately. Although Patrick was reading age-appropriately, his accurate, advanced and easily presented dialogue, long-term retention, and comprehension of orally-presented material would not, in all likelihood, place him in an early program for the gifted if reading were a required component.

A related issue, not examined in this study, is the practice of grade-skipping; it is presented because Jane was accelerated into grade two after her kindergarten year. Her experiences in grade two, however, are not a topic within this paper. According to Gallagher (1985), one of the ritual statements made by educators is that students should progress at their own rate. When this philosophy is checked against actions in the case of acceleration of the gifted, a puzzling contradiction is found. Most teachers have objected to letting unusually bright children grade skip (Proctor, Black, & Feldhusen, 1988). The term "skipping" connotes that something vital is being passed over. Conventional wisdom has held that no matter how academically precocious children are, their social development will be hurt if they are moved out of their age group and into a more advanced class. There is research supporting the use of early admission for intellectually gifted students, a strategy which places them closer to their developmental level (Paulus, 1984; Proctor et al., 1988). In the pilot case study to this investigation (Sankar-DeLeeuw, 1997), "Courtney" was also "skipped" into grade two, and her teacher's only statement about the practice of acceleration was that "her hand-writing is seen in a poorer light now." Before children are used to being consistently underchallenged, it is essential that acceleration be initiated early.

Access to, and opportunities to learn from, other children is an almost universal characteristic of development (Bandura, 1977) and with developmental progression comes more extensive exposure to peers, and its accompanying socializing influence becomes more pervasive (Grusec & Lytton, 1988). However, regardless of social skill level, time alone was consistently preferred over the company of others by all the children in this study. Nevertheless, it is vital that gifted children are assisted with, and eventually alleviated of, any social difficulties they may be challenged with. Although there is support for favorable psychosocial development experiences by the majority of gifted children, research has indicated that some gifted children may be at-risk for social and behavior difficulties (Andreasen, 1978; Freeman, 1979; Mönks & Fergurson, 1983). In this study, the social interaction domain contained assembled themes dealing with friends, older children/adults, intellectual peers, and self-/other-centeredness.

This study focused on younger children than those previously cited in the literature, yet, as identified in studies with older gifted children, it supports a number of social functioning levels - ignored/invisible, well-liked, and rejected/unpopular by peers. Interactions with classmates proved problematic for Cole and Xiang-Huo; they appeared to experience an intolerance of them. Both boys demonstrated "conceited," dominating, and bragging behaviors; solitude often resulted and many times they watched from the sidelines. Jane and Patrick, however, easily interacted with children of a variety of ages. Their learning appeared to be facilitated by the friendly exchanges and encouragement they derived from those around them. Classmates actively sought Patrick while Jane actively sought those weak in social interaction. Sawyer found almost all interactions, other than with immediate family members, painful, often remaining distant and isolated

from other classmates. Sawyer is largely socially inactive, invisible to her peers. She would likely receive assistance from Jane should they have an opportunity to interact.

Are social difficulties due to misunderstandings caused by quantitative and qualitative differences in thinking between gifted and non-gifted classmates? Does the meeting of like minds alleviate difficulty? Paralleling their interactions with the non-gifted classmate interactions described above, Jane and Patrick utilized and appreciated like-minded classmates, and Xiang-Huo, Cole, and Sawyer still had difficulty interacting with intellectual peers. The two girls, with whom Sawyer spent her time, were, according to their teacher, bright, yet exchanges were limited as they were learning to speak English, and play was more parallel than cooperative or interactive. Cole chose to befriend a child at the opposite end of the ability spectrum. Interactions with adults for both Xiang-Huo and Jane illustrated how they enjoyed the company of adults and considered themselves as equals, and Patrick maintained an ease with, as well as an enjoyment of, similar company.

The social pressure to conform, by suppressing or diverting abilities, is often cited in studies involving older gifted children. In this study, conforming behaviors and suppressing abilities were observed in Sawyer; she did not speak to anyone until four months into kindergarten. Consistent with Hay (1993), who found that young gifted students may reduce development in cognition areas and seek peer acceptance, supportive and encouraging peer relationships while talents are developing and forming are essential. Sawyer's teacher believed that she held back in displaying her reading skills. A similar concern does not exist among older school-age gifted children as their competence in cognitive and general self-worth exceeds that found in physical and social

areas (Chan, 1988). Similar conforming behaviors were speculated about Jane and Xiang-Huo as well.

The combined presence of disruptive behaviors and giftedness, at any age, has not been adequately addressed in literature. Little data have affected assessment practices, teaching interactions, intervention, or classroom procedures (Reid & McGuire, 1995). In this study, disruptive behaviors were presented as an atypical theme for two participants. Most opportunities for choice and points of transition were not well received by Xiang-Huo and Cole; wandering behaviors and arguments with teachers often resulted. Settling down into a spot for large group interaction and the completing of assigned activities (i.e., writing news) were especially problematic for them. Behavior concerns, argued Kauffman (1989), are a large consideration when dealing with lack of interest and relevance to students. He stated:

Offering instruction for which the pupils have no real or imagined use...fail[s] to engage students, but it also hinders their social adaptation by wasting their time and substituting trivial information for knowledge that would allow them to pursue rewarding activities" (p. 200).

This statement may provide support for the misconception that, regardless of environments failing to meet learning needs, the gifted will succeed.

Further research into the area of social skills functioning and young gifted children will need to focus on comparisons of individuals with both strengths and weaknesses. Are social difficulties due to specific skill deficits, or are there other contributing factors (i.e., parenting practices, teacher expectations, physical appearance, attention problems)? How are placements in inclusive settings affecting the social

behaviors a young gifted child exhibits? The prevalence of social difficulty within the population of gifted children, compared to the population of non-gifted children, has not been effectively addressed. Finally, the area of behavioral difficulties and giftedness has vast areas of obscurity. Although identification of behaviors may be uncomplicated, assessment and intervention planning are difficult and lack research-based support.

Within this study, the affective domain included themes of emotional intensity and sensitivity, humor, perfectionism, motivation, a need for stimuli/keeping busy, and rules/ order/peacekeeping versus chaos. Emotional sensitivity and emotional intensity, the despair and cynicism that accompanies awareness of environmental and social problems, have been documented by a number of researchers (Clark, 1988; Cohen, 1989; Piechowski, 1992; Roedell, 1984; Whitmore, 1980). Emotionally intense and sensitive behaviors by the participants in this study included abilities to connect with the needs and ideas of self and others, needing to be correct, and behaviors exhibited in low comfort situations (i.e., separation from parents). Jane and Patrick demonstrated behaviors revealing vulnerability to criticism along polar ends of a continuum; Jane was extremely vulnerable while Patrick demonstrated considerable invulnerability. Patrick methodically and perseveringly completed most (unwritten) tasks, whereas Jane's eyes swelled up with tears when "looked at the wrong way;" she needed a guarantee of success or was reluctant to initiate, and exhibited a sensitivity to input, often perceiving it negatively. According to Baska (1989), this may stem from her keen perception of her "less gifted" aspects and her awareness of the subtleties of interpersonal communication, such as tone. Jane's wide understanding of people's needs and her ability to handle conflicts support this connection. According to Mendaglio (1994), high levels of self-criticism, commonly

associated with young gifted children, create a "distorted view of what it means to be gifted" by some gifted children. Correspondingly, Chamrad and Robinson's (1986) finding of excessively high expectations of self among young gifted children may also apply to Jane, but not to Patrick.

There were varying levels of acceptance of rules and desire for order demonstrated by the children. Both Xiang-Huo and Cole verbally and behaviorally challenged school, but not home, rules. The ability to follow school rules appeared to be easiest for Sawyer, Jane, and Patrick. Jane also disdained misbehavior and supported children victimized by bullies. However, Jane struggled more at home when complying with rules designated there. The ordering of personal belongings within the home also varied. Both Sawyer and Jane have chaotic spaces at home (bedrooms and play rooms), consistent with Silverman's (1995) observations of older gifted children, yet for Sawyer, meticulous order for her books and movies stood in contrast to her chaotic space.

Literature on young gifted children has not documented many of the behaviors Sawyer demonstrated over the course of this study. Soiling behaviors, picking her arms and face, difficulty separating from her mother (over months of preschool and kindergarten), and selective muteness offered great challenges to her parents and teachers. Cook (1997) defined selective mutism as, "the lack of speech in selected social situations where speech is expected" (p. 83). Sawyer's kindergarten teacher questioned her nomination (submitted by her preschool teacher and parents) and was skeptical when confirming assessment information was relayed. Despite the numerous occasions of play, work and interaction with this author, Sawyer never experienced comfort and ease (unlike the other participants). In addition, she experienced occasions of great

impatience, and, as qualified by her parents, awkwardness with herself. She elected to cover her eyes during written tasks rather than produce neatly aligned work. There is doubt as to whether Sawyer would be considered for special programming for gifted students; it is much more likely that she would receive social and emotional intervention. It is not known whether Sawyer's behaviors are related to her giftedness, or whether there are other possible explanations for her behaviors, nor can a conclusion be made about any factors contributing to the behaviors she exhibited.

The theme of sensitivity towards others was created from a host of documented behaviors. Cole and Xiang-Huo experienced great difficulty in reconciling arguments and exhibited competitiveness with classmates. Conversely, Jane and Patrick had an aptitude for dealing with conflict, were accepted by classmates, and valued friendships with older children. Jane, consistent with the comment made by Parke and Ness (1988), had an empathic connection to those who are upset or sad. Jane appeared to feel, not only her pain, but everybody else's too. On the other hand, Sawyer portrayed a detachment from those individuals around her, responding intellectually rather than emotionally to many situations.

Humor is another theme that evolved within the emotional domain. Very little research has addressed humor as it pertains to the young gifted child and little assistance is provided to funny children in encouraging their humor, rather, reprimands can be the recompense of funny remarks or clownish acts. Humor is influenced by cognitive, motivational, and socio-affective factors (Fern, 1991). Tannenbaum's (1983) notion of the gifted child as a producer and innovator of new ideas parallels a talent for producing humor. He continued to state that the abilities required, specifically in the performing

arts, are not closely related to those measured by IQ. All the participants were described as having a great sense of humor by their parents and teachers. However, it was witnessed most frequently with Jane, Cole, and Patrick. Fern's (1991) finding, among children in grades one through three, that the majority of those identified as funny by their peers were described as popular, very social, and leaders of their social groups, appears to be consistent with two of the children in this study, Jane and Patrick. In addition, Fern's statement that a minority of those identified, those who manifested attention-getting mechanisms due to their restlessness, were reprimanded frequently for talking or socializing too much, appears to apply to Cole.

Literature on the young gifted does not adequately address the area of perfectionism (Parker & Adkins, 1995; Whitmore, 1980), yet it has been identified by some as a common characteristic of the gifted (Adderholt-Elliot, 1987; Clark, 1988; Roedell, 1984; Webb, Meckstroth, & Tolan, 1982). The incidence of perfectionism among the gifted population has not been shown to differ from the incidence in the general population (Kanevsky, personal communication, 1997). Perfectionism, according to Burns (1980), is the compulsive pursuit of impossible goals, and although it can produce a desire to do very good work, it can also hinder participation in activities or completion of work (Adderholt-Elliott, 1989). Although the processes involved to explain perfectionism have not been explained, nevertheless, it can result in the loss of the joy in the process and the opportunity to profit from mistakes (Roedell, 1984). Perfectionism applied to Patrick, Sawyer and Jane in several instances. Patrick returned to "perfect" projects and writing (at times erasing an entire page). Both Patrick and Sawyer, at very early ages, did not speak until their pronunciation was perfect. Jane

exhibited perfectionistic tendencies with her reading, often returning to the beginning of stumbled sentences several times until she read them flawlessly. All the children tended to set unrealistic goals for themselves on several occasions. When faced with challenge, even occasionally with some teacher support, Cole and Xiang-Huo tended to procrastinate, or give up and move on to something else, Patrick started over again, and Jane completed her task, usually explaining areas in which she had to compromise (i.e., creative spellings, drawings). Sawyer's tendencies presented themselves during the individual assessment sessions; she very easily performed early task items, yet struggled with, and many times elected not to answer, the tasks' ceiling items. Later sessions proved to be unfruitful as Sawyer chose not to attempt the assessment tools presented (creativity and math specifically). Clark (1988) discussed how gifted and talented students may place unrealistic expectations on themselves and suffer from a desire to achieve at a level of perfection that can lead to frustration, reduced motivation, intolerance of peers achieving less than this standard, and social isolation.

Motivation is another theme within the emotional domain. A motivational component has been included in several definitions of gifted and talented. High levels of motivation were a commonality across all the participants on self-initiated, albeit differing, tasks: completing workbooks and playing computer games (Xiang-Huo), sport activities (Cole), conducting home science experiments, reading and maintaining an attractive physical appearance (including "feminine" behaviors like stroking shins with hands, crossing legs) (Jane), building Lego games and acting (Patrick), and reading, especially about cats (Sawyer). Renzulli's (1978) "task commitment" acknowledged this aspect of personality as an essential component of gifted behavior. Consequently, the

children did not require much encouragement or praise on these tasks. Moreover, Sawyer did not appear to be motivated on any given task by praise. Criticisms for the delineation between gifted children and others on the basis of production (not producing = not gifted) have been made, especially in acknowledgment of those not performing to their potential.

Underachievement, the discrepancy between school performance and some ability index (Rimm, 1986) and the young gifted child, has not been addressed in the research literature. Most attention has been to connect chronic antipathy toward school and poor work habits with unchallenging and boring early school experiences (Fox, 1971; Whitmore, 1979). For two participants in this study, Xiang-Huo and Cole, several of their behaviors (boredom, distractibility, noncompliance, resignation from challenging endeavors) were of concern to their teachers, and can be indicative of those often identified in older gifted underachievers (Rimm, 1995). Underachievement often involves inconsistent work and time on-task, lack of concentration, reporting school to be boring, uneven skill development (i.e., strong verbal skills paired with poor fine motor skills) and a lack of friendships (Rimm, 1986). All these characteristics, including uneven skill development, can be attributed to both Cole and Xiang-Huo.

Boredom, according to Mikulas and Vodanovich (1993), "is a state of relatively low arousal and dissatisfaction, which is attributed to an inadequately stimulating situation" (p. 3). Most definitions of boredom do not differentiate between those uninterested in school and unchallenged, and those maintaining interest, but lacking challenge. Descriptions made by teachers about the children in this study qualified this concept. Cole and Xiang-Huo were frequently uninterested in classroom activities. Xiang-Huo's attention on things of little interest, like having to listen to Dr. Seuss, and on

repetition, like re-reading the same book (which may have captivated him during the initial read), often resulted in his frustration and unhappiness. Jane and Sawyer were depicted as maintaining interest, and also lacking challenge. Sawyer required further challenge in the language arts area (reading, writing, oral expression). Jane needed challenge in all the academic areas. Patrick was neither described as, nor observed to be, bored at school. There were always several students working ahead of him academically; therefore, additional challenge was always available to him.

Boredom can be prevented by adequate challenge based within realistic ideals about abilities and interests (i.e., minimizing fear of failure with an accurate estimate of abilities). Children who are not producing at school, and who, on their own, learn multiplication (as was the case of Cole) or complete numerous word and math workbooks (as was the case of Xaing-Huo), frustrate and challenge educators and parents. Differing levels of motivation within home and school settings are displayed by such examples. Furthermore, these children, from early on in their lives, need a lot to do; this was the case with Jane, Xiang-Huo, Cole, and Patrick. Each would challenge the number of commitments conventionally held to constitute over-scheduling a child's free time.

Television, as discussed by Abelman (1992), was a source of information and entertainment for the participants; for four of the five, it was a highly prominent one. Reported daily television time ranged from one to four hours (fifteen to thirty hours weekly). Abelman and Rogers (1987) found gifted preschool children to watch significantly more hours of television per week than non-gifted children; a comparison with viewing times today is difficult to make due to the advent and popularity of the personal computer as an alternative medium of entertainment and education that was not

as prevalent at the time of the aforementioned study. However, consistent with Abelman (1992), the participants in this study did not passively engage in television viewing; they were intently involved in program content and the narrative techniques engaged in to tell the story.

Another domain explored in this study was creativity. It was very difficult for the parents to denote their young children's products and behaviors as creative. Concretizing creativity as unique ways of viewing problems (Sternberg, 1985) and producing divergent solutions (Guilford, 1967), the children in this study were creative, yet very different behaviors were exhibited by each child. Jane displayed creative language expression in the home centre, Patrick experimented with language (producing innovative sayings), designed special projects (i.e., treehouse) and created (wrote, directed, starred) "movies." Sawyer repeatedly produced creative drawings involving cats, and Xiang-Huo and Cole formed socio-dramatic play schemes. Cole also demonstrated creativity in crafts, and Xiang-Huo, in music. The standardized creativity measures that were utilized provided additional support for previously observed behaviors. Patrick was the only participant who enjoyed them. The measures supported gross motor strengths of Cole and Patrick; each was able to produce a variety of actions relating varying positions, speed and limb involvement. Patrick also enjoyed creating a variety of diverse drawings from presented triggers while Xiang-Huo immensely disliked these tasks.

Play is a learning experience that is synonymous with early childhood settings, but how appropriate is it for the gifted young child? Because these youngsters are productive, advanced in their abilities and learning readiness, and perceived expectations many grades ahead of the current one, play has been challenged (Kaplan, 1980). Play can

have an educational purpose. Piagetian (1952/1936) play, combining intellectual pursuit and experience, is "a vital function in developing intellect by affording the child a way of taking in the outside world and manipulating it so it fits the assimilated information into an organizing scheme representative of previously held knowledge." As language and general knowledge acquisitions predominately involve play and natural exploration, it would follow that gifted children would enjoy the activity. Although Jane and Patrick did, the others found school play challenging and frustrating. Conversely, these three children found play with siblings to be enjoyable.

Families offer a special context for learning for young children. They provide unique connections to learning experiences through sport, travel, literature, community, siblings and other family members. Characteristics, including verbal expertise, curiosity, motivation, play behavior, social expression, and independence, can differ due to home and family conditions (Beirn, Kinsey, & McGinn, 1972; Marjoribanks, 1994; Martlew & Sorsby, 1995).

The awe and continual astonishment experienced by some parents about their children's abilities were very evident. One participant's parents reported embarrassment of their own skills, in comparison to their child's (Patrick's) memory for events. The parents of gifted children have been characterized as having a propensity to "push" their children (Sankar-DeLeeuw, 1997); three participants' parents stated being described this way by other adults. One parent admitted that her daughter urged the digesting of more information and delving ahead. Another commented that other adults around her and her husband interpreted some observed behaviors as being "pushy." The third felt that her son did not feel pressure by her encouragement, rather, permission to be competitive and

give one hundred percent. Likewise, parents may be seen as "pushy" by teachers when appropriate programming for the educational needs of gifted children is not readily available, and the parents have to advocate on behalf of their children.

All the parents, moreover, were eager to provide their busy and active children with plenty of stimuli and, for four of the five children, several formally instructed activities and sports were elected. Congruently, the parents commonly felt stress by the children's unyielding activity, inquisitiveness and curiosity, even though, for some children, self-entertainment, and therefore solitude, in these activities had been attained.

Karnes (1983) discussed the inadequacy many parents indicated about the rearing of gifted and talented children. Parents in this study also voiced inadequacy. Two parents mentioned their uncertainty with what "should" be done before their children's entry into kindergarten. With the exception of Xiang-Huo, all the children participated in a play school program. Sameroff and McDonough (1994) believe the best age for children to receive formal instruction is around six years old. Others agree, based on the less-structured exploration necessary prior to structured schooling (Butchart, cited in Hammer, 1998).

In this study, the parents devised specific guidelines to facilitate the rearing of a young gifted child. In general, a parent is a facilitator to growth by providing stimulating (intellectual, physical) experiences appropriate for the child's developmental level, and an advocate of, and personally involved with, the education of the child. The following is a more explicit assembly of guidelines which were collectively produced by the parents: 1) discover, not charter, your child's identity; 2) listen to your child's own thoughts, feelings, joys, sorrows, hopes, fears, 3) encourage responsibility by offering choice; 4)

allow your child to independently do everything, without assistance; 5) support friendships; 6) be patient; 7) be a good role model (including providing for rich language expression and life-long learning); 8) read, both to your child and also on your own; 9) discuss and debate daily news, songs, and books; 10) mediate TV viewing. The guidelines were extended to various roles that parents may have to adopt when rearing young gifted children: nurturer, disciplinarian, knowledge bearer, teacher, counsellor, coach, financial provider, travel guide and chauffeur, activity coordinator, newsperson and debater, and housekeeper.

Parents presented, in most cases repeatedly, a variety of reading genres to their children: picture books, songs, poetry, fiction, fantasy, folktales, jokes, magazines, nonfiction, fables, and newspapers. In addition, three of the parents read materials with their children, that the children could read independently. Discussions involving predictions of future story progressions were enjoyed. All the parents had a hand in selecting new reading material for their children. The participants' reading characteristics were observed to have the following: noting of distinctive features in print; a capability of predicting feasible or likely endings of words, phrases, and sentences; comparisons to own background knowledge (does it make sense?); reading for meaning versus identifying letters/words; shifts in speed and approach (dependent on type and purpose of reading); expectations formulated about the way passages will develop; and advantageous use of a passage's graphic, syntactic, and semantic cues to speed reading and improve comprehension. These elements have been noted in composites of good readers (Cooper & Petrosky, 1976). Relative to the other children, Sawyer was not as

observant of the physical print. This may be indicative of her strong connection to ascertaining the desired meaning of a story.

The siblings of the participants in this study provided affection, materials and information, criticism, correction of inaccurate information, and playmates within director or actor roles. The male participants all had older sisters and one female participant, Sawyer, had a younger brother. The sisters had a significant amount of patience and tolerance for their younger brothers. Sawyer's brother imitated many of her behaviors and interests. There were times when his presence during visits assisted her; he encouraged her to respond to assessment items and paralleled activities in order for her to participate. He also added greater creativity and novelty to her regard for maintaining exact renditions of dialogue from movies and books; this act was a source of frustration and enormous challenge for Sawyer. Little documentation on young gifted children and their siblings exists. Moreover, the literature on older gifted children provides numerous comparisons between the relationships gifted children have with gifted versus non-gifted siblings (Bridges, 1973; Cornell & Grossberg, 1986; Peterson, 1977); negative effects (i.e., less well-adjusted, pressure, resentment, competitive, anxious) on the non-labeled siblings resulting from a gifted label, has consistently been reported. Although none of the siblings were identified gifted, they all displayed many characteristics indicative of giftedness. However, formal assessments of intellectual functioning were not conducted, so relationship comparisons similar to those cited could not be made by this study. Colangelo and Brower (1987) found siblings eventually come to terms with the gifted label without negative feelings.

The final area investigated by this study was the teacher domain. Although remaining grounded in the principles of early childhood education, the different educational settings provided interesting perspectives to each child's learning environment. Four of the children's kindergarten classes were considered to be mixed-groups, that of Xiang-Huo, Sawyer, Cole and Jane, while Patrick's classroom was homogeneously grouped. Classes varied from fourteen to twenty-six students. The teachers varied from one to over twenty years teaching experience.

The kindergarten curriculum presented in each classroom studied occurred along a wide spectrum. There is no standard curriculum for kindergarten in Alberta and teachers adapt a list of guidelines into practice. A commonly reported observation cited in the literature is that the kindergarten curriculum is boring and redundant for gifted students (Chance, 1990; Karnes & Johnson, 1990; Kitano, 1985). Gross and Feldhusen (1990) found precocious readers among nearly all the highly gifted children they studied, and that schools disregard their precocity and subject them to the instructional level presented to all children. Boredom and redundancy applied to four of the five participants. In particular, reading instruction for these advanced readers was found to be unchallenging. However, Sawyer and Jane usually attended to, while Xiang-Huo and Cole frequently disrupted, class proceedings. Cole's teacher added an innovative reading technique, Animated Literacy (Stone, 1995), to her reading instruction. Cole's classmates, including those who were already reading, gravitated to the method. However, it was only the written accompaniments (drawing strategies) that seemed to interest Cole. For Patrick, his grade appropriate academic skills paralleled a number of

other classmates; his teacher found the programming of other students in her class to be more of a challenge as their needs were more unique.

Modification of instructional practices and curricular materials are often employed to meet the needs of gifted students. Differentiated curriculum for young gifted children, according to Karnes, Shwedel, and Williams (1983), consists of the following: encouraging the pursuit of a chosen interest in depth; interest- and needs-based learning rather than predetermined instruction; complex, abstract, and higher-level thinking processes; greater flexibility in the use of materials, times and resources; higher expectations for task persistence and independence; more provisions for acquiring and demonstrating leadership; encouraging creative and productive thinking; more opportunities to broaden the knowledge base and enhance language abilities (pp.129-130). These concepts were practiced through independent study and enrichment.

Very little early childhood education literature has addressed the area of modified instruction for those functioning above age and grade expectations. Independent study was utilized by three of the participants. Jane, once a week, worked on individualized worksheets and story writing. Xiang-Huo, as opportunities presented themselves, could work on independently generated tasks or isolated sections of class-assigned tasks (i.e., ice cream shop instead of group building of a hotel). Patrick, almost daily, was presented with grade appropriate tasks with additional and desired challenge. In particular, group activities were without ceilings and the entire assignment was adjusted with incoming student input. Enrichment, additional exposure to a given topic, was presented to specific children or provided within a given activity or center, and utilized by the teachers. However, it was either well-received, as with Jane and Patrick, or often rejected, as with

Xiang-Huo and Cole. Cole's classroom was filled with a host of materials on presented themes. His teacher embedded a variety of explorative activities into her classroom. Cole very rarely utilized them; most of his efforts were expended on the crafts or computer centres. The availability of challenging activities was available to Sawyer as well, requiring self-initiation to access, yet very quietly and unassumingly; it was the chalkboard (drawing cats) that she migrated to and worked at until period end.

In this study, the use of accelerative techniques (to higher grade-level content) by two kindergarten teachers exposed territorial issues with the grade one teachers about grade one curriculum. These grade one teachers were opposed to the teaching of grade one curriculum (including independent reading) in kindergarten. Children should be receiving programming that is commensurate with their abilities and the territorial issue around curriculum would prevent appropriate educational challenge. The literature has made reference to the territorial nature of teachers towards curricular ownership as being problematic. Additional investigation is required in regard to its prevalence, impact and interventions to change this conception.

Teachers' roles identified in this study align themselves to previously cited itemized lists (Clark, 1988), including observer, parent, peer/friend, facilitator (creative, tolerant, interactive), adjuster of individual style, provider of developmentally appropriate curricular choice, and initiator of creative products. A new teacher role, that of confidante/counsellor, was identified by this study in the case of Xiang-Huo. Very little published literature has addressed the counselling role of early childhood teachers. Counselling issues involved parenting, family, separation, and discipline. Providing teachers with information and management strategies in dealing more effectively with

their gifted students can enhance learning and home environments, and teacher satisfaction. Coping strategies to deal with various psychological needs can facilitate their education and curriculum activities can provide learning environments focused on various areas (imagination, motor, sensory). This area has not been addressed in the literature, yet the introduction of the first educational setting into a child's life has tremendous impact on the child's family, in addition to implications for the child.

The children in this study presented unique challenges to existing knowledge about parenting, identifying, and programming for young gifted children. Guidelines are provided to parents, teachers, and psychologists by the multiple perspectives considered in this paper. There is no single adequate definition, and there are no procedures, or combination of procedures, that address all the important areas impinged upon by the heterogeneity of this collective group. Although differences among the children were ascertained within every domain (intellectual, social, affective, creative, and physical), and despite selection procedures emphasizing diversity, it is remarkable how much similarity there was among the children studied. Far earlier than most educators expect, these children can be distinguished from the general population, supporting the position that an effective foundation for identification practices can be established. This, in turn, leads to the need to investigate, and especially evaluate, educational options (early entry, heterogeneous classroom, self-contained gifted classroom), including whether specific options are more beneficial, overall, as well as for specific gifts and talents. Curricula and learning situations for young gifted children, as for all children, must be individualized according to unique characteristics, interests, and abilities, because

learning patterns are established, and attitudes towards others formed, early in their development.

Conclusions

The breadth of student experiences of giftedness is varied (Kerr, Colangelo, & Gaeth, 1988; Kunkel, Chapa, Patterson, & Walling, 1995), but very little attention has been focused on the experiences of the gifted young child. This in-depth, multiple case study investigation adds confidence and value to the literature on young gifted children. The challenges in identification and assessment practices were specifically highlighted for young gifted children. Clinical assessments require great patience and expertise from the examiner. Parental identification occurred at early ages from language skills, reading, persistence, or observational skills. Teacher identification can be more difficult due to disbelief and distrust in the identification of behaviorally-, socially-, and emotionally-challenged children. The five children selected for this study for their distinctiveness and unique educational settings were similar in many ways. The children's notable amounts of acquired knowledge, pursuit of answers to philosophical questions, memory and language skills, preference for solitary activities, sense of humor, high motivational levels and persistence on tasks of interest, and need to keep busy were all common characteristics. Commonalities were evident even at such young ages. The developmental asynchrony (Morelock, 1992), or unevenness, in each child's profile was also very evident and caused some difficulty in separating out giftedness from age-appropriate behaviors. However, a spectrum of abilities was exhibited in academic (reading, writing, math) areas, social interactions (with friends, intellectual peers, and

older children and adults), emotional intensity and sensitivity, perfectionism, gross and fine motor skills, and creative pursuits. Parents and educators have key roles in helping these children grow (intellectually, socially, and psychologically) toward being able to function productively in the real and challenging world.

References

Abelman, R. (1992). Television and gifted children: What the research says. Roeper Review, 15, 80-84.

Abelman, R., & Rogers, A. (1987). From "plug-in drug" to "magic window": The role of television in gifted education. Paper presented at the 7th Annual World Conference on Gifted Education, Salt Lake City, UT.

Adderholt-Elliot, M. (1987). Perfectionism: What's bad about being too good? Minneapolis, MN: Free Spirit.

Adderholt-Elliott, M. (1989). Perfectionism: What's so bad about being good. Minneapolis, MN: Free Spirit.

Albert, R. S. (1980). Family positions and the attainment of eminence: A study of special family positions and special family experiences. Gifted Child Quarterly, 24, 87-95.

Anderson, J.W. (1986). Is your child gifted? Growing Parent, 14, 1-5.

Andreasen, N. C. (1978). Creativity and psychiatric illness. Psychiatric annals, 8, 23-45.

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice-Hall.

Baska, L. K. (1989). Characteristics and needs of the gifted. In J. F. Feldhusen, J. VanTassel-Baska, & K. Seely. (1989). Excellence in educating the gifted (pp. 15-28). Denver: Love.

Beirn, R., Kinsey, D. G., & McGinn, N. F. (1972). Antecedents and consequences of early school leaving. Educational Documentation and Information, 46, 1-116.

Beery, K.E. (1997). The Beery-Buktenica Developmental Test of Visual-Motor Integration (VMI) with supplemental developmental tests of visual perception and motor coordination: Administration, scoring and teaching manual (Rev. 4th ed.). Parsippany, New Jersey: Modern Curriculum.

Bloom, B.S. (1985). Developing talent in young people. New York: Ballantine.

Bogdan, R.C., & Biklen, S.K. (1992). Qualitative research for education: An introduction to theory and methods (2nd ed.). Needham Heights, MA:Allyn and Bacon.

Bonds, C.W., & Bonds, L.T. (1983). Teacher, is there a gifted reader in first grade? Roeper Review, 5, 4-6.

Bridges, S. (1973). IQ-150. London: Priory.

Brown, W., & Rogan, J. (1983). Reading and young gifted children. Roeper Review, 5, 6-8.

Borg, W.R., & Gall, M. D. (1989). Educational research: An introduction (5th ed.). New York: Longman.

Burns, D. D. (1980, November). The perfectionist's script for self-defeat. Psychology Today, pp. 70-6.

Carroll, H. A. (1940). Genius in the making. New York: McGraw-Hill.

Chamrad, D. L., & Robinson, N. M. (1986). Parenting the intellectually gifted preschool child. Topics in Early Childhood Special Education, 6, 74-87.

Chan, K. S. (1988). The perceived competence of intellectually talented students. Gifted Child Quarterly, 32, 310-14.

Chance, P.L. (1990). Kindergarten and first grade: A time for developing and nurturing gifted behaviors in young children. Early Child Development and Care, 63, 75-81.

Ciha, T., Hannis, T., Hoffman, C., & Potter, M. (1974). Parents as identifiers of giftedness, ignored but accurate. Gifted Child Quarterly, 18, 191-5.

Clark, B. (1988). Growing up gifted (3rd ed.). Columbus, OH: Merrill.

Cohen, L.M. (1989). Understanding the interests and themes of the very young gifted child. Gifted Child Today, 12, 6-9.

Colangelo, N., & Brower, P. (1987). Labeling gifted youngsters: Long-term impact on families. Gifted Child Quarterly, 31, 75-8.

Cook, J. A. (1997). Play therapy for selective mutism. In H.G. Kaduson & D.M. Cangelosi (Eds.), The playing cure: Individualized play therapy for specific childhood problems. Northvale, NJ: Jason Aronson.

Connolly, A.J. (1991). Canadian Edition of KeyMath Revised: A Diagnostic Inventory of Essential Mathematics. Toronto, ON: Psycan.

Cooper, C.R., & Petrosky, A.R.A. (1976). A psycholinguistic view of the fluent reading process. Journal of Reading, 20, 184-207.

Cornell, D. G., & Grossberg, I. N. (1986). Siblings of children in gifted programs. Journal for the Education of the Gifted, 9, 253-64.

Cox, C. M. (1926). The early mental traits of three hundred geniuses. In L. Terman (Ed.), Genetic studies of genius (Vol. 2). Stanford, CA: Stanford University.

Creswell, J. W. (1994). Research design: Qualitative and quantitative approaches. Thousand Oaks, CA: Sage.

Doman, G. (1964). How to teach your baby to read. New York: Random House.

Dunn, L.M., & Dunn, L.M. 1981. PPVT: Peabody picture vocabulary test - Revised Manual for Forms L and M. Circle Pines, Minnesota: American Guidance.

Ellis, J. (1994). Narrative inquiry with children: A generative form of preservice teacher research. Qualitative Studies in Education, 7, 367-380.

Feldhusen, J.F., VanTassel-Baska, J., & Seely, K. (1989). Excellence in educating the gifted. Denver: Love.

Feldman, D. H., & Goldsmith, L.T. (1986). Nature's gambit: Child prodigies and the development of human potential. New York: Basic.

Fern, T. L. (1991). Identifying the gifted child humorist. Roeper Review, 14, 30-34.

Flack, J. D. (1983). Profiles of giftedness: An investigation of the development, interests, and attitudes of 10 highly gifted Indiana adolescents. Unpublished doctoral dissertation, Purdue University, West Lafayette, IN.

Foster, W. (1986). The application of single subject methods to the study of exceptional ability and extraordinary achievement. Gifted Child Quarterly, 30, 33-37.

Fox, A.E. (1971). Kindergarten: Forgotten year for the gifted? Gifted Child Quarterly, 15, 42-48.

Freeman, J. (1979). Gifted children. Baltimore: University Park.

Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic.

Gardner, M.F. (1990). Expressive one-word picture vocabulary test (Rev. ed.). Florida: Academic therapy.

Gear, G. M. (1976). Accuracy of teacher judgment in identifying intellectually gifted children: A review of the literature. Gifted Child Quarterly, 20, 478-90.

Goertzel, M. G.., Goertzel, V., & Goertzel, T., G. (1978). Three hundred eminent personalities. San Francisco: Jossey-Bass.

Goertzel, V., & Goertzel, M.G. (1962). Cradles of eminence. Boston: Little, Brown.

Golant, S. (1992). How can I tell if my preschooler is gifted? Illinois Council for the Gifted Journal, 11, 4-6.

Gross, M. (1986). Radical acceleration in Australia: Terence Tao. Gifted Child Today, 9, 2-11.

Gross, M. U. M., & Feldhusen, J. F. (1990). The exceptionally gifted child. Understanding our gifted, 2, 1, 7-10.

Grusec, J., & Lytton, H. (1988). Social development: History, theory and research. New York: Springer-Verlag.

Guilford, J. P. (1967). The nature of human intelligence. New York: McGraw-Hill.

Hammer, K. (1998). What do you do with a gifted 4-1/2-year-old? Challenge, 80, 22-24.

Hay, I. (1993). Motivation, self-perception and gifted students. Gifted Education International, 9, 16-21.

Hayden, T. (1985). Reaching out to the gifted child: Roles for the health care professions. New York: America Association for Gifted Children.

Heath, S.B. (February, 1985). Workshop presentation for Committee on Reading. Texas Women's University, Denton, TX.

Hollingworth, L.S. (1942). Children above 180 IQ, Stanford-Binet: Origin and development. New York: World.

Jacobs, J. (1971). Effectivenss of teacher and parent identification of gifted children as a function of school level. Psychology in the schools, 8, 140-42.

Kaplan, S.N. (1980). The role of play in a differentiated curriculum for the young gifted child. Roeper Review, 3, 12-13.

Karnes, M., Shwedel, A., & Williams, M. (1983). Combining instructional models to develop differentiated curriculum for young gifted children. Teaching Exceptional Children, 15, 128-135.

Karnes, M. B. (1983). The underserved: Our young gifted children. Virginia: Education Council for Exceptional Children.

Karnes, M.B. (1988). Issues in educating young children: Promising practices. West Lafayette, IN: Gifted Education Resource.

Karnes, M. B., & Johnson, L.J. (1990). A plea: Serving young gifted children. Early Child Development and Care, 63, 131-138.

Katz, L., & Chard, S. C. (1989). Engaging children's minds: The project approach. Norwood, NJ: Ablex.

Kauffman, J. M. (1989). Characteristics of emotional and behavioral disorders of children and youth (5th ed.). New York: Macmillan.

Kerr, B., Colangelo, N., & Gaeth, J. (1988). Gifted adolescents' attitudes towards their giftedness. Gifted Child Quarterly, 32, 245-247.

Kitano, M.K. (1985). Issues and problems in establishing preschool programs for the gifted. Roeper Review, 7, 212-213.

Kolata, G. (1987). Early signs of school age IQ. Science, 23, 774-775.

Kunkel, M.A., Chapa, B., Patterson, G., & Walling, D.D. (1995). The experience of giftedness: A concept map. Gifted Child Quarterly, 39, 126-134.

Lewis, M. & Louis, B. (1991). Young gifted children. In N. Colangelo & G. Davis (Eds.), Handbook of gifted education (pp. 365-81). Needham Heights, MA: Allyn & Bacon.

Louis, B., & Lewis, M. (1992). Parental beliefs about giftedness in young children and their relation to actual ability level. Gifted Child Quarterly, 36, 27-31.

Marjoribanks, K. (1994). Families, schools and children's learning: A study of children's learning environments. International journal of educational research, 21, 441-555.

Martlew, M., & Sorsby, A. (1995). The precursors of writing: Graphic representation in preschool children. Learning and instruction, 5, 1-19.

Mendaglio, S. (1994). Gifted sensitivity to criticism. Gifted Child Today, 17, 24-5.

Merriam, S.B. (1988). Case study research in education: A qualitative approach. San Francisco, CA: Jossey-Bass.

Mikulas, W.L., & Vodanovich, S.J. (1993). The essence of boredom. Psychological Record, 43, 3-12.

Milner, J. O., & Elrod, M. M. (1986). Language reception in three modes. Journal of Genetic Psychology, 147, 123-33.

Mönks, F. J. (1992). General introduction: From conception to realization. In F. J. Mönks, M. W. Katzko, & H. W. van Boxtel (Eds.), Education of the gifted in Europe: Theoretical and research issues (pp. 13-21). Amsterdam: Swets & Zeitlinger.

Mönks, F., & Fergurson, T. (1983). Gifted adolescents: An analysis of their psychosocial development. Journal of Youth and Adolescence, 12, 1-18.

Morelock, M. J. (1992). Giftedness: The view from within. Understanding Our Gifted, 4, 1, 11-15.

Parke, B. N., & Ness, P. S. (1988). Curricular decision-making for the education of young gifted children. Gifted Child Quarterly, 32, 196-99.

Parker, W. D., & Adkins, K. K. (1995). Perfectionism and the gifted. Roeper Review, 17, 173-76.

Patton, M.Q. (1987). Qualitative evaluation methods. Newbury Park, CA: Sage.

Paulus, P. (1984). Acceleration: More than grade skipping. Roeper Review, 7, 98-100.

Perez, G. S., Chassin, D., Ellington, C., & Smith, J. A. (1982). Leadership giftedness in preschool children. Roeper Review, 4, 26-8.

Peterson, D. C. (1977). The heterogeneously gifted family. Gifted Child Quarterly, 21, 396-408.

Piaget, J. (1952/1936). The origins of intelligence in children (M. Cook, Trans.). New York: International Universities.

Piechowski, M.M. (1992). Emotional development and emotional giftedness. In N. Colangelo & G. Davis (Eds.), Handbook of gifted education (pp. 285-305). Needham Heights, MA: Allyn & Bacon.

Proctor, T.B., Black, K.N., & Feldhusen, J.F. (1988). Early admission to elementary school: Barriers versus benefits. Roeper Review, 11, 85-87.

Radford, J. (1990). Child prodigies and exceptional early achievers. New York: Free.

Reid, B. D. & McGuire, M. D. (1995). Square pegs in round holes – These kids don't fit: High ability students with behavioral problems. Storrs, CT: National Research Center on the Gifted and Talented.

Renzulli, J. S. (1978). What makes giftedness? Reexamining a definition. Phi Delta Kappan, 60, 180-84, 216.

Rimm, S.B. (1986). Underachievement syndrome: Causes and cures. Waterton, WI: Apple.

Rimm, S.B. (1995). Impact of family patterns upon the development of giftedness. In J.L. Genshaft, M. Bireley, & C.L. Hollinger (Eds.), Serving gifted and talented students: A resource for school personnel (pp. 243-256). Austin, TX: Pro-ed.

Robinson, N. M. (1993). Identifying and nurturing gifted, very young children. In K.A. Heller, F.J. Mönks, & A.H. Passow (Eds.), International handbook of research and development of giftedness and talent (pp. 507-524). New York: Pergamon.

Roedell, W.C. (1984). Vulnerabilities of highly gifted children. Roeper Review, 5, 21-24.

Roedell, W.C. (1989). Early development of gifted children. In J.L. VanTassel-Baska and P. Olszewski-Kubilius (Eds.), Patterns of influence on gifted learners: The home, the self, and the school (pp. 13-28). New York: Teachers College.

Roedell, W. C., Jackson, N. E., & Robinson, H. B. (1980). Gifted young children. New York: Teachers' College.

Roeper, A. (1977). The young gifted child. Gifted Child Quarterly, 21, 388-396.

Sameroff, A., & McDonough, S. C. (1994). Educational implications of developmental transitions: Revisiting the 5- to 7-year shift. Phi Delta Kappan, 76, 188-93.

Sankar-DeLeeuw, N. (1995, July/August). The social and emotional development of gifted preschoolers. Paper presented at The 11th World Conference on Gifted and Talented Children (WCGTC), Hong Kong.

Sankar-DeLeeuw, N. (1997). Gifted preschoolers: Surveys of characteristics perceived by parents and teachers. In J. Chan, R. Li, and J. Spinks (Eds.), Maximizing potential: Lengthening and strengthening our stride (Proceedings of the 11th World Conference on Gifted and Talented Children) (pp. 399-414). Hong Kong: University of Hong Kong.

Sankar-DeLeeuw, N. (1999). Gifted preschoolers: Parent and teacher views on identification, early admission and programming. Roeper Review, 21, 174-179.

Silverman, L. K. (1995, July/August). Perfectionism. Paper presented at The 11th World Conference on Gifted and Talented Children (WCGTC), Hong Kong.

Sternberg, R. J. (1985). Beyond IQ: A triarchic theory of human intelligence. New York: Cambridge University.

Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage.

Stone, J. (1995). Animated-Literacy. La Mesa, CA: J. Stone Creations.

Tannenbaum, A. J. (1983). Gifted children: Psychological and educational perspectives. New York: Macmillan.

Terman, L. M. (1925). Genetic studies of genius: Mental and physical traits of a thousand gifted children (Vol. 1). Stanford, CA: Stanford University.

Thorndike, R.L., Hagen, E.P., & Sattler, J.M. (1986). Technical manual Stanford-Binet Intelligence Scale (4th ed.). Chicago: The Riverside.

Torrance, E.P. (1962). Thinking creatively with pictures. Bensenville, IL: Scholastic Testing Service.

Torrance, E.P. (1981). Thinking creatively in action and movement. Bensenville, IL: Scholastic Testing Service.

Webb, J. T., Meckstroth, E.A., & Tolan, S.S. (1982). Guiding the gifted child. Columbus, Ohio: Psychology.

Whitmore, J.R. (1979). The etiology of underachievement in highly gifted young children. Journal for the Education of the Gifted, 3, 38-51.

Whitmore, J. R. (1980). Giftedness, conflict, and underachievement. Boston: Allyn & Bacon.

Whitmore, J. R. (1982). Recognizing and developing hidden giftedness. The Elementary School Journal, 82, 274-83.

Whitmore, J. R., & Maker, C.J. (1985). Intellectual giftedness in disabled persons. Rockville, MD: Aspen.

Witty, P., & Coomer, A. (1985). A case study of twin gifted boys. Exceptional Children, 22, 104-108.

Woodcock, R.W. (1987). Woodcock Reading Mastery Tests - Revised: Examiner's Manual. Circle Pines, MN: American Guidance Service.

Woodcock, R.W., & Johnson, M.B. (1989, 1990). Woodcock-Johnson Psycho-Educational Battery - Revised. Allen, TX: DLM Teaching Resources.

Yin, R. K. (1989). Case study research: Design and methods. Newberry Park, CA: Sage.

Yin, R. K. (1994). Case study research: Design and methods (2nd ed.). Newberry Park, CA: Sage.

7. Epilogue

The participants' school year following kindergarten presented a few surprises.

Patrick was placed in an inclusive grade one class within the Separate School District because of uncertainty about the Charter School's future, a desire for a French Immersion option, and his parents' hope for him to be educated at the same school as his sister. Xiang-Huo attended a summer program offered by his school from the middle of July through to the beginning of August. During this program, he became more interactive with his classmates and less reliant on his teacher. Xiang-Huo gave an impromptu concert to his class and played Ode to Joy. In October of grade one, his mother explored the Academic Challenge Program option and decided to put Xiang-Huo into the same school as Cole, and indeed, into the same classroom. Cole was not handling his grade one year very well; from the outset, he struggled with not being the smartest in his class. When the option of accelerating Jane to ACP grade two was presented during a parent/teacher conference, Jane's mother decided that she would discuss it with her. Jane was admittedly against the idea because she believed that there is a definite order to school (i.e., K, 1, 2, 3) and that the grade one teacher would never be met; "she may be a wonderful lady." During the summer, Jane began reading the Nancy Drew series and was enthralled with "research, finding things on her own." Reassurances that these activities would be explored by more of her grade two classmates, she advanced to, and appeared to enjoy, grade two. Jane quickly made some new friends. Sawyer remained within the same school as for her kindergarten year, in a grade one/two split. Her mother finds that, although the reading is too easy for her, there are challenges for her. It has been very difficult getting her to school on Mondays. There have been instances when

Sawyer has declared that she is not going, kicking all the way there when taken, only to stay if her mother remains also. Her friends, Denise and Patti, have terminated their connection with Sawyer, and Ben is no longer at her school. According to her parents, Sawyer has become a very lonely girl.

Chapter V - General Discussion and Conclusions

Giftedness within young children has not been emphasized by school districts, yet the key to healthy development may begin here. Indeed, early experiences in school powerfully impact on attitudes toward learning in general, and later achievements in education. This dissertation completes much needed investigations into the lives of young gifted children, utilizing survey and case study methodologies. To date, this population has not been cited for in-depth study in these ways. This chapter summarizes significant findings of the dissertation, discusses implications for further research, and provides limitations of the selected methodologies.

How did I decide to undertake my doctoral research on this topic? After the completion of a paper that served as an introduction to the social and emotional needs of the preschool gifted population, I was intrigued with the area of giftedness in young children, though not convinced that early identification and intervention were definite and undeniable needs. My work as provincial and regional (Edmonton Chapter) coordinator for the Alberta Associations for Bright Children and the accompanying meetings with numerous parents, concerned about their young bright preschoolers or the disappearance of exceptional abilities in their older gifted children, led me to explore this area in greater depth. Through the course of my doctoral research, I have come to believe that gifted children require support early, particularly upon school entry, a crucial time in their development. Parents and teachers need to be aware of the educational, emotional, and social needs of all children, including those who are gifted. In addition, I believe that those older gifted students who make the most of their abilities without fear of being different, who enjoy the company of themselves and others, and who take pleasure in

tasks and their accomplishments without the support of both families and schools, are rare indeed.

Why is the study of giftedness in children important? The experiences of the first five years of life have a tremendous impact on intellectual development, achievement motivation, self-image, social competence, personal values, emotional adjustment, and future learning (Bloom, 1964; Shaklee, 1992; White, 1993). However, during this time period, young gifted children are often subjected to challenges caused by uneven development, social isolation, and inappropriate educational environments (Roedell, 1985). There is a sensitive period in early development of the brain which is highly susceptible to new experiences (Krech, 1969; Roedell, & Robinson, 1977; Warncke & Callaway, 1973), and without appropriate input during this period, potential talent may be delayed, reduced or eliminated (Biber, 1977).

This dissertation consists of three papers. In the first (Chapter II; Sankar-DeLeeuw, 1995, 1997a) and second (Chapter III; Sankar-DeLeeuw, 1999) papers, the results of a survey circulated to preschool/ kindergarten teachers, in one version, and the parents of gifted children, in another, were discussed. Issues, including identification, early admission and programming, pertaining to giftedness in children between the ages of 3 ½ and 6 years were explored. Support for the concept of early identification and entry, information relevant to raising/teaching this population, and professionals perceived to be able to provide assistance, were discussed. Both these papers are quantitative in nature, although some respondents' quotes are integrated.

In the third paper (Chapter IV; Sankar-DeLeeuw, 1998), a unique approach to this population, utilizing case study methodology in the present time, was adopted. Very few

cited studies of this population have been written in present time, when the children are actually experiencing events, such as school programs, parenting, social relationships and other influences that contribute to their overall development. Being based in the present allows more detailed attention to environmental factors influencing individuality and diversity. The working definition of giftedness was broad and encompassing because development is uneven at this age. Purposeful sampling from those meeting these criteria allowed the selection of five children with a diverse range of abilities, interests and behaviors, and within different educational settings. The participants, two girls and three boys, included: one who was overwhelmingly shy and nervous with new people and situations; another who had a fear of failure and ridicule; another who attended one of the province's two charter schools for the gifted and was very popular; another who was determined and very energetic; and yet another who attended a private kindergarten and had computer finesse. Two participants attended a school that was a district (Edmonton Public Schools) site for The Academic Challenge Program [ACP]. ACP is designed to provide a more challenging academic program for students who excel in both academic and cognitive functioning. Kindergarten students within these sites are not eligible for ACP, as programming begins in the first grade. However, narrower groupings, although not homogeneous, within these classes, also exist given the community's demographics and the draw from outside the school area. Collectively, these children, their families and classroom settings, were the participants of investigations utilizing case study approaches.

Significant findings

Perceptions and attitudes held by the parents and teachers of young gifted children.

Improving the chances for optimal development of children with any special need requires early identification and individualized programming (Guralnick & Bennett, 1987). However, gifted children have often been left unserved until the mid-point of their elementary school career. This practice leads to the adoption of socially accepted conventions, development of underachieving behaviors, and concealment of ability (Roedell, 1989), as many gifted children exhibit an early mastery of tasks (commonly expected at age 7, 8, or 9) prior to age 6, that often are first recognized by their parents.

Both parents and teachers, therefore, are integral parts of this population's development through successful interventions. When parents and teachers are not aligned in regard to intervention, particularly at this young age, the school experience may be in jeopardy. However, studies examining the attitudes of parents and teachers about issues pertaining to the preschool gifted, are rare and contribute to the uncertainty which exists about the commonalities and discrepancies between parent and teacher conceptions of giftedness within this age range. Chapters II (Sankar-DeLeeuw, 1995; 1997a) and III (Sankar-DeLeeuw, 1999) provided needed examinations of this topic.

The observed characteristics reported by parent and teacher respondents, as indicative of giftedness in young children, comprised traits from intellectual, emotional, social, and physical domains. Of the 96 reported characteristics, most were reported with great similarity by parents and teachers including: sensitivity, observation skills, excellent memory skills, innovation, insightfulness, large knowledge storehouses, inquisitiveness,

large vocabularies, reasoning skills, self-teaching, persistence, enthusiasm, critical self-observation abilities, and high energy levels. Parents reported unusually long attention spans and extended on-task time, the fact that other adults commented about their children, and early vocabulary/language more often than did teachers. However, teachers reported heterogeneous development, emotional immaturity, difficulty relating to peers, and a tendency for parents to be pushy.

The level of support for the process of early identification and accompanying practices has not been adequately investigated. Parent and teacher beliefs were dissimilar in: 1) whether early identification can be done; and 2) whether it should be done (Chapter III). Ninety-one percent of parents believed that giftedness can be identified at early ages, while 78% of the teachers surveyed reported that identification can be made early. Seventy-four percent of parent respondents believed that the preschool gifted should be identified, whereas 50% percent of the teacher respondent group believed it should be done. In addition, 76% of the parents surveyed believed that the preschool gifted require a different curriculum to meet their needs, compared to only 32% of the teachers.

Reliable and valid assessments of young gifted children.

Reliable and valid identification and assessment of preschool gifted children is immensely challenging (Chapter IV). As young gifted children are young children first, it is not difficult to acknowledge that, in addition to their giftedness, they can be independent, noncompliant, uncoordinated, and distractible, have short attention spans and develop unevenly. Reliability and validity data are crucial in determining the appropriateness of potential standardized measures. As higher levels of subject areas

within assessment tools are attained, some items may be inappropriate for young children. In addition, consistent with Reynolds and Clark's (1986) observations of very high IQ children, low ceilings on tests obscure attained levels of performance. Rapport building, extended assessment times, and dealing with behavioral and motivational challenges are additional hurdles. These characteristics and behaviors contribute to the challenges associated with identifying and assessing young children.

Literature on the usefulness of intelligence tests for young children is varied. On the one hand, intelligence tests have been criticized for their inability to predict school success when utilized with young children. According to Roedell, Jackson, and Robinson (1980), this is largely due to a lack of score stability in children younger than seven. In addition, low correlation values are due to developmental unevenness and administrative challenges in assessment at these ages. On the other hand, more recent findings show that listening, reading, math, and word analysis measures taken at the end of the first grade may display a highly significant correlation with verbal and full scale intelligence scores taken three to eight months prior to kindergarten entry (Kaplan, 1993).

In this study of giftedness in the early years (Chapter IV), testing was found to yield accurate pictures of current patterns and levels of functioning provided that motivation, interest, and comfort are experienced in the assessment setting. Valuable information can be gained by intellectual assessments. This information can include strengths and growth areas for learning and processing information (verbal/visual/abstract reasoning, memory), behavioral data (attention and concentration), and reactions to failure and time limits (Chapter IV). Consistent with Roedell, Jackson, and Robinson's (1980) observations of young gifted children, there was variability across sub-dimensions

of the tests as well as across general skill patterns. The encouragement of development demands early identification; it is through this process that the nurturance of abilities as they emerge can be facilitated.

Differences between parent and teacher responses outlining characteristics of young gifted children have implication implications for assessment, education of gifted children. and teacher training.

Two participants (Chapter IV) particularly highlighted examples of specific challenges. Literature on young gifted children has not documented many of the behaviors one participant demonstrated over the course of this study: soiling behaviors, picking of the arms and face, difficulty separating from her mother (over months of preschool and kindergarten), and selective muteness. The child's kindergarten teacher questioned her nomination (submitted by her preschool teacher and parents) and was skeptical when confirming assessment information was relayed. Despite numerous occasions of play, work and interaction with the author, this participant never experienced comfort and ease (unlike the other participants). In addition, she experienced occasions of great impatience, and awkwardness with herself. She elected to cover her eyes during written tasks rather than produce neatly aligned work. There is doubt as to whether she would be considered for special programming for gifted students.

The other participant highlighted in this area did not meet the cognitive criterion for this study. He underwent an assessment independent of, and prior to, the outset of this study. His assessment, to the shock and disbelief of his parents and teachers, placed his intellectual ability within the high average range. As questions about the reliability and validity of his intellectual assessment existed (due to his reported behaviors and time

allotment), he was included in the study based on the characteristics and behaviors reported by his parents and teachers. Subsequent achievement testing placed his math and reading skills within the superior range. The designation of over-achiever is greatly suspect due to observed behaviors at home and school. The inaccuracy of his assessment process was concluded over the course of study.

Great variety in intellectual and academic functioning.

The characteristics used to describe gifted children have most often included intellectual attributes. Parents and teachers acknowledged this population as having quick understanding, advanced questioning and reasoning skills, intuition (knowing before being taught), storehouses for knowledge, and a memory for details (Chapter II). The children's general and specific funds of knowledge and memory skills were exceptional (Chapter IV). They also pursued answers to philosophical questions. Contrary to Renzulli, Hartman, and Callahan's (1971), and Seagoe's (1961), observations of intolerance for rules with older gifted children, participants demonstrated varying levels of acceptance for rules. In keeping with teacher and parent reporting of characteristics (Chapter II), they all exhibited a strong need to keep busy. Consistent with the presentation of advanced abilities noted by parents and teachers (Chapter II), the participants revealed abilities within the academic (language, math, writing, reading, spelling) spectrum which represented age levels of five or six through to above twelve years (Chapter IV). Superior expressive and receptive language skills were observed and measured for all the children. Two displayed superior math abilities. With the exception

of one child, superior reading skills were demonstrated by all. There was avoidance of difficult fine motor tasks by all.

Intra-individual comparisons of academic abilities illustrated asynchronous arrangements among three participants, consistent with earlier studies (Robinson, 1981; Roedell, Jackson, & Robinson, 1980). Academic findings delineated writing and math skills asynchronous to superior reading and/or spelling skills. These children had not developed evenly. However, for one child, all academic skill levels, including writing, are within chronological age and grade levels, while, for another participant, his writing skills are as advanced as functioning in other academic areas. Robinson's (1981) observation that the academic skill levels range more widely among gifted preschoolers than among preschoolers in general prompted the statement that "intra-individual differences among abilities are the rule, not the exception" (p. 72).

The role of early reading in identification.

Early reading has been proposed as one of the most powerful indicators of possible intellectual giftedness (Hollingworth, 1942; Terman, 1925). Four of the five children read at very early ages with only minimal assistance from their parents (Chapter IV). Consistent with the findings of VanTassel-Baska (1983), the children read over a wide range of topics including non-fiction. However, reading, on it's own, does not guarantee that gifted behaviors follow. The one participant who read age-appropriately exhibited many characteristics indicative of giftedness (i.e., advanced expressive and long-term retention skills); might he be denied programming? This leads to the question: how stable is the development of reading ability (i.e., will the children's reading precocity

stay with them throughout their school careers)? Likewise, will reading skills develop age-appropriately throughout their school careers?

Great variety in social functioning.

The social functioning characteristics described by the parents and teachers illustrated a variety of responses pertaining to socializing with peers and older children (Chapter II), and their desire to fit in (conformist) versus lead (nonconformist). Likewise, social functioning varied greatly with respect to the participants' ease of interacting with classmates and intellectual peers, and the variety of ages of individuals with whom they were engaged (Chapter IV). Interactive categorizations of well-liked, rejected/unpopular, and ignored/invisible were supported. The social pressures to conform, via both suppressing and diverting abilities that have been cited in older gifted children, were demonstrated by two participants (Chapter IV). In addition, two participants displayed disruptive behaviors (i.e., difficulties in reconciling arguments, competitiveness), particularly when presented with choice or during transitional points in the classroom routine. Comparably, several teachers acknowledged young gifted children's dislike for group situations (Chapter II).

Great variety in emotional functioning.

Education of the gifted needs to include concern for the psychological development of gifted children (Roedell, 1984). Traits, including self-assurance/confidence, emotional maturity, sense of justice, empathy, perfectionism and humor, were reported by parents and teachers (Chapter II). Similarly, the participants'

affective functioning varied greatly; this involved behaviors indicative of vulnerability to criticism, sensitivity towards others, perfectionism, and motivation (Chapter IV). A great sense of humor was used by all the parents and teachers to characterize each respective participant. These behavioral dimensions (aspects of intensity, concentration and persistence, humor), recognized as signs of advanced intelligence which appear early in life, are seldom represented in assessment and programming documentation (Kolata, 1987; Webb, Meckstroth, & Tolan, 1982).

Motivation and underachievement.

Motivation has been included in several definitions of gifted and talented. Parent and teachers reported, at high frequencies, motivational characteristics, including independence, unusually long attention spans, persistence, and self-motivation (Chapter II). High levels of motivation were common across all participants on self-initiated, albeit differing, tasks (Chapter IV). Renzulli's (1978) "task commitment" acknowledged this aspect of personality as an essential component of gifted behavior. The children did not require much encouragement or praise on these tasks. Moreover, one participant did not appear to be motivated, on any given task, by praise.

Underachievement, a discrepancy between school performance and some ability index (Rimm, 1986), and the gifted young child has not been a focus within the research literature or school programming. Parent respondents (Chapter II) also identified this trait, and it was a concern raised for two of the case study children (Chapter IV). As resources used with older gifted children are not appropriate, provisions, including

curricular support, environmental structuring and behavioral interventions, are greatly needed.

Perfectionism.

Perfectionism has not been commonly identified in this population. A very small percentage of parents and teachers noted this trait (Chapter II). Perfectionism was illustrated in repeated return to projects and frustration with writing that was not "perfect," mastery of a piano keying technique, and not wanting to speak until pronunciation was perfect (Chapter IV). On several occasions, all the participants set unrealistic goals for themselves. This attribute subjects these children to being at risk of missing the opportunity of utilizing mistakes as steps for future learning.

Creativity.

Creative production, according to Piechowski (1979), is the development of an original piece through discovery, expression, and the engagement of the imagination; this requires not only intellectual skills, but an independent spirit. Risk-taking and withstanding social and emotional pressures to conform (Treffinger, 1980), inventing solutions, and accepting ambiguity are necessary for creative production, and require substantial emotional stability and personal strength. Young gifted children were attributed creative traits by both the parent and teacher respondents (Chapter II); the reported characterizations included the ability to adopt novel perspectives and explore new directions, inventiveness, hands on, risk taking, and imaginative. These characteristics are consistent with the behaviors supporting creative production outlined

above. However, the participants' teachers (Chapter IV) consistently described their students as creative, while their parents had difficulty in describing their children as having this attribute (Chapter IV); some voiced uncertainty about what the term actually meant. Creativity was displayed through language (play, movie creation), drawings, crafts, and music.

Variety in gross motor skills.

Superior gross motor skills were found in two participants (Chapter IV). The remaining three participants had less-advanced skills in this domain than intellectual skills; asynchronous development specifically applies to these three children. In addition, an awkwardness in, and fear of, physical activities was observed.

Positive characteristics observed by parents about their children.

Parents (Chapter IV) identified many characteristics in their children, including unyielding activity, inquisitiveness and curiosity (also sources of stress) along with extended periods of self-entertainment, rich language and dialogue, and an enjoyment of reading and enriching experiences. They universally identified facilitator and advocate for learning as two key roles they play in raising their children.

Inadequacies experienced by parents in child rearing.

The parents (Chapter IV) voiced an additional commonality that is consistent with Karnes' (1983) discussion of the inadequacy many parents indicate about the rearing of gifted and talented children. Parent respondents reported information that having

resources for additional challenge, information on disciplinary techniques, educational options, and parenting guidelines, would be beneficial in raising a gifted child (Chapter III). This is consistent with Creel and Karnes' (1988) finding that parents express a need for information on available programs, and information on discipline, underachievement and advocacy.

Three parents were characterized by other parents as pushing their children (Chapter IV). Parents admitted that their children were pulling information from them, rather than accepting information pushed at them; they learn anything about everything eagerly and readily. The parents questioned whether their children, in the early school years, were suppressing this learning desire. Teacher respondents (Chapter II) also noted this finding of parental pushing.

Teacher Roles.

Teacher roles, consistent with Clark (1988), included observer, parent, peer/friend, facilitator (creative, tolerant, interactive, accommodating to individual style), provider of developmentally appropriate curricular choice, and initiator of creative products (Chapter IV). One exception occurs with the teacher role of confidante. Neglected by the literature is the counselling role of early childhood teachers. Counselling issues involved parenting, family, separation, and discipline. This area has not been addressed in the literature, yet the introduction of the first educational setting into a child's life, in addition to the implications for the child, have tremendous impact on the child's family.

Curricular modifications.

Kindergarten curriculum was presented along a wide spectrum for all classrooms studied. Findings of boredom and redundancy have been a commonly reported observation cited in the literature (Chance, 1990; Karnes & Johnson, 1990; Kitano, 1985), and this was also experienced by four of the participants (Chapter IV). However, differentiated curricula were provided in the form of modified worksheets, story writing, and building tasks.

Modification of instructional practices and curricular materials is required to meet the needs of these students. Independent study and accelerative techniques to higher grade level content were attempted with three of the participants (Chapter IV). The teachers in this study were able to give very different activities directly, which were well received or rejected by participants. Independent reading, as a school activity, was not participated in by any of the participants. It is important that educational settings are supplied with reading materials appropriate for a variety of levels and interests. Classrooms can ignite lifelong passions or allow untapped gifts to lie dormant. Programming to meet diverse needs should be accomplished by recommended practices that are defensible, with breadth and choice, and appropriate for these children's needs and interests.

Acceleration Options.

Early school entry. Acceleration in the form of early school entry programming was explored (Chapter III). The greatest concern voiced, by both parent and teacher respondent groups, was about the social maturity of early entrants, while the physical

development was of the least concern to both groups. Some similarity exists with McCluskey and Walker's (1986) warning that "students who are accelerated, though qualified academically, may be too immature socially, physically, and emotionally to achieve at the higher level of placement" (p. 12). There have been few documented studies focusing on these domains in the early years (Austin & Draper, 1981; Horowitz, 1987; Janos & Robinson, 1985; Lehman & Erdwins, 1981; Roedell, Jackson, & Robinson, 1980). Thirty-seven percent of the parents, and only 7% of teachers, agreed with early entrance into kindergarten (Chapter III). The finding for teachers is consistent with Braga's (1971) report of primary teachers' negative attitudes toward early entrance.

Parents, with respect to early entrance, acknowledged the importance of the social domain and the physical and intellectual domains on an equal basis (Chapter III). Nonintellectual characteristics of the gifted child have received less attention than characteristics of an academic and intellectual nature (Clark, 1992; Gottfried, Gottfried, Bathurst, & Guerin, 1994; Webb et al., 1982), yet this study revealed that both parents and teachers acknowledge domains other than intellectual as important.

Grade skipping. According to Gallagher (1985), one of the ritual statements made by educators is that students should progress at their own rate. When this philosophy is checked against actions in the case of acceleration of the gifted, a puzzling contradiction is found. Most teachers have objected to letting unusually bright children grade skip (Proctor, Black, & Feldhusen, 1988). The term "skipping" connotes that something vital is being passed over. Conventional wisdom has held that, no matter how academically precocious children are, their social development will be hurt if they are

moved out of their age group and into a more advanced class. However, there is research supporting the use of early admission for intellectually gifted students, a strategy which places them closer to their developmental level (Paulus, 1984; Proctor et al., 1988). One participant (Chapter IV) was accelerated into grade two following the completion of her kindergarten year.

Early life indictors.

Although the participants were varied in their achievements of developmental milestones, all the parents acknowledged early indicators of their child's giftedness before the age of three years (Chapter IV). Likewise, the parents and teachers delineated early developmental milestones (walking, talking, toilet training), early passions (math, science, art, computer), and early abilities (math, reading, language, art, music) and constructs (time, distance, symbol patterns) (Chapter II). Early walking and speech have been cited in studies of the development of intellectually gifted children (Terman, 1925).

Limitations

Limitations to these papers were evident along several avenues: the identification of young children, survey sample selection (response rate) and participant selection, collecting interview data with children, and generalizability factors.

There is a limitation in the identification of young gifted children. When studying a population characterized by its exceptionality, individuals scoring at or above an IQ of 130, the occurrence in the population at a 2 % frequency. However, there is a lack of standardized ability and achievement testing at early ages. Therefore, the random

selection from a large subject pool was impossible to perform. Identification is predominately achieved by observed characteristics that are subjective and prone to biased interpretation. Individuals who acknowledge giftedness in children and respond to nominations for study are few. In anticipation of this, a wide distribution of broadcast letters and nomination forms was sent to parent support groups, school boards, early childhood education organizations, teacher councils, charter schools, and psychologists.

Two papers were based on survey research. The reliability and validity of the survey instrument affects the survey results. Input was not attained by experts in the field; if sought, this might have enhanced the validity and reliability data. The survey research was based on responses from parent and teacher participants. The parents were randomly selected from the umbrella organization and one local chapter (Edmonton) of the Alberta Associations for Bright Children. Because some gifted children do not receive support from AABC, their parents may not become members of the Association, and therefore they were not potential candidates for the questionnaire distribution. Survey response rates can also be limiting. The survey's limited responses rate means that some of the results must be interpreted cautiously.

The differences between the experiences of parents and teachers with gifted children may also limit the generalizability of these findings. In addition, respondents were not asked to indicate racial, marital, or SES particulars because, given that within limited range of diversity within the population sampled, such particulars may have identified respondents. Parents were not asked to identify exceptional educational characteristics (i.e., ADHD, LD). Generalizability of the survey findings, and studies

aimed at replicating its findings, would be hindered by the lack of identifying particulars of the respondents.

The reliability and validity of interview data with young children have also been questioned. Their ability to remember events accurately shows developmental progressions during early childhood; these developmental changes are affected by the type of event remembered, interest level, and questioning strategy used by the interviewer. Events with high personal saliency, even for children younger than five years of age, will be remembered accurately. The suggestibility of young children can also be a concern. This case study (Chapter IV) used observations over a variety of settings and multiple informants (parents, teachers, and coaches) to obtain diverse information and a more complete picture of each child.

The debate regarding the generalizability of case study findings is ongoing. Hutchinson (1988) stated that with "the interaction between the data and the creative processes of the researcher...it is highly unlikely that two people would come up with the exact same theory" (p. 132). Others recommend that cases representing the studied phenomenon can be applied elsewhere (Gall, Borg, & Gall, 1996). Wilson (1979) argued that the responsibility of generalizing case study findings lies with the "consumers" of the findings, rather than researchers, and the applicability of the findings in their own situations must be determined. Assistance in determining generalizability of the findings of this case study was provided by: 1) providing comprehensive descriptions of the children and contexts comprising the case (similarity to the reader's situation can then be judged); 2) stating whether the case is representative of the general phenomenon being

investigated; and 3) conducting a cross-case analysis to determine whether generalizability existed within the studied cases (Gall et al., 1996).

Recommendations for further research

This section outlines specified areas which require additional research.

1. The characteristics identified by parents and teachers (Chapter II) require further exploration within the context of theoretical frameworks, such as theories of development. In this study, data about specific children has been gathered and interpreted within a case-study orientation. Extension of the data can provide the basis for theory construction, comparison, and evaluation.
2. In Chapter II, the similarity of characteristics that parents and teachers reported in young gifted children was discussed. Why is the shift from characteristics to nominations for special programming (Ciha et al., 1974), difficult to make for teachers (Chapter IV)? The characteristics teachers attributed within each domain were similar to those attributed by parents. Is this process affected by experience teachers have with young gifted children?
3. Replication of the survey research to explore definitions provided by the parents and teachers would be an interesting extension of this study.
4. The negative attitudes teachers reported on the practice of early identification were discussed in Chapter III. Why do teachers feel this way? What can be done to gain their support for the process and its benefit for these young children?
5. The maximizing of parental input and expertise in identification and assessment practices has been supported by a number of researchers (Davis & Rimm, 1989;

Delisle, 1992; Louis & Lewis, 1992; Meckstroth, 1991), yet a lack of receptivity of parental efforts has often been identified (Shore, Cornell, Robinson, & Ward, 1991). Procedural assistance in utilizing parental information is greatly needed.

6. The information and experts parent and teacher respondents reported as being beneficial in dealing with young gifted children signifies a multidisciplinary approach. This approach is used in most early intervention practices with young children diagnosed as having special needs. Assistance in utilizing and coordinating different professionals (psychologists, school staff, parenting experts, medical staff, parent associations) within individual cases of giftedness in young children is greatly needed.
7. The appropriateness of primary identifiers or checklists of characteristics with this population needs to be examined. The characteristics often included in such lists provide selective presentations of these children. For example, exceptional memory or learns quickly may apply in certain and specific situations which are rarely explored or delineated by most checklists. Room for elaboration of identified characteristics would greatly improve their usefulness.
8. School personnel are constantly challenged to improve practice and programming across the continuum of special needs. Within the education of the gifted, there is little consensus on definitions, and screening and identification procedures. Early reading abilities and writing skills are considered when identifying young gifted children, yet how important are these skills to identification? To programming? Additional opportunities are encountered when identification methods are connected to curriculum areas. In particular, information gleaned from identification processes has been greatly underutilized in program planning. The profile of strengths and

weaknesses, with consideration of the learning experiences exposed, should be exploited when generating individualized program plans and assigning classroom groupings.

9. The programming option of early school entry requires additional research. The interplay between intellectual and non-intellectual characteristics was acknowledged as being important in Chapter III, yet only a small percentage of teacher respondents agreed with the practice. Research exploring attitudinal positions and necessities for attitudinal change are vital for this option to be added as a program choice for young gifted children.
10. The programming option of grade acceleration also requires additional research. I believe that it is a preferred option after the completion of the kindergarten year for some students. Opportunities to explore children's needs along every domain, by educational staff and parents, are provided. The effects of limited learning experiences can be minimized and, in particular, social functioning can be properly gauged. This option, most specifically, requires a concerted research effort.
11. The diversity in functioning levels across domains that often accompanies giftedness in young children must be acknowledged and accepted by those working with them. Stereotypical thinking which holds that these children excel in all areas must be rejected. As specified by teacher respondents in Chapter III, training and support for educators in dealing with the wide continuum of abilities that may be present must be provided.
12. The role of independent reading in programs for young gifted children will need to be examined. Programs tend to desire continuity, and there is a preference for children

who are reading early. The selection of children that are passed over by this practice needs to be appraised; many of them will likely benefit from the specialized programming. The importance of early reading needs to be evaluated from the standpoint of those children not admitted.

13. The acquisition of second languages, by Jane and Xiang-Huo, provide another valuable area of investigation.
14. Social functioning research must examine those individuals with both strengths and weaknesses. Contributing factors, such as parenting practices, teacher expectations, physical appearance, or attention problems, must also be examined. The prevalence of social difficulty within the population of young gifted children has not adequately been determined.
15. This population has displayed conformity toward their peers. This observation leads to the question: which children are being identified by school systems' identification practices at grades three or four? Are some young gifted children not being identified because they are hiding their abilities and "acting normal?"
16. Behavioral difficulties in young gifted children require attention, more specifically with respect to assessment and intervention planning. Motivation, attention, and lack of challenge issues will have to be grappled with in this area. More specifically, situations supporting selective attention, focused curricular involvement, and sustained involvement with others (peers, teachers), will need to be examined. Connections with attempts at humor will also provide interesting comparisons for some children.

17. The vast areas of obscurity in the area of behavioral difficulties and giftedness portrayed in the literature were contributed to by the case study of Sawyer. Research is needed to distinguish characteristics of giftedness from personality factors (i.e., temperment), and to distinguish personality factors from intelligence and achievement.
18. Interventions for young gifted children within the affective domain are very sparse. Their perfectionism, intensities and sensitivities, can appear similar to those experienced by older gifted children. However, direction, in regard to age appropriate guidance, is needed.
19. Underachievement does exist in this population. Assistance in dealing with varying levels of motivation across environments (home versus school), and its generalization, needs to be provided.
20. Discipline, emotional intensity, programming options, dialoguing with school personnel, and supportive materials for their children's areas of strengths and weaknesses are all areas of assistance that were requested by parents. Research exploring the supportive guidance actually received by the parents of young gifted children, from associated professionals, and its effectiveness, is needed.
21. Some teachers are providing a variety of enrichment and accelerative techniques in kindergarten settings. The success of programming practices and their acceptance by the students requires some attention, and their communication to other teachers is also demanded.
22. The counselling role of early childhood teachers also lacks adequate research. Resources and support should be made available to them.

23. Territorial issues around grade curriculum cause concern; these children will likely have at least one area progressing at advanced rates. Overlap with the subsequent year's curricula is inevitable. Teacher training and support appears to be needed.
24. A varied utilization of worksheets was observed; individual choice by teachers – some adamantly did not use them at all, some parents desired their availability to their children, or preferred-use by the students. This may require further exploration.
25. In Chapter III, information that teacher respondents viewed as beneficial from an educator's standpoint was outlined: 1) balancing different rates of development to prevent frustration; and 2) advocacy for, and education on, supportive programming. Research into these areas also needs to be undertaken.
26. It is hoped that the five children studied in Chapter IV will be followed through their educational careers, at least until they graduate from high school.

Conclusions

Early identification begins at entry into school and is an on-going process for children of most special needs. Is there a need for programming for the gifted in kindergarten? Yes. Fostering appropriate learning environments is needed to stimulate cognition to prevent underachievement and the development of negative attitudes toward school. Far earlier than most educators expect, these children can be set apart from the general population and they are not immune to difficulty. Yet, gifted and talented young children are often neglected, unidentified, and receive under-programming. In order for the gifted and talented to fulfill potential and exceed expectations, they should be identified early, when learning patterns are established and attitudes towards others are

formed. Stimulation of cognitive abilities is needed to prevent underachievement and the development of negative attitudes toward school. Furthermore, parent and teacher supports are essential to identification and assessment, successful transition from home to school, and utilizing home experiences in school learning. The conceptions held by parents and teachers on issues pertaining to early programming practices must be aligned. Educational situations must be individualized according to unique characteristics, interests, abilities, and environmental conditions, as learning patterns are established, and attitudes towards others formed, early in their development. The early identification is of paramount importance to the educational achievements and careers of gifted and talented children.

References

Austin, A.B., & Draper, D.C. (1981). Peer relationships of the academically gifted: A review. Gifted Child Quarterly, 25, 129-133.

Biber, B. (1977, November). Thinking and feeling. Paper presented at the Annual Meeting of the National Association for the Education of Young Children, Chicago, Illinois.

Bloom, B. (1964). Stability and change in human characteristics. New York: Wiley.

Braga, J.L. (1971). Early admission: Opinion versus evidence. Elementary School Journal, 72, 35-46.

Chance, P. L. (1990). Kindergarten and first grade: A time for developing and nurturing gifted behaviors in young children. Early Child Development and Care, 63, 75-81.

Ciha, T. E. E., Harris, R., Hoffman, C., & Potter, M. W. (1974). Parents as identifiers of giftedness, ignored but accurate. Gifted Child Quarterly, 18, 191-195.

Clark, B. (1988). Growing up gifted (3rd ed.). Columbus, OH: Charles E. Merrill.

Clark, B. (1992). Growing up gifted: Developing the potential of children at home and at school (4th ed.). New York, NY: Macmillan.

Creel, C.S., & Karnes, F.A. (1988). Parental expectancies and young gifted children. Roeper Review, 11, 48-50.

Davis, G. A., & Rimm, S. B. (1989). Education of the gifted and talented (2nd ed.). Englewood Cliffs, New Jersey: Prentice-Hall.

Delisle, J. R. (1992). Guiding the Social and Emotional Development of Gifted Youth: A Practical Guide for Educators and Counselors. White Plains, NY: Longman.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). Educational research: An introduction (6th ed.). NY: Longman.

Gallagher, J.J. (1985). Teaching the gifted child. Boston: Allyn and Bacon.

Gottfried, A.W., Gottfried, A.E., Bathurst, K., & Guerin, D.W. (1994). Gifted IQ early developmental aspects: The Fullerton Longitudinal Study. New York: Plenum.

Guralnick, M.J., & Bennett, F.C. (1987). A framework for early intervention. In M.J. Guralnick, & F.C. Bennett (Eds.), The effectiveness of early intervention for at-risk & handicapped children (pp. 365-382). Orlando, FL: Academic.

Hollingworth, L.S. (1942). Children above 180 IQ, Stanford-Binet: Origin and development. New York: World.

Horowitz, F.D. (1987). A development view of giftedness. Gifted Child Quarterly, 31, 165-168.

Hutchinson, S. A. (1988). Education and grounded theory. In R. R. Sherman & R. B. Webb (Eds.), Qualitative research in education: Focus and methods (pp. 123-40). London: Falmer.

Janos, P.M., & Robinson, N.M. (1985). Psychosocial development in intellectually gifted children. In F.D. Horowitz & M. O'Brien (Eds.), The gifted and talented (pp. 149-95). Washington, DC: American Psychological Association.

Kaplan, C. (1993). Predicting first-grade achievement from pre-kindergarten WPPSI-R scores. Journal of Psychoeducational Assessment, 11, 133-8.

Karnes, M. B. (1983). The underserved: Our young gifted children. Virginia: Education Council for Exceptional Children.

Karnes, M. B. & Johnson, L.J. (1990). A plea: Serving young gifted children. Early Child Development and Care, 63, 131-8.

Kerr, B., Colangelo, N., & Gaeth, J. (1988). Gifted adolescents' attitudes towards their giftedness. Gifted Child Quarterly, 32, 245-7.

Kitano, M. (1985). Ethnography of a preschool for the gifted: What gifted young children actually do. Gifted Children Quarterly, 29, 67-71.

Kolata, G. (1987). Early signs of school age IQ. Science, 23, 774-5.

Krech, D. (1969). Psychoneurobiochemeducation. Phi Delta Kappan, 50, 370-5.

Kunkel, M.A., Chapa, B., Patterson, G., & Walling, D.D. (1995). The experience of giftedness: A concept map. Gifted Child Quarterly, 39, 126-34.

Lehman, E.B., & Erdwins, C.J. (1981). The social and emotional adjustment of young, intellectually-gifted children. Gifted Child Quarterly, 25, 134-7.

Louis, B., & Lewis, M. (1992). Parental beliefs about giftedness in young children and their relation to actual ability level. Gifted Child Quarterly, 36, 27-31.

McCallister (1984). A preschool for developmentally advanced (gifted) children. (ERIC: 249 745).

McCluskey, K.W., & Walker, K.D. (1986). The doubtful gift. Kingston, ON: Ronald Frye.

McMillan, J. H., & Schumacher, S. (1989). Research in education: A conceptual introduction (2nd ed.). NY: Harper Collins.

Meckstroth, E. A. (1991). Guiding the parents of gifted children: The role of counselors and teachers. In R. Milgram (Ed.), Counseling gifted and talented children: A guide for teachers, counselors, and parents (pp. 95-120). Norwood, NJ: Ablex.

Paulus, P. (1984). Acceleration: More than grade skipping. Roeper Review, 7, 98-100.

Piechowski, M. M. (1979). Developmental potential. In N. Colangelo and R. T. Zaffrann (Eds.), New voices in counseling the gifted (pp. 25-57). Dubuque, Iowa: Kendall/Hunt.

Proctor, T.B., Black, K.N., & Feldhusen, J.F. (1988). Early admission to elementary school: Barriers versus benefits. Roeper Review, 11, 85-87.

Renzulli, J.S. (1978). What makes giftedness? Reexamining a definition. Phi Delta Kappan, 60, 180-184.

Renzulli, J. A., Hartman, R. K., & Callahan, C. M. (1971). Teacher identification of superior students. Exceptional Children, 38, 211-214.

Reynolds, C. R., & Clark, J. H. (1986). Profile analysis of standardized intelligence test performance on very high IQ children. Psychology in the Schools, 23, 5-12.

Rimm, S.B. (1986). Underachievement syndrome: Causes and cures. Waterton, WI: Apple.

Robinson, H. B. (1981). The uncommonly bright child. In M. Lewis & L. A. Rosenblum (Eds.), The uncommon child: Genesis of behavior (Vol. 3, pp. 57-81). New York: Plenum.

Roedell, W.C. (1984). Vulnerabilities of highly gifted children. Roeper Review, 5, 21-4.

Roedell, W. C. (1985). Developing social competence in gifted preschool children. Remedial and Special Education, 6, 6-11.

Roedell, W.C. (1989). Early development of gifted children. In J.L. VanTassel-Baska and P. Olszewski-Kubilius (Eds.), Patterns of influence on gifted learners: The home, the self, and the school (pp. 13-28). New York: Teachers College.

Roedell, W. C., Jackson, N. E., & Robinson, H. B. (1980). Gifted young children. New York: Teachers' College.

Roedell, W. C., & Robinson, H. B. (1977). Programming for intellectually advanced preschool children: A program development guide (168 pp.). Washington, DC: Office of Education.

Sankar-DeLeeuw, N. (1995, July/August). Gifted preschoolers: Surveys of characteristics perceived by parents and teachers. Paper presented at The 11th World Conference on Gifted and Talented Children, Hong Kong.

Sankar-DeLeeuw, N. (1997a). Gifted preschoolers: Surveys of characteristics perceived by parents and teachers. In J. Chan, R. Li, and J. Spinks (Eds.), Maximizing potential: Lengthening and strengthening our stride (Proceedings of the 11th World Conference on Gifted and Talented Children) (pp. 399-414). Hong Kong: University of Hong Kong.

Sankar-DeLeeuw, N. (1997b, July/August). Case study of a gifted preschooler. Paper presented at The 12th World Conference on Gifted and Talented Children, Seattle, WA.

Sankar-DeLeeuw, N. (1998, September). Case studies of young gifted children – Profiles of promise. Paper presented at The 6th European Conference on High Ability (ECHA), Oxford University, Oxford, UK.

Sankar-DeLeeuw, N. (1999). Gifted preschoolers: Parent and teacher views on identification, early admission and programming. Roeper Review, 21, 174-9.

Seagoe, M. (1961). Some learning characteristics of gifted children. In R. Martinson (Ed.), Educational Programs for Gifted Pupils. Sacramento: California State Department of Education.

Shaklee, B. D. (1992). Identification of young gifted students. Journal for the Education of the Gifted, 15, 134-44.

Shore, B.M., Cornell, D.G., Robinson, A., & Ward, V.S. (1991). Recommended practices in gifted education: A critical education. New York: Teachers College.

Terman, L.M. (1925). Genetic studies of genius: Mental and physical traits of a thousand gifted children (Vol. 1). Stanford, CA: Stanford University.

Treffinger, D. (1980). The progress and peril of identifying creative talent among gifted students. Journal of Creative Behavior, 14, 20-34.

VanTassel-Baska, J. (1983). School counseling needs and successful strategies to meet them. In J. VanTassel-Baska (Ed.), A practical guide to counseling the gifted in a school setting (pp. 40-46). Reston, VA: Council for Exceptional Children.

Warncke, E., & Callaway, B. (1973). If Johnny can't read, can he compute? Reading Improvement, 10, 34-7.

Webb, J. T., Meckstroth, E.A., & Tolan, S.S. (1982). Guiding the gifted child. Columbus, Ohio: Psychology.

White, B.L. (1993). The first three years of life (New and Rev. ed.). New York: Simon & Schuster.

Wilson, S. (1979). Explorations of the usefulness of case study evaluations. Education Quarterly, 3, 446-59.

Appendices

Appendix A

Giftedness in Young Children Survey

Giftedness in Young Children Survey for Teachers

Do you believe that giftedness **can** be identified between the ages of 3 1/2 and 6 years old? Yes _____ No _____ Reason:

Do you believe that giftedness **should** be identified between the ages of 3 1/2 and 6 years old? Yes _____ No _____ Reason:

Have you ever had a child in your preschool or kindergarten class that you **suspected** was gifted? Yes _____ No _____

What are some of the characteristics that led you to make the above observation?

What additional information would you have found beneficial from an educator's standpoint?

Which professionals do you think could provide you with such information?

Please turn over

Do you believe that gifted children in this age group require a curriculum that is different from average in order to meet their unique needs?
Yes _____ No _____ Reason:

Do you believe gifted preschoolers should be admitted to kindergarten at a younger age than that specified by the Early Childhood Services (ECS) entry age criteria? Yes _____ No _____ Reason:

Are physical characteristics (i.e., gross and fine motor skills, height, weight) important in the determinance of early entrance of a child?
Yes _____ No _____ Reason:

Are intellectual characteristics important in the determinance of early entrance of a child? Yes _____ No _____ Reason:

Are social/emotional characteristics important in the determinance of early entrance of a child? Yes _____ No _____ Reason:

Do the intellectual, physical, and social/emotional domains have equal importance with respect to the determinance of giftedness in this age group?
Yes _____ No _____ Reason:

Besides preschool/kindergarten, what other grades have you taught? (please check all that apply)

1__ 2__ 3__ 4__ 5__ 6__ 7__ 8__ other (specify)_____

Please use this space for any additional comments:

Optional: Name: _____

Address: _____

_____

Telephone: _____

Giftedness in Young Children Survey for Parents

Do you believe that giftedness **can** be identified between the ages of 3 1/2 and 6 years old? Yes _____ No _____ Reason:

Do you believe that giftedness **should** be identified between the ages of 3 1/2 and 6 years old? Yes _____ No _____ Reason:

Do you have, or have you had, a child in preschool or kindergarten that you suspect is, or suspected at the time was, gifted (regardless of any identification that occurred after age 6) ?

Yes _____ No _____

What are some of the characteristics that led you to make the above observation?

What additional information would you have found beneficial for raising a gifted child?

Which professionals do you think could provide you with such information?

Please turn over

Do you believe that gifted children in this age group require a curriculum that is different from average in order to met their unique needs?

Yes _____ No _____ Reason:

Do you believe gifted preschoolers should be admitted to kindergarten at a younger age than specified by the Early Childhood Services (ECS) entry age criteria? Yes _____ No _____ Reason:

Are physical characteristics (i.e., gross and fine motor skills, height, weight) important in the determinance of early entrance of a child?

Yes _____ No _____ Reason:

Are intellectual characteristics important in the determinance of early entrance of a child?

Yes _____ No _____ Reason:

Are social/emotional characteristics important in the determinance of early entrance of a child?

Yes _____ No _____ Reason:

Do the intellectual, physical, and social/emotional domains have equal importance with respect to the determinance of giftedness in this age group?

Yes _____ No _____ Reason:

Your involvement in gifted education is as a (please check all that apply):
parent___ ABC member___ teacher ___ principal____
other (please specify)_____

Please use this space for any additional comments:

Optional: Name: _____
Address: _____
_____
Telephone: _____

Appendix B

Preliminary Study

This single-case, preliminary study was used to develop a parent questionnaire and a participant interview protocol for a larger investigation of gifted preschoolers (paper 3). The participant was an Albertan preschooler, under the age of six, who scored above an IQ of 130 on the Stanford-Binet Intelligence Test (SB-IV; Thorndike, R.L., Hagen, E.P., & Sattler, J.M., 1986). The parent questionnaire gathered information on the child's family and early history, development, interests and hobbies. A taped interview with the child assessed the applicability of the protocol compiled. Revised versions of each will be utilized in the larger study.

Courtney, a pseudonym, was selected as she was accessible (geographically convenient), verbally fluent, and her parents (Jim and Ann) congenial. Assessment information was already available. Testing revealed strengths in verbal reasoning (vocabulary, comprehension), abstract visual reasoning (pattern analysis), quantitative reasoning and short-term memory (bead, sentences). The examiner noted that Courtney "reversed some patterns", had "difficulty keeping on task at times", and "wants to do her own thing".

The interviewer's home was agreed to be the best location as the family was going to see an afternoon matinee which was closer to the interviewer. The meeting took approximately one hour and forty-five minutes. Ann filled out the parent questionnaire, while the protocol-based participant interview was conducted. A verbatim transcript of the latter was produced.

Appendix C

Broadcast Letter

GIFTEDNESS IN YOUNG CHILDREN PROJECT

Participants Required

An investigation into the needs and experiences of young gifted children has been initiated. Nominations are now being sought for gifted children between the ages of 3 1/2 and 6 years old. It is intended to provide a holistic view of these youngsters; as such, involvement will also be required by their parents and teachers. The study will involve an array of observations, interviews, questionnaires and assessments over a three month duration (approximately 24 hours in total).

Children participating must have a birth date between July 1, 1992 and July 1, 1994, inclusive.

Anonymity and confidentiality will be ensured. All involvement in this study is voluntary. The results of this study will be made available to anyone who has participated.

To nominate a child, please complete the enclosed Nomination Form and return it to Naomi Sankar-DeLeeuw. Forms can be mailed c/o Dept. of Educational Psychology, 6-102 Education North, University of Alberta, Edmonton, Alberta, T6G 2G5, or faxed (403) 492-1318, or emailed (nsankard@gpu.srv.ualberta.ca).

The **deadline** for nominations is **December 15, 1997**.

Appendix D

Nomination Form

NOMINATION FORM FOR STUDY ENTITLED

GIFTEDNESS IN YOUNG CHILDREN PROJECT

Date _____

Name of Child_____

Birth Date _____ **(birth date between July 1, 1992 and July 1, 1994, inclusive)**

Age of Child_____

Nomination made by _____

Relationship to child _____

Phone _____

Address _____

_____

Name of School/Preschool_____

Reason for Nomination: **Give a few reasons** (Characteristics, Interests, Behaviours, etc.)

Assessment information (if so, please list tests and dates) **No test results/scores please**

Completed forms can be returned to Naomi Sankar-DeLeeuw by:

Mail: c/o Dept. of Educational Psychology, University of Alberta, Edmonton, AB T6G 2G5, or

Fax: c/o Dept. of Educational Psychology, University of Alberta at (403) 492-1318, or

E-mail: nsankard@gpu.srv.ualberta.ca

Appendix E

Consent Forms

Consent Form for *Giftedness in Young Children Project*

I give permission for _____ to participate in the investigation entitled *Giftedness in Young Children Project*. Permission for the participation of my family is also granted by this form.

The nature and general purpose of the research project has been explained to me. A timeline of involvement, and an overview of the observations, interviews, and assessments which will be required has been discussed. Participation in this study is purely voluntary. I understand that we may decline to participate. Furthermore, I understand that _____ and/or I may terminate his/her, my, or our involvement in this project at any time he/she, I or we so desire. All information collected through the duration of the study will remain confidential, yet given the cooperative nature of this study, results will be shared between the parents and teachers of a specific participant. By signing this consent form, I am agreeing that this information may be used for scientific purposes, with the assurance that privacy will be maintained.

I indemnify the University of Alberta and its agents, employees and students from any and all liability, actions, or causes of actions that accrue to _____ as a result of his/her activities for which this consent is granted.

I have read and understand the above form.

Witness _____ Signed _____

Dated _____

Consent Form for Engaging in Selection Process for

Giftedness in Young Children Project

I give permission for _____ to be involved in the selection process for the investigation entitled *Giftedness in Young Children Project.*

The nature and general purpose of the research project has been explained to me. Participation in this study is purely voluntary. I understand that we may decline to participate. Furthermore, I understand that _____ and/or I may terminate his/her, my, or our involvement in this project at any time he/she, I or we so desire. All information collected through the selection process of the study will remain confidential. By signing this consent form, I am agreeing that this information may be used for scientific purposes, with the assurance that privacy will be maintained. Undergoing in this selection process does not ensure that _____ will be a participant in this project.

I indemnify the University of Alberta and its agents, employees and students from any and all liability, actions, or causes of actions that accrue to _____ as a result of his/her activities for which this consent is granted.

I have read and understand the above form.

Witness _____ Signed _____

Dated _____

Giftedness in Young Children Project
Video Taping Classroom Consent Form

March 2, 1998

Dear Parent or Guardian:

I have initiated a study on giftedness in young children that is trying to better understand the needs of bright kindergarten children. Five specific children from Edmonton and surrounding areas have been selected for this in-depth study. I will be observing these children in a variety of settings, including their classrooms, over the next several months.

In my research I would like to use video cameras to get a better record of my participants, and their school behaviour and routines. **There is a chance that your child may appear in some of the footage; however I do not intend to video tape anyone other than my participants and their teachers, specifically.**

I would like to assure you that if your child should appear in the videotapes, anonymity for your child and yourself is assured. At no point will your child's name or picture be used in this research. The names of my participants, their teachers, and their schools will not be used in any public document.

You and your child are under no obligation to participate in this study and you may refuse to participate in the video taping aspect at any time. You may change your mind about allowing your child to be video taped simply by contacting me or your child's classroom teacher. If this happens once the tapes have been made, then I will remove the tape from the data collected for the study. **The video tapes will be used for research and educational purposes only; there will be no monetary gain from the use of these videos.**

Because I will be in your child's classroom within the next 2 weeks, I ask that you complete the permission form below and return it the classroom teacher as soon as possible. This form must be completed to either grant or deny permission.

If you have any concerns or questions, please do not hesitate to contact me, or my advisor Dr. Carolyn Yewchuk., at 492-5245. We would be happy to discuss this research project with you. Thank you for your cooperation.

Sincerely,

Naomi Sankar-DeLeeuw
Doctoral Candidate, University of Alberta

Permission Slip

I understand that Naomi Sankar-DeLeeuw will be video taping in my child's (please print name) _____ classroom. **Please sign one of the two blanks.**

I give permission for my child to be in the class while it is being video taped.

_____

OR

I do not wish for my child to be in class while it is being video taped.

_____

Appendix F

Parent Information Questionnaire

Parent Information Questionnaire

1) General Information

Child's Name	
Birthday	
Place of birth	
Age	
Gender (M/F)	
School/Preschool	
School Address	
School Phone Number	
Teacher's Name	
Birth Order Position	_____ of _____
Names, gender, birthdates, & ages of other children	
Language(s) spoken at home	
Parents	
Home Address	
Home and other relevant phone numbers	

2) **Developmental Profile**
(where possible, compare to other children in the family)

Pregnancy/Birth	
Age of mother at delivery of this child	_____ years
Length of Pregnancy	_____ weeks
Mother's health during pregnancy	
Unusual conditions of birth (i.e., Prolonged/difficult, prescribed medication, birth presentation, birth trauma)	
Child's birth weight	
Child's birth length	
Early Life to Toddlerhood	
Comment on child's first week of life (any difficulties?)	
Comment on if Breast-fed/Bottle-fed (how long?) & weaning process	
Child's Early Eating Habits	
Child's Early Sleep Habits	
Early Speech (age & examples)	
Word Utterance	
Short Sentences	
At what age did child (if possible, please give any specific examples):	
Sit up unassisted (sitting at least 1 min. without using own arms for support)	
Crawl	
Walk assisted	
Walk alone	
Toilet-trained:	_____ Day _____ Night

3) Medical & Health History

Allergies		
Asthma		
Operations or Accidents		
Childhood Illnesses:	Age	Comments
Chicken Pox		
Red Measles		
Mumps		
Whooping Cough		
German Measles		
Other		
Were all regular immunization vaccinations received?		
Vision or hearing difficulties & any corrective interventions		
Handedness (circle one)		Right Left Ambidextrous
Present Weight		
Present Height		
Does child have any serious or chronic health problems at present? Describe		
Is child taking medication on a regular basis at present? Describe		

4) Family Information

	MOTHER	FATHER
Name		
Age		
Age at birth of first child		
Age at birth of referred child		
Highest educational level attained & subject area of degree		
Occupation		
Gross annual income (10G range)		
Other relevant family history		

5) Child's Home Life

Sleep Habits:		
Bedtime	Weeknights	Weekends
Comments		
Television Viewing & Computer Usage:		
How often is TV viewed? (hours/week)		
Shows often watched		
Does your child make use of own/a family computer?		
If yes, average number of hours/week		
Computer activities engaged in (circle applicable)	Learning games Word processing Drawing Other	Comments

5) Child's Home Life (cont'd)

Organizations/Clubs outside of school (circle all which apply)	Length & level of involvement (for each circled)	Time commitment (for each circled)
• Science • Chess • Tennis • Gymnastics • Dance • Cultural Activity • Hockey • Scouts/Guides • Music • Soccer • Skating • Baseball • Foreign Language • Drama • Reading • Other		
Have you been told that your child has unusual aptitude in any of these activities? When and by whom?		
Any prizes won or public performances?		

5) Child's Home Life (cont'd)

Friends	
How easily does your child make friends?	
Does your child prefer to be alone or with other children?	
If with others, with those of the same age, older, or both?	
Comment on the friends your child has **outside** of school:	
Name some of these friends	
Does your child have any imaginary friend, child or animal, now or in the past?	
Toys (i.e., electronic/board/educational games, dolls, cuddly toys, cars, puzzles, pretend games) **Please list toys liked and disliked**	
Like	Dislike
Has your child been attached to a favourite object (toy or blanket)?	
If yes, under what circumstances was/is it used?	

5) Child's Home Life (cont'd)

Reading	
How often do you read with your child?	
What books have been read together?	
Is your child reading independently? What books?	
Does your child choose reading as an activity (with you or solo)?	
Please comment on:	
What strengths (academic & personal) do you see in your child?	
What do you see as your child's relative weaknesses?	
What wishes/goals do you have for your child's future?	
Does your child ponder questions of the universe, religion, & earth?	
Sensitivity or perfectionism: do these apply to your child? how so?	
Has there been a death of anyone in, or close to, your family, or of a pet? If yes, what was the relationship shared with your child? what was told to the child? what was the child's reaction to the death?	

5) Child's Home Life (cont'd)

What does your child do when: angry	
afraid	
sad	
happy	
hungry	
What makes your child angry?	
What makes your child fearful?	
What makes your child sad?	
What makes your child happy?	
How does your child recover from emotional stress?	

6) Child's Educational Setting

Reactions to School	
What were your feelings when you knew that your child would soon be entering school?	
How did you feel the first day your child went to school?	
How did you feel after a few weeks had gone by?	
Alternatives	
Which of the following educational alternatives would you choose, &/or have you chosen, for your child and why (assuming all are available)?	
• Regular, heterogeneous classroom	
• Regular, heterogeneous classroom, with early entry option	
• Regular, heterogeneous classroom, with acceleration option (grade skipping)	
• Regular, heterogeneous classroom, but with progression at one's own rate	
• A pullout/withdrawal program	
• A full-time, self-contained class within a regular school	
• A special school	
• Other	

6) Child's Educational Setting (Cont'd)

Present Setting:	
Description	
Aspects of program you enjoy; Why?	
Aspects of program you dislike; Why?	
Teacher characteristics you like	
Teacher characteristics you dislike	
Your Frequency of interactions with the teacher	
Does your child's teacher know of any identification/special abilities? If so, how was it received?	
Has there been any attempt to match curriculum to your child's abilities?	
How has your child been progressing academically at school?	
How do you think your child feels about school?	
How does your child relate to classmates?	
Name some friends **from** school	

7) Use this section to comment on any above issue or any area missed

Appendix G
Teacher Information Questionnaire

Brief description of educational setting

Description of child

Intellectual/achievement

Language - **Expressive** (i.e., vocabulary, grammar, ideas shared)

- **Receptive** (i.e., understanding directions)

Social/emotional (i.e., likable by peers, cooperation, considerate, adaptability in new situations)

Physical- Gross Motor (i.e., walking, jumping, balance, coordination)

- **Fine Motor** (i.e., eye-hand coordination with crayons/scissors)

Creative

Motivation (i.e., on task, minimum commendation to complete tasks)

Memory (i.e., associates past and present experiences)

Has there been a good fit between the child and your teaching style?

How was the beginning of school?

for the child?

for the parent(s)?

for you?

How has the child been progressing?

How do you think the child feels about school?

In what areas would you like more information to guide your teaching of this child?

Please use the space below to comment on any issue or area which might have been missed.

Appendix H

CHILD'S INTERVIEW PROTOCOL

1) What's your name? age?
2) Do you have any brothers or sisters? How old are they?
3) What is the happiest time you remember?
4) What do you like about yourself?
5) What don't you like?
6) Can you tell me about a story you've had read to you (or you've read)?
7) Is there anything you don't understand that you would like to?
8) What do you want to be when you grow up?
9) Do you ever get other people to go along with what you want to do?
10) Have you ever done anything really different from what most children your age have done - made something, tried something ?
11) Have you ever done anything that other people were surprised you could do?
12) If you only had to go to school three days of the week, what are some of the things you would like to do with the extra time?
13) Is there something you've done that was really hard to do, but you really wanted to do it?
14) What subject, or activity, do you like the most at school?
15) What do you like the least?
16) Do you like school?
17) What changes would you make?
18) When people disagree about something, why do you think that usually is?
19) What's the best thing about being your age? What's the hardest thing?
20) What would you like to be really good at doing?
21) If you could spend two weeks with someone who does a special kind of work, what kind of person would that be?

Questions 10 - 13, 18 - 21 are from Ellis (1994)