Recognition of Giftedness in the Early Years of School: Perspectives of Teachers, Parents, and Children

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Although teacher underestimation of ability can have a detrimental effect on children's achievement and motivation, the accuracy of Australian teachers in identifying intellectual giftedness in young children has not been investigated. This study followed 14 children, identified as potentially gifted while preschoolers, for up to 3 of their early years of school, collecting questionnaire data from 26 teachers and the parents, as well as interview and norm-referenced test data from the children. Teachers rated more highly the children whose test scores were more consistently in the gifted range, but more than half of the children were underestimated by at least 1 teacher, especially where nonverbal ability was higher than verbal ability. Strengths in reading were more readily recognized than strengths in spelling and mathematics. Child attitudes and behaviors, as well as some mutual parent-teacher distrust, may have contributed to teacher underestimation. Implications for practice and further research are discussed.

Appropriate expectations and learning experiences in school depend on accurate recognition of a child's performance level or potential. According to Good and Brophy (1997), teacher expectations guide perceptions (what is noticed or not), interpretations, and behavior. When teachers underestimate a child's ability level, underachievement can result, an effect that Terrassier (1985, p. 273) called the "Negative Pygmalion Effect." Harrison (2003) defined a gifted child as

> one who performs or has the potential to perform at a level significantly beyond his or her age peers and whose unique abilities and characteristics require special provisions and social and emotional support from the family, community and educational context. (p. 8)

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Underestimation of a gifted child increases the risk that these required interventions will not be provided. Without modification, the regular curriculum is unlikely to meet the gifted child's needs (Robinson, 2003), and, if unchallenged, that child may escape into imagination or reading (Freeman, 1979), behave disruptively (Diezmann & Watters, 1995), or simply conform to low expectations. In any of these scenarios, the negative attitudes to school described by Porath (1996) and Assouline (1997) may ensue. The gifted child's social and emotional behaviors can also be misunderstood. He or she can be thought immature or unfriendly for spending time alone (Kitano, 1989) when the issue is lack of common interests (Porath, 1996) or absence of other children with an equally mature concept of friendship (Gross, 2002; Harrison, 2005). Perfectionism can be seen as refusal to try something new; a concern for justice might appear as defying authority (Kitano, 1990).

Quite young children can be identified as gifted. The longitudinal study by Gottfried, Gottfried, Bathurst, and Guerin (1994) found that advancement could be detected as early as 18 months of age, while the seminal study by Roedell, Jackson, and Robinson (1980) investigated the quantitative and qualitative ways that gifted preschoolers expressed their abilities. With early identification, the stimulating, even demanding, environment that Robinson and Robinson (1992) advocated for young children's realization of their potential can follow. Early childhood teachers can also be alert for gifted children who, having the tendency to engage in social comparisons earlier than their peers (Robinson, 1993) and to conform to the behavioral norms of their age group (Dockett, Perry, Howard, Whitton, & Cusack, 2002), might hide their abilities. For example, Dockett et al. found that precocious readers stopped reading in their first weeks of school, having realized that other children did not read and were not expected to. Because the attitudes and behaviors of young children are more amenable to positive change than are the entrenched patterns of older children (Whitmore, 1986), the underachievement documented by longitudinal studies of gifted children (Freeman, 2001; Gross, 2003) might be avoided by early identification and intervention.

Most of the research into the accuracy of teacher nominations of children as gifted was conducted in the United States in the 1970s, where teachers were asked to nominate gifted children in their classes and the general intelligence of the children was independently assessed. Effectiveness (i.e., not overlooking gifted children) and efficiency (i.e., not overestimating nongifted children) of teacher identification were usually calculated. Gear's (1976) review of the accuracy of teacher judgment of ability included four studies of kindergarten or grade 1 teachers whose effectiveness ranged between 10% and 48%, while their efficiency was mostly 30–50%. Included in Gear's review was a study by Jacobs (1971) who found that, of the children overestimated by teachers, two thirds were verbally adept, cooperative, and keen to please their teacher. In contrast, a more recent study by Reis and Purcell (1993), in which 470 teachers of children in grades 2–6 were asked to nominate children for whom curriculum compacting was necessary, concluded that the teachers were able to select appropriate children. Reis and Purcell reported that, for one grader higher than current grade, the children achieved a mean percentile of 93 in reading and math concepts and a mean percentile of 90 in math computation (subtests of the Iowa Tests of Basic Skills). Russian teachers' ratings of the intellectual abilities of first graders (gifted and nongifted) in Scheblanova's study (1996) agreed only 54% with the children's results on a test of cognitive abilities. No published research was found about the effectiveness of Australian teachers' nominations of children as gifted, although Alsop's (1997) investigation into the counseling needs of parents of 47 gifted children found that the child's teacher had recommended a formal assessment in only 17% of the cases.

Ciha, Harris, Hoffman, and Potter (1974) compared the effectiveness of teachers and parents of kindergarten children using questionnaire responses and found that teachers' effectiveness was much lower than that of parents (22% vs. 67%). The effectiveness of parents in identifying intellectual giftedness in their young children has been shown in a number of studies, with samples ranging from 21 to more than 500, to be between 50% and 96% for IQs above 125 (Louis & Lewis, 1992; McGuffog, Feiring, & Lewis, 1987; Parkinson, 1990; Roedell et al., 1980; Silverman, Chitwood, &

Waters, 1986). However, the use of IQ scores as the sole criterion for giftedness in young children in these studies is problematic because it has been shown that IQ scores are more reliable after the age of 6 than at a younger age (McCall, Appelbaum, & Hogarty, 1973; Wilson, 1983). Despite the greater effectiveness shown by parents in these studies, more of the Australian teachers interviewed by Plunkett (2000b) perceived that parents often overestimated their child as gifted than thought parents were correct in identifying giftedness (50% vs. 36%). This might explain the reports from parents in Alsop's (1997) sample that only 25% of classroom teachers and 29% of school principals were supportive when consulted about the child's assessment for giftedness. A review of the literature on parent-school involvement in the education of gifted children (Dettman & Colangelo, 1980) described a continuum from a passive trusting approach (frequently leading to dissatisfaction) to assertiveness that could damage relationships with the school. In the Australian context, Braggett, Ashman, and Noble (1983) reported both good and difficult parent-school relationships but did not quantify the proportions of each, whereas 83% of parents felt pushy when meeting with teachers about their child's educational needs in Alsop's study.

Several researchers have investigated teachers' beliefs about giftedness that might contribute to their lack of accuracy in identification. Some have found that teachers tended to view giftedness as achievement rather than potential (Freeman, 1979; Lee, 1999), whereas in other studies (e.g., Plunkett, 2000b) potential was thought to be more important. Lee also found that teachers viewed motivation to achieve as critical to giftedness.

Norm-referenced testing, which measures differences among individuals in a sample of behavior (Anastasi & Urbina, 1997) so that comparison with children of the same age can be made and change over time can be measured (Sattler, 1992), is not routinely used with young children in schools in the state of New South Wales (NSW), except when a school psychologist administers tests following a classroom teacher's referral. According to Gross (1993), teachers in Australia view norm-referenced testing as elitist and prefer to rely more on professional judgment. Unless individual schools or teachers choose to use norm-referenced tests, state-wide benchmark

Basic Skills Tests in literacy and numeracy, administered in grade 3 and providing a percentile within the cohort, may be the first opportunity for children to show how their academic achievement compares with that of other children in their school and state.

McBride (1992) and Plunkett (2000a) found that the method that Australian teachers most frequently reported using to identify giftedness was observation. Elementary school teachers in NSW are encouraged to combine observation with a continual gathering of information by informal methods such as curriculum-based tests and collection of products for evaluation (New South Wales Board of Studies, 2005), which are often kept in a portfolio that becomes the basis for reporting to parents. Although portfolio assessment has been hailed as a developmentally appropriate way to identify young gifted children (Shaklee, 1992; Wright & Borland, 1993), provided that the teacher is aware of the characteristics of giftedness (Johnsen, Ryser, & Dougherty, 1993; Porter, 1999), a review by Herman and Winters (1994) showed that investigations into the reliability and validity of the portfolio method in identifying giftedness have been sparse and that stability had not been established for scores or ratings over time. Another factor in identification by teachers is the opportunity, or lack of opportunity, that the curriculum provides to reveal achievement beyond grade expectations (Braggett, 1997; Shaklee, 1992).

For observation to be effective in identification, teachers need to be skilled observers and have a good grasp of both normal child development and gifted characteristics (Barbour, 1992; McBride, 1992; Shaklee, 1992). There exists a substantial body of knowledge about reliable qualitative or behavioral indicators of giftedness from many studies. Silverman (2003), for example, reported on the research through which she and her colleagues have developed and revised a rating scale of 25 characteristics of giftedness. Yet, an Australian government inquiry into gifted education has reported that few teachers in this country have had training that would assist them in identifying gifted students (Commonwealth of Australia, 2001).

There appears to have been little research that has investigated young children's perceptions of teachers' recognition of their abilities or has investigated the children's own contributions to teachers' perceptions. Although Gross (1993) asked the exceptionally gifted

children in her study whether they "played down" their abilities and whether the teacher knew this, the results of these questions have not been reported separately and are not evident in the presented case studies. Gross (1993) did, however, report that fluent readers on school entry often hid that skill in order to fit in with age peers.

Despite declarations that early identification is imperative for early intervention (Silverman, 1992; Stile & Hudson, 1993), no systematic attempt is made in NSW to identify gifted children until grade 4, for entry to special classes called "Opportunity Classes" in grades 5–6. Unless teachers in the early years of school recognize exceptional achievement or potential, years of unsatisfactory education and deteriorating attitudes may occur before the opportunity to enter a gifted program is offered.

Apart from Scheblanova's (1996) study, the effectiveness of early childhood teachers in identifying giftedness since the 1970s is unknown. As part of a larger longitudinal investigation of the issues in identifying giftedness in young Australian children, the current study set out to investigate how teachers in the early years of school perceived the ability levels and the strengths of potentially gifted children and how these perceptions related to scores on independent but concurrent tests of ability and achievement. Parent perceptions of schools' and teachers' responses to their child's needs and the contribution that the children themselves may have made to those teachers' perceptions were also investigated. Specifically the research questions that were addressed were:

1. What were the teachers' perceptions of the ability of the children identified as potentially gifted, and what was the relationship between these perceptions and concurrent independent testing?
2. What strengths did the teachers perceive for these children, and how did these perceptions relate to the concurrent independent test results and to behavioral indicators of giftedness?
3. What child behaviors or attitudes had the potential to assist or hinder teacher recognition of giftedness?
4. What perspective did parents have in relation to the school's ability to cater to the needs of their child?

Method

Participants and Setting

The Children. Child participants were a convenience sample of 6 males and 8 females who had been identified by their parents or preschool teachers as potentially gifted prior to or during attendance at two preschool programs operating at the Special Education Centre at Macquarie University, Sydney, Australia. Indicators of giftedness in the preschool years came from qualitative data (parent questionnaires and teacher observations) and quantitative data (tests of ability and academic achievement), which have been reported by Hodge and Kemp (2000).

Nine children were among the 11 children enrolled in the Preschool Enrichment and Extension Class (PEEC), a 1-year part-time program for preschoolers nominated as potentially gifted by their parents. Five children had attended, for 2, 3, or 5 days per week, the inclusive Early School (ES) program, in which all children experienced a traditional preschool program, and those with intellectual disabilities also received academic instruction. Both programs offered an enriching curriculum of free play and more structured experiences that invited children to reveal behavioral indicators of giftedness, including any academic skills they possessed (see Hodge & Kemp, 2002). Apart from some playful activities to encourage phonological awareness in the ES program, neither program sought to teach academic skills to the participating children.

Age and grade of school entry varied. Nine children entered kindergarten, the first year of school in NSW, at the expected age (M = 5 years, 2 months,); 2 children were permitted early entry to kindergarten at ages 4 years, 4 months and 4 years, 5 months; 3 children were accelerated directly into grade 1 (M = 5 years, 5 months).

The Parents. All children came from suburbs considered middle class. Eleven were from Anglo-Australian backgrounds, and 3 were from Asian backgrounds. Their parents were well educated: 20 parents had completed university education, 7 had completed other tertiary education, and 1 had completed secondary education. While the

mothers usually wrote the questionnaire responses, it was not clear whether fathers had provided input, apart from four questionnaires where father input was explicit.

The Teachers. Of 33 teachers who taught a participating child in any year of this study, 26 (all female) chose to participate. Twenty-one taught in government schools, and 5 taught in independent schools. The grades in which they taught a participant child were kindergarten (9 teachers), grade 1 (9 teachers), grade 2 (6 teachers), and grade 3 (2 teachers). Of the 25 teachers who reported data on class composition, 21 taught single grade classes, 3 taught composites of two grades, and 1 taught a multiage class across three grades, which was the only class that was solely for "gifted or bright" children. Of the 24 teachers who reported years of teaching experience, 3 had taught for 5–10 years, 10 had taught for 11–20 years, and 11 had taught for more than 20 years. Of the 25 teachers who responded to a question about training in gifted education, 1 teacher possessed a formal qualification in gifted education (master's degree), 16 teachers had attended a professional development course in gifted education (duration unknown), and 7 teachers reported having had no professional development in gifted education.

Procedure

All measures were administered in November–December each year, at the end of the Australian school year. Parent questionnaires were posted to home addresses with a letter inviting parents' and children's participation. If willing to participate, parents were asked to give their child his or her own enclosed letter that explained the testing and interview processes. A stamped self-addressed envelope was enclosed for return of the parent questionnaire. Parents willing for their family to participate were asked to give their child an enclosed, personalized letter that explained the testing and interview process. The children's tests and interviews were conducted at the Special Education Centre. To avoid influencing parent responses, promised reports detailing the child's test results were sent to parents after return of their questionnaire.

With parental consent, the principals of the children's schools were sent a letter requesting approval of participation by the child's current

teacher, if the teacher so wished. Participation involved the anonymous completion of a questionnaire and its return in an enclosed and stamped self-addressed envelope. A letter explained to the teacher that the child was not necessarily gifted, that the child would be tested and interviewed, and that the parents would not have access to the teacher's responses. If the teachers had not responded before schools closed for the summer vacation, a reminder letter and a duplicate of the questionnaire were sent early in the new school year with the request that the questionnaire be completed as if at the end of the previous school year.

Measures

Formal Measures of Ability. Each year the children were given the same norm-referenced tests of verbal ability and nonverbal ability that were used in the preschool year in place of IQ tests, the results of which are more reliable after age 6 (McCall et al., 1973; Wilson, 1983). The ability tests used have been recommended as useful in a battery of tests rather than as sole measures of cognitive ability (Matthews, 1988; Sattler, 1992).

The Peabody Picture Vocabulary Test–Revised (PPVT-R; Dunn & Dunn, 1981) measured verbal ability, using parallel versions in alternate years. This test is often used in research as a cognitive assessment or to measure scholastic aptitude (Goodwin & Goodwin, 1982) and has been reported in a review by Bracken, Prasse, and McCallum (1984) to correlate well with most IQ tests. The third edition of the test (PPVT-III; Dunn, Dunn, & Dunn, 1997), unchanged in content, was standardized just as the present research began, so, in order to avoid overestimation through the Flynn effect (Flynn, 1987), children's results were converted to scores on the third edition using a table provided in the examiner's manual. A score of percentile 98 or higher (two standard deviations above the mean) was considered to be in the gifted range.

The test of nonverbal ability was the Colored Progressive Matrices (CPM; Raven, Court, & Raven, 1995), which has Australian norms for ages 5.5 to 10.5 years. The Standard Progressive Matrices (SPM; Raven, Court, & Raven, 1998), with Australian norms for ages 8.5–17.0, was used when the CPM's ceiling had been met, or almost met, in the previous year's testing. Described as being "as close to a study

of pure thinking processes in the absence of specific content acquisition as is available" (Cherkes-Julkowski, Stolzenberg, & Segal, 1990, p. 7), the SPM has been found to be comparable with IQ as a predictor of academic success in children aged 5–18 (Saccuzzo & Johnson, 1995). Because the highest score given in the test norms is percentile 95+, this was considered to be the gifted range.

Formal Measures of Academic Achievement. These were tests commonly used in Australian schools. The Neale Analysis of Reading-Revised (Neale-R; Neale, 1988) is a measure of reading accuracy, comprehension, and rate (although rate was not reported) as the child reads text. The more recent norms of the third edition (Neale-III; Neale, 1999) were used because the test was unchanged and the standardization was carried out (for norms in the range of 1 year of school to 7 years of school) in the final term of the school year, which matched the timing of testing of participant children. Forms were alternated each year to avoid practice effects. Scores of percentiles 98 or higher (at least two standard deviations above the mean) were considered to be in the gifted range.

In the absence of a test of written expression normed on Australian children, the South Australian Spelling Test (SAST; Westwood, 1999), with 1993 norms that gave a spelling age in the 6.0–15.5 years range, was used. Information from the test author (P. Westwood, personal communication, June 4, 2002) that the standard deviation of the test was 7.75 raw score points allowed calculation of standard deviations above the mean; a raw score two standard deviations above the mean was regarded as in the gifted range.

At the time, no norm-referenced test of mathematics was available that had Australian norms for children in the first 3 years of school. The Test of Early Mathematics Ability (Ginsberg & Baroody, 1983) had been used in the preschool year and, in retrospect, despite its U.S. norms, would have been better than no measure in the first year of school. In the second and third years of school, the Progressive Achievement Test of Mathematics–Revised (PATMaths–R; Australian Council for Educational Research, 1997) was used as an above-level test, whereby performance at the mean for two grades higher indicated achievement that was suffi-

ciently advanced to require a differentiated curriculum (Assouline & Lupkowski-Shoplik, 1997) and was therefore considered to be in the gifted range. PATMaths–R emphasizes mathematical reasoning in the number strand, but the strands of space, measurement, chance and data, and working mathematically are also assessed. A study published since the current study was undertaken has concluded that the New Zealand-normed version of this test (PATMaths; Reid, 1993) was only 78% effective in identifying mathematical giftedness in children aged 9–12 (Niederer, Irwin, Irwin, & Reilly, 2003). However, its use of scores on an unvalidated test of problem solving as the criterion for mathematical giftedness and its use of PATMaths grade-level, rather than off-level, norms weaken Niederer et al.'s recommendation that the test should not be used to identify mathematical giftedness. In the current study, Form 1 (normed for grades 3–5 in NSW) was given to children in grades 1 and 2 whose reading age was at least 8 years; Form 2 (normed for grades 5–7 in NSW) was given to allow a greater test ceiling when children had scored close to the ceiling of Form 1 in the previous year.

Parent Questionnaire. The parent questionnaire contained items chosen to elicit detail on parent perceptions of the schools' and teachers' recognition and accommodation of the needs of gifted children in the current year. The items relevant to this study required a rating on a Likert scale of 1–5 about the extent to which the parent thought that (a) the child worked to his or her ability in class, (b) the teacher recognized the child's abilities, and (c) the school took seriously at the time of enrollment the parent's information, if offered, that the child may be gifted. Parents were asked for reasons if they had chosen not to tell the school that the child might be gifted. There was also an open-ended question about any unexpected issues at school during the year.

Teacher Questionnaire. The questionnaire was constructed and presented as a gathering of information and opinion rather than as a test of teacher skill in recognizing a child who was surely gifted. The teachers were asked to rate the ability level of the participating child in their class (*a little above average, far above average*, or *not above average*) and to nominate any strengths they had observed in the child. The ques-

tion about strengths was left "open" to see whether behavioral strengths would be included along with academic strengths. In addition, apart from questions about the teacher's years of teaching experience, training in gifted education, and composition of the class taught (size, grade or grades, and whether ability-grouped), the questionnaire asked whether (a) the child had been introduced as gifted, and (b) it had been necessary to test this child beyond the usual class assessments.

The Child Interview. A structured interview, implemented by the researcher who was known to the children from their preschool year, contained the same questions for every child and aimed to gain the child's perceptions of his or her school and class experience, especially the response to teacher expectations and the type and level of work given. If necessary, a prompt such as "Can you tell me more about that?" was given.

The interview began with open questions about what the child liked and disliked about school, which conveyed the message that a critical view was permissible. Evidence of teacher accuracy of recognition of the child's abilities was the focus of questions about (a) work that was difficult and work that was easy, and (b) the teacher's knowing that this work was difficult or easy. Evidence of child behaviors and attitudes that might assist or hinder teacher recognition of potential giftedness was the focus of questions about the child's (a) preference for difficult or easy work and reasons for this preference, (b) readiness to comply with teacher requests, and (c) perception of what pleased or displeased the teacher, which Tannenbaum (1997) described as the ground rules for success in the classroom.

Tapes were transcribed verbatim before analysis. A second independent transcription of one third of tapes selected at random as a reliability check found occasional differences in functional words (e.g., and, the) but no differences that affected meaning.

Data Analysis

Multiple sources of data, quantitative and qualitative, were employed to permit investigation of the relationships among individual measures.

Effectiveness of Teacher Identification of Giftedness. This was calculated according to Gear's (1976) method, who determined the ratio of confirmed gifted students nominated by the teachers to the actual number of gifted children in the classroom. In the current study, effectiveness was calculated as the number of teachers who rated as *far above average* a participant child who obtained at least one test score in the gifted range as a proportion of the total number of participant children who obtained at least one test score in the gifted range. Roedell et al. (1980) concluded that, because young children can be variable in the testing situation, even one test score that is exceptional indicates that a young child should not be discounted as gifted. They referred to this as a "best performance" philosophy (p. 38), and their view has found support from Borland and Wright (1994) and Silverman (1998).

Relationship Between Teacher Ratings of Ability and Children's Test Scores. Teachers were offered three ranks on a scale of perceived ability, but when two teachers indicated a rank that fell between 1 (*far above average*) and 2 (*a little above average*), this was incorporated into the data analysis as the second rank (*quite above average*) so that *a little above average* became rank 3 and *not above average* became rank 4. To correspond to these four ranks of perceived ability, each year the score for each child for each test was ranked between 1 and 4 according to criteria derived from test norms regarding degree above average (see Table 1).

A Spearman rank-difference correlation was used to examine the relationship between the ability of the child as ranked by the teacher and the ranked scores for (a) verbal ability, (b) nonverbal ability, (c) reading accuracy, (d) reading comprehension, (e) spelling, and (f) mathematics. Depending on the return of teacher questionnaires and the number of years of participation per child, there were 0–3 relationships that could be examined for each child. Each set of data that had a teacher questionnaire and a concurrent test score was treated as a separate participant. Correlations were corrected for ties in ranking.

The size of the correlation was the focus of analysis because the small sample size meant that it would be difficult to reach statistical significance, even with moderate to large correlations. Given that multiple comparisons were made using the same data sets, it

Table 1

Ranks Allocated to Test Scores

	Rank			
Test	1 Far above average	2 Quite above average	3 A little above average	4 Not above average
PPVT-III[a]	98+	95–97	85–94	<85
CPM/SPM[a]	95+	90–94	75–89	<75
Neale-III[a]	98+	95–97	84–94	<84
SAST[b]	2.0+	1.5–1.9	1.0–1.4	<1.0
PATMaths-R[c]	5+	4	3	2 or <2

Note. Test criterion: [a]percentile, [b]SDs > mean, [c]stanine for two grades higher.

was appropriate to adopt the more conservative alpha level of .01 in order to guard against a Type 1 error (false positives). There was a danger, however, that with a very small sample size a Type 2 error (false negatives) could also be made. In order for there to be a statistically significant relationship (at the .01 level) between the PPVT-III and CPM/SPM scores and teacher rating of ability (n = 25), and between the measures of reading accuracy, reading comprehension, and spelling and teacher rating of ability (n = 25), the correlations would need to be .511 or greater. For the relationship between ability measures and teacher rating to be significant for children in the first year of school (n = 10), the correlations would need to be .794 or greater. For the relationship between the PATMaths-R scores and teacher rating of ability (n = 15), to reach statistical significance a correlation of .654 or better was required (see Table of Critical Values for r_s; Sheskin, 1997, p. 707).

In order to further examine teacher effectiveness, the mean number of test scores in the gifted range corresponding to each rank of teacher rating was calculated. In order to determine whether there was a relationship between the consistency of a child's test scores and teacher ratings of ability, a calculation was made for each child of (a) the mean number of annual test scores in the gifted range whether rated by a teacher or not, and (b) the proportion of ratings as *far above average*. These data were analyzed descriptively.

Analysis of Questionnaire and Interview Data. Questions that asked for a *yes/no* response were analyzed by frequency of each response. A tally was also made of alternate responses: *probably* or *I don't know.* Responses to open questions in the teacher questionnaire and the child interviews were examined for themes that were then quantified. For behavioral strengths nominated by teachers, a quantitative summary was made of their consistency with indicators of giftedness from the research literature.

Analysis of Relationships Between Quantitative and Qualitative Data. Data were summarized in table form to allow visual inspection of the relationships between quantitative data (ranks of test scores or ranks derived from teacher ratings) and themes that emerged from the qualitative data. Strengths nominated by teachers that were specific to reading, spelling, or mathematics were compared with the child's score in the concurrent year on the relevant achievement test. For each test, a quantitative summary was made of agreement between (a) a teacher's nomination of strength in that academic area, and (b) achievement by the corresponding child on the relevant test according to the ranks 1–4 outlined previously.

Results

Teacher Perceptions

Teacher Ratings of Ability and Their Relationship to Test Scores. In the first year of school, 10 teachers gave ratings of child ability between 1 (*far above average*) and 3 *(a little above average*), and 1 teacher failed to rate a child's ability ($M = 2.3$). In the second year of school, 10 teachers gave ratings between 1 and 4 (*not above average*; $M = 2.0$). In the third year of school, 5 teachers gave ratings between 1 and 3 ($M = 1.4$).

Concurrent scores. Comparison of teacher ratings of child ability with the child's concurrent test scores showed that in 12 of the 13 instances that a child was rated as *far above average*, he or she had at least one score in the gifted range (see Table 2). Although the 13th

Table 2

Relationship Between Teacher Ratings of Child Ability and Test Scores

Teacher rating of ability	Number of children with at least one score in the gifted range	Mean number of scores in the gifted range
First year of school		
Far above average ($n = 4$)	4	2.75
Quite above average ($n = 0$)		
A little above average ($n = 6$)	4	1.7
Not above average ($n = 0$)		
No rating ($n = 4$)	4	3.25
Second year of school		
Far above average ($n = 5$)	4	3.2
Quite above average ($n = 2$)	2	2
A little above average ($n = 1$)	1	1
Not above average ($n = 2$)	1[a]	1.5
Third year of school		
Far above average ($n = 4$)	4	3.75
Quite above average ($n = 0$)		
A little above average ($n = 1$)	1	1
Not above average ($n = 0$)		
No rating ($n = 4$)	4	3.75

Note. [a]This child had been accelerated midyear into the rating teacher's class.

child had no concurrent score in the gifted range, he did have scores in the gifted range in the previous and following years. As Table 2 shows, each year the children who were rated as *far above average* had a higher mean of scores in the gifted range than children rated lower, although nine lower ratings (eight children, one child twice) also coincided with at least one score in the gifted range. Three lower ratings coincided with no scores in the gifted range. With one exception, as the rank of teacher ratings dropped, so did the mean number of test scores in the gifted range.

The 25 teachers who rated a child's ability had an effectiveness rate of 57.1%, because they rated a child as *far above average* in 12 of the 21 instances that a child had at least one concurrent score in the gifted range. Of the nine underestimations, in seven instances the child had a concurrent nonverbal ability score in the gifted range but a verbal ability score below the gifted range, while in the remaining instances both nonverbal and verbal scores were in the gifted range. In four of the nine underestimations, the child also had at least one concurrent achievement score in the gifted range.

Consistency of individuals' scores over time. Across the 3 years of school, 3 children had a mean number of 4–5 annual test scores in the gifted range, 5 had an annual mean of 2–3, and 6 had an annual mean of 0–1.7. For children always rated as *far above average,* the mean ranged from 0.7 to 5 tests annually in the gifted range. For children rated lower at least once, the mean ranged from 0 to 4 tests annually, while for children always rated below *far above average* the mean ranged from 0 to 2 tests annually. Of the 5 children who had a mean of at least three annual test scores in the gifted range, 3 were rated below *far above average* once in 2 or 3 years.

Relationship between teacher ratings and ability testing. Across the 3 years, the Spearman rank-difference correlation between teacher ratings of ability and the PPVT-III was $r_s = .362$, $p = .08$, and the correlation between teacher ratings of ability and the CPM/SPM was $r_s = .112$, $p = .58$. When teachers' ratings in the first year of school were separated from those in the second and third years and were correlated with children's scores on ability tests in the same years, the Spearman rank-difference correlation between teacher ratings in the first year of school and verbal ability scores in that year was $r_s = .763$, $p = .02$. In the first year, the correlation between teacher perception of ability and nonverbal scores was $r_s = .175$, $p = .60$. None of these correlations was significant at the .01 level, although there was a large correlation between teacher ratings in the first year of school and verbal ability and a lesser but still small to moderate correlation between verbal ability and teacher ratings of ability across the 3 years.

Relationship between teacher ratings and achievement testing. The Spearman rank-difference correlations between teacher ratings of

ability and the measure of reading was r_s = .367, p = .07, for accuracy and r_s = -.115, p = .57 for comprehension. The correlation between teacher ratings of ability and the measure of spelling was r_s = .282, p = .17. The correlation between teacher ratings of ability and the measure of mathematics (for just the second and third years of school) was r_s = .402, p = .13. When the ratings of teachers in the first year of school were separated and correlated with children's concurrent scores on achievement tests, the correlations were (a) reading accuracy r_s = .376, p = .26; (b) reading comprehension r_s = .330, p = .32; and (c) spelling r_s = -.074, p = .82. There was no separation for mathematics because no norm-referenced test was given in mathematics in the first year of school. Again, none of these correlations reached statistical significance, although the correlations were of moderate size between teacher perception and (a) reading accuracy in the first year and across the 3 years, (b) reading comprehension in the first year, and (c) mathematics in the combined second and third years.

Teacher Ratings of Ability and Their Relationship to Introduction of the Child as Gifted. Teachers employed the entire range of ratings for children who were introduced as gifted but most frequently (60% of the time) rated them as far above average. Teachers rated 9 of these children as far above average, 2 as quite above average, 3 as a little above average, and 1 child, who had been accelerated into her class midyear, as not above average. Children not introduced as gifted were also given a range of ratings but most frequently (55%) were rated as a little above average. Teachers rated 3 of these children as far above average, 5 as a little above average, and 1 as not above average.

Teacher Perceptions of Child's Academic Strengths and Their Relationship to Test Scores.

Reading. Of the 18 nominations of strength in reading, 14 coincided with a Neale-III accuracy percentile of 95 or higher (8 of these with a percentile of 98 or higher), 2 coincided with accuracy scores in the above-average range, and 2 coincided with accuracy scores in the average range. In the eight instances where a child was not nominated as strong in reading, scores were below the 94th percentile. Five nominations of strength in reading coincided with

a Neale-III comprehension score of percentile 95 or higher (three with percentile 98 or higher), six coincided with percentiles in the above-average range, and six coincided with comprehension scores in the average range.

Spelling. Of the children nominated for strength in spelling, five did have spelling achievement in the gifted range. Two children nominated for strength in spelling had scores 1–1.4 *SD*s above the mean, while four teachers did not perceive children with achievement at this level as strong in spelling. Nine teachers did not nominate spelling strength for children whose score was at least 1.5 *SD*s above the mean. (Seven of these children scored in the gifted range, and one teacher actually commented that the child's spelling was average.) Six children were not perceived as strong in spelling and had scores less than 1 *SD* above the mean.

Mathematics. Teacher identification of strength in numeracy was compared with scores in the PATMaths-R test used as above-level testing in the second and third years of school. The absence of norm-referenced testing in mathematics in the first year of school made impossible any comparison in that year between teacher identification of strengths in numeracy and test scores. However, in the first year, just 2 teachers nominated strength in mathematics, in a kindergarten child and in a child who had entered directly to grade 1. (The latter scored in the gifted range in both subsequent years.) While 9 teachers identified strength in mathematics in the second and third years of school in children who scored stanine 4 or 5 on PATMaths-R norms for two grades higher, 3 other children with scores of stanine 4 or 5 were not identified as strong in mathematics. Children with scores of stanine 3 or lower were not identified as strong in mathematics.

Teacher Testing Beyond the Usual. Although they were not asked what was usual, 4 of the 26 teachers reported that they tested the child beyond the usual for the class (4 in reading and 1 in mathematics), and 3 asked for testing by a school psychologist. Four of these teachers rated the child as *far above average,* 2 (who emphasized that testing was at the request of parents) rated the child as *a little above average,* and 1 gave no rating.

Teacher Perceptions of Behavioral Strengths and Their Relationship to Ratings of Ability. Fourteen teachers (54%) nominated strengths that were behavioral (nonacademic). See Table 3 for an analysis of the kinds of strengths nominated, their consistency with indicators of intellectual giftedness from the research literature, and their relationship to teacher ratings of ability. The behavioral strengths of initiative, enjoyment of challenge, attraction to like minds or other "bright" children, and conscientiousness were nominated only for children rated as *far above average*. Eight behavioral strengths were nominated for children given ratings of *far above average*, as well as lower ratings (six indicating giftedness), and three strengths that indicated giftedness were nominated for children with ratings below *far above average*.

Parent Perceptions

Over the 3 years, the frequency of parents' ratings of the extent to which they thought their child worked to his or her ability in class was: 1 (*never*): 0%, 2 (*not often*): 9%, 3 (*sometimes*): 50%, 4 (*often*): 34.5%, and 5 (*always*): 6.5%. The mean rating was 3.3. It was evident from the following comment that this question was interpreted by at least one parent as a perception of the child's effort rather than of the challenge offered: "Schoolwork is always below her level but she tries her best."

The frequency of ratings of the extent to which the child's teacher recognized the child's abilities was: 1 (*greatly underestimates*): 3%, 2 (*underestimates a little*): 51%, and 3 (*accurately recognizes*): 36%. The mean was 2.2. No parent rated teacher recognition as 4 (*overestimates a little*) or 5 (*greatly overestimates*). Six percent of ratings fell between 1 and 2, and one such rating was accompanied by the comment: "The teacher says she can count to 20. She actually counts to 100 then by hundreds to 1,000, then on and on. She counts by 2s to 20, 5s to 100, 10s to 100." Four percent of ratings fell between 2 and 3.

When enrolling their child in school for the first time or if changing schools, 75% of parents informed the school that their child might be gifted or that the child could already read, while 25% did not. Reasons given for not telling the school of possible giftedness

Table 3

Relationship Between Frequencies of Teacher Perceptions of Behavioral Strengths and Ability Ratings

Reported strength (and support from research literature[a])	Ability rating above average			
	Far	Quite	A Little	Not
Behaviors consistent with indicators of intellectual giftedness				
Language—mature/descriptive (Silverman, 2003)	3		1	
Problem solving/logical thinking (Silverman, 2003)	3		1	
Initiative/self-motivation (Gottfried et al., 1994)	2			
Enjoyment of challenges (Harrison, 2005)	2			
Drawn to bright children (Gross & Start, 1989)	2			
Conscientious (Hafenstein & Tucker, 1995)	2			
Divergent thinking/imagination (Rogers & Silverman, 1998)	2		3	1
Sense of humor (Rogers & Silverman, 1998)	1	1		
Perceptiveness/depth of thinking (Parkinson, 1990)	1		1	
General knowledge (Silverman, 2003)	1		1	
Spatial abilities (Rogers & Silverman, 1998)			1	
Memory (Silverman, 2003)			1	
Deep knowledge in topic of interest (Gross, 1993)	1 child (no rating)			
Behaviors not consistent with indicators of intellectual giftedness				
Skill in creative/performing arts	1		2	
Computer skills	1		1	

Note. [a] For brevity, only one reference is supplied, although others exist.

were the wish for the child to be treated normally, fear of appearing pushy and have the child suffer as a result, confidence that the

school catered for individuals, and perceiving that the child was not exceptional. For those who did tell the school of possible giftedness, the frequencies of ratings of the degree to which the school took seriously this news were 1 (*not at all*): 0%, 2 (*not very*): 33%, 3 (*moderately*): 33%, 4 (*quite*): 25%, and 6 (*very*): 9%. The mean rating was 3.0. All ratings of 4 or 5 were by parents of children commencing school as early entrants to kindergarten (first year of school) or skipping kindergarten and entering grade 1. One parent was told that the term *gifted* was used too loosely.

Some parents reported unexpected issues relating to teacher recognition of their child's abilities. Two parents were disappointed by teachers' negativity or emphasis on weaknesses following assessment parents had initiated because they felt their child was underestimated. One 7-year-old child was tested by a school psychologist who reported a Wechsler Intelligence Scale for Children (Third edition; Wechsler, 1991) full scale IQ of 121 and suggested that the Performance scale was depressed by fine motor difficulties. The parent wrote:

> After testing, the counselor suggested that he may have a hand-eye coordination problem, so he is currently attending a handwriting group weekly. I have felt for a while that the handwriting issue is being used as a bit of a scapegoat, and the school is placing more emphasis on this than necessary.

The second child was tested independently of the school at age 6 years, 6 months when the parents felt that the teacher viewed him as "naughty and average." A Stanford-Binet (Fourth edition; Thorndike, Hagen, & Sattler, 1986) IQ score that included scores of percentile 98.5 and 99+ among the four subscales was, according to the parents, followed at school by a "less confrontational" teacher attitude but only minor changes to work levels and expectations. A third child had arrived at school with an IQ score in the gifted range, and, when the parents asked for more challenging work, they were told that testing (apparently curriculum-based) indicated that the child did not cope with offered extension work and that they should "let your daughter be a child."

Other issues reported by parents and possibly relating to teacher perceptions of ability were perfectionism or fear of failure (8 of the 14 children), boredom in class (6 children), resisting or having difficulty with handwriting (6 children), avoiding the limelight or wanting to "fit in" (3 children), striving to please the teacher (3 children), discomfort with adults (2 children), low self-confidence (2 children), rushing work (1 child), and nonconforming behavior (1 child).

Child Perceptions

Difficulty of Work and Teacher Perception. From children's nominations of work in an academic area (reading, writing/spelling, or mathematics) as easy or difficult, there were more indications that children were not being challenged (36 reports of easy work) than there were indications that they were being challenged (18 reports of difficult work), and there were eight reports, from 6 children, that no work was difficult. Asked whether they thought that the teacher knew that work was easy, 61% of children thought she knew and 18% thought she probably knew. The proportion of children who thought the teacher did not know was 18%, and 3% did not venture an opinion. Regarding teacher knowledge of work being difficult, for 9 children (27%) the question was inadvertently not asked after children reported that no work was difficult. Of the 24 responses to this question, 58% reported that the teacher knew, while 17% reported that she probably knew, and 25% reported that the teacher did not know.

Preference for Easy or Difficult Work. When children were asked whether they preferred easy or difficult work, 43% of reports indicated a preference for difficult work, 36% for easy work, 12% for both easy and difficult work, and 9% for work "in between" or "at my level." The proportion of children reporting a preference for easy work was highest in the first year, and the proportion reporting a preference for difficult work was highest in the second year. Reasons for preferring easy work included finishing quickly (four reports) and reported once each: (a) being able to do more work, (b) getting everything correct, (c) avoiding embarrassment, and (d) being able to talk while working. Reasons for preferring difficult work included liking a challenge (five

reports) and once each: (a) making the brain work harder, (b) having nothing to do if finishing easy work quickly, (c) sensing progress, and (d) wanting to avoid "being like Homer Simpson." One child said he liked difficult work because it was still easy.

Children who preferred easy work were given a range of ratings by their teachers, as were children who preferred difficult work. Of the children rated as *far above average*, about half preferred easy work and about half preferred difficult work. Children rated lower did not necessarily prefer easy work.

Willingness to Comply With Teacher Requests. In the first year of school, children reported that the teacher was pleased and displeased by specific behaviors and standards of work. "Sit up straight" and "finish work fast," for example, would please a teacher, but "lying on the floor" and "scribbling" would not. By the third year of school, the reports were more generalized about pleasing the teacher (e.g., "work mostly correct") and displeasing her (e.g., "wasting the teacher's time"). In the first year of school, behavior was mentioned more than work (30 and 17 instances respectively); in the second year of school, behavior was also mentioned more than work (20 and 14 instances); and, in the third year, reports of behavior and work were equal in number (14). When responses to pleasing and displeasing were considered together, the categories that were ranked first, second, and third as pleasing were (a) being quiet or listening, (b) behaving well ("being good"), and (c) following routines. The next four rankings in order were work that was (a) neat, correct, or hard (equal rank), (b) "good," or (c) quick, while the lowest rankings involved being kind or helpful, not copying or "dobbing" (telling tales); one child thought that "nothing much" pleased the teacher.

When asked whether there were times when they did not want to do what the teacher asked, there were five "yes" and nine "no" responses in the first year, nine "yes" and one "no" responses in the second year, and seven "yes" and two "no" responses in the third year. Children who offered detail mentioned work that was disliked or boring (e.g., "Like when we have to do 20 sets of mentals, which is every day, and you get so bored of it."). When those who responded with a "yes" were asked what they do, there were 18

responses indicating compliance after all and the consequences for noncompliance. Of the three responses indicating resistance, one child reported ignoring the teacher without consequence (this child was rated *a little above average*), one child (rated *far above average*) reported postponing but having to eventually comply (sometimes when timing was inconvenient to himself), and one child (rated *far above average*) reported that the teacher did not notice because she sat in the back row. Children across all the ratings given by teachers were sometimes unwilling to comply. Teachers did not give higher ratings to children who were more willing to comply.

Discussion

The Teacher Perspective

Teacher Perceptions of Ability and Their Relationship to Concurrent Independent Testing. There was some evidence of accuracy in teacher estimations of ability. The children whom teachers rated as far above average did have more scores in the gifted range than children rated lower, and, in all but one case, there were decreasing numbers of scores at this level as rating ranks decreased. The effectiveness rate of 57.1% is higher than the range of 10–48% reported by Gear's (1976) review of studies that compared teacher nomination of children as gifted with the children's IQ scores. It is, however, still quite low, especially because the questionnaire could be considered a prompt, whereas other studies provided an unselected sample from which teacher accuracy was determined. Moreover, more than half of the children were underestimated by at least one teacher, including some with a mean of at least three annual test scores in the gifted range, which suggests that even consistent ability and/or achievement at an exceptional level was not apparent to some teachers. A year with an underestimating teacher could be a serious educational disadvantage (Hall, 2001).

Although teachers were not asked to rate child ability in separate domains, comparison of the ability ratings with rankings of the children's various concurrent test scores indicated those domains

that most closely matched the teacher ratings. Over the 3 years of school, the Spearman rank-difference correlations between teachers' ratings of child ability and ranks on the PPVT-III and CPM/SPM suggested that teachers noticed verbal ability more easily than nonverbal ability ($r_s = .362$ and $r_s = .112$ respectively). This was especially the case in the first year of school when the correlations between teacher ratings of ability and the ranks on these tests were $r_s = .763$ and $r_s = .175$ respectively. It is hardly surprising that these teachers noticed receptive language ability because, in Australian early childhood classrooms, the practices of whole-class oral lessons, typically "on the mat," and of introductions and instructions given to the class as a whole before children complete tasks independently are common. However, it is of concern that ratings of *not above average* or *a little above average* were given to children whose CPM/SPM scores in the gifted range indicated an exceptional ability to think logically. Perhaps nonverbal ability is less easily recognized in the early years of school. Only 4 teachers nominated logical thinking or problem solving as a strength, which suggests that in some classrooms the curriculum allowed more scope for children to display these abilities than in other classrooms.

Comparison of teacher perceptions of ability with academic achievement scores should acknowledge that teachers saw children's responses to a greater breadth of skills and content within an academic area than a test could sample. On the other hand, the research tests probably assessed higher levels of achievement than classroom assessments, especially because few teachers appeared to use norm-referenced tests. Teacher ratings of ability appeared to be related to children's skill in reading accuracy over the 3 years ($r_s = .362$), a skill that would also have been reflected in the correlation in the second and third years between teacher ratings and mathematics on a test that required accurate reading of the questions ($r_s = .402$). Inclusion of a test of computation may have shown a quite different relationship between teacher ratings of ability and PATMaths-R ranks.

More accurate information could have been gained by asking teachers to rate children separately on the various ability and achievement domains. This could also have shown whether, as Gross (1993) found, teachers regarded a child as gifted in the most visible domain

and often disregarded almost equal achievement in another domain. However, because such questions could have been more threatening to teachers than the processes of rating "ability" and nominating strengths and weaknesses, it might have jeopardized the questionnaire return rate, especially because the teachers were informed that the children would be tested.

Teacher Perceptions of Strengths and Their Relationship to Concurrent Test Results. Reading was the academic area most often identified as a strength, and most of the children identified as strong in reading did have Neale-III accuracy percentiles of at least 95. Teachers did not overlook as gifted (*far above average*) those children whose accuracy scores were high, but one child whose comprehension scores were in the gifted range was overlooked. Accurate identification of reading skill is understandable, given the strong focus on establishing reading in the early years of school as a foundation skill, and these teachers, like those in Siegle and Powell's (2004) study, may have associated avid reading with giftedness. Reading is also an area in which precocity could become evident because, even if reading instruction were based well below the child's level, the typical early childhood classroom's signs and other reading matter provide opportunities for reading (although a silent reader might not be as readily recognized). Children entering school with reading skills that had been measured as advanced while at preschool were recognized as strong in reading, so it appears that none of these children hid their reading ability in ways reported by Gross (1993) and Dockett et al. (2002).

Spelling strength was not as readily recognized. While children identified as strong in spelling had spelling scores in the gifted range, some children whose scores were in the gifted range, or a little below, were not so identified. This may reflect an approach to teaching spelling commonly taken in Australia where the same spelling words are given without a pretest to all children to be learned during the week. This would effectively limit the child's opportunity to display advanced spelling skill. A lack of open-ended written activities could also limit the child's opportunity to spell words beyond those normally occurring in the grade's curriculum.

Mathematics was identified as a strength in approximately half of the children in each of the second and third years of school, yet there were children with PATMaths-R scores in the gifted range and just below who were not identified as strong in mathematics. Because PATMaths-R measures problem solving in mathematics, perhaps the teachers of these unidentified high scorers focused on other aspects of mathematics, such as computation, when assessing mathematical strength. It is noteworthy that only 2 teachers identified strength in mathematics in a child in the first year of school (kindergarten for one child and grade 1 for the other). The absence of norm-referenced data on the children's mathematical skill in the first year of school makes judgment about teacher identification of mathematical skill in that year dubious, but there were children with preschool mathematics scores in the gifted range or just below (Hodge & Kemp, 2000) who were not identified in the first year as strong in mathematics. The proportion of teachers identifying strength in mathematics in the first year might have been different if teacher data had not been lacking for some of the highest scorers in mathematics before school entry. Nevertheless, given that some parents of kindergarten children commented that their children were given mathematics tasks in school well below their level of competence, the kindergarten mathematics curriculum could have limited the children's opportunity to show their advanced skills. This reinforced the finding by Wright (1991) that the mathematics curriculum for NSW kindergarten classes was most suited to the least advanced children. In recent years, a norm-referenced test of mathematical skill in Australian children in the first 3 years of school, I Can Do Maths (Doig & deLemos, 2000), has been published. Its usefulness in detecting exceptional mathematical ability has, however, not yet been established.

The Parents' Perspective

After experiencing a year in the school environment, few parents appeared to have much confidence in the school's ability to cater well for their child. This was expressed anecdotally and, as the years passed, through gradually declining parent ratings of teacher accuracy in recognition of the child's ability and of the child's work-

ing to ability (although this latter rating might have incorporated within-child factors, as well as environmental factors). Most parents expressed some degree of dissatisfaction with the amount of challenge their child was offered, and some parents felt "bruised" by encounters with school executives or classroom teachers.

Communication between parents and school executives or teaching staff was an issue for most parents at some time or another, and there appeared to be some distrust on both sides rather than the sharing of information recommended by Roedell (1986) to benefit the child. In the current research, some parents adopted the passive approach described by Dettman and Colangelo's (1980) review, deciding not to inform the school that their child was, or might be, gifted and accepting class placement without intervention. Those who were more assertive still seemed to tread cautiously in order to avoid unpleasant repercussions for the child and themselves. This may be a result of parent perception that only one third of the informed schools were perceived to take the news of possible giftedness more than *moderately seriously* and that teacher response to parent suggestions of giftedness or of work too easy was not very encouraging of further parent input. As Plunkett's (2000b) study of Australian teachers found, there was some teacher doubt about the accuracy of the parents' judgment of their child's ability, as well as some doubt about the outcomes of formal assessments. Parents were not very confident of the teachers' accuracy either, perceiving underestimation by more than half of the teachers. Yet, children with test scores in the gifted range were more likely to be rated as *far above average* if they had been introduced as gifted, so it appeared that there were advantages in mentioning the possibility of giftedness.

That parents felt the teacher response to requests for harder work, more challenge, or appropriate reading materials was often defensive, and, as Roedell (1986) suggested can happen, resulted in teachers' pointing out the child's weaker areas without acknowledging the strengths, might have reflected the tendency noted by Baska (1989) that schools concentrate on weaknesses because they have the mechanisms for dealing with these. Perhaps the teachers worried that parents were too ambitious for their child (Hills, 1987;

Howe, 1990) or were pushing him or her to enhance their own status (Harrison, 2003).

Other possible interpretations for teacher defensiveness were that the teachers, who mostly taught mixed-ability classes or composites of more than one grade, felt overburdened by the disparate learning needs in their classes, as proposed by Robinson, Zigler, & Gallagher (2000), or were unsure just how to extend the child. Perhaps, too, the child's readiness to meet teacher expectations or wanting not to appear different to peers (Freeman, 1979; Gross, 2002) meant that he or she did not stand out in the classroom environment, and, as Roedell (1986) suggested, parents might not have understood how their child responded in a group learning situation.

Child Behaviors and Attitudes That May Have Assisted or Hindered Teacher Recognition of Giftedness

The skills and attitudes that teachers consistently nominated as strengths in children whom they perceived to be far above average, or that more often accompanied the highest rating than lower ratings, were indicators of giftedness according to the research literature. The frequencies were small, however, with no more than 6 teachers (commonly two) nominating any one behavior and 42% of teachers nominating no behavioral strengths at all. Small frequencies aside, the behaviors and attitudes that seemed to assist recognition of ability *far above average* involved language and thinking; motivation and initiative; and an enjoyment of challenge, other "bright" people, and humor. Divergent thinking, however, despite being nominated most frequently as a strength, was not associated with perceptions of ability *far above average* as often as with lower perceived levels of ability. A small proportion of the strengths did not have support from the literature as indicating intellectual giftedness, although they could indicate giftedness defined more broadly than in the current research. Advanced computing skills have not been established as an indicator of giftedness, but the depth and breadth of technological advances suggest that this area should become a focus of research. While some teachers did appear to recognize and understand behaviors indicative of giftedness, as a group the teachers did not appear to be very

familiar with behavioral indicators of giftedness, even though more than 70% reported having had professional development in gifted education. For example, it seems unlikely that the children's reasoning abilities observed by parents or the teacher/researcher before school entry in all 14 children (Hodge & Kemp, 2000) had disappeared. Yet, only 4 of the 26 teachers nominated logical thinking or problem solving as a strength. Alternatively, were the children hiding this ability, or were these early childhood classrooms not encouraging its display?

Unwillingness to comply with teacher requests was not related to teacher ratings of ability, but the general compliance with teacher requests may have masked the ability levels of children perceived to be less able or the true extent of the abilities that teachers did recognize. It was apparent from (a) the children's perceptions of what pleased the teacher, (b) their tendency to perceive that the teacher mostly knew what was easy or difficult for them, and (c) their acceptance of having to comply (if reluctantly) with teacher requests, that the children recognized the authority of the teacher. Unfortunately, the children were not asked whether they communicated their preference for easy or difficult work to their teacher. Some children may have been sufficiently confident to do so, verbally or nonverbally, while others may have hidden their true feelings and accepted the level of work given without comment, because good behavior was perceived more frequently than good work as a way to please the teacher. It is unlikely that those children who clearly preferred easy work would have let the teacher know that they were capable of harder work.

It is possible that in busy classrooms teachers make assumptions about children's learning preferences based on their observations and their experience of other children, as well as on the products of learning, without having time to test those assumptions in one-to-one interactions. Lack of opportunity or inclination for teachers to know more about the attitudes and motives of individuals in their classes (e.g., perfectionism, sensitivity to criticism) could be an issue in identification of giftedness. Information from parents could assist here, especially if invited routinely by the teacher early in the school year, because it was apparent that parents were aware of their

children's behaviors and attitudes but found it somewhat difficult to advocate on their child's behalf, especially once a problem had arisen. Also useful could be more time to observe the child in play or self-selected activities, provided that activity choices were sufficiently open-ended and stimulating and that teachers were familiar with both normal child development and the behavioral indicators of giftedness (Barbour, 1992; McBride, 1992; Shaklee, 1992).

Analysis of the relationship between kinds of perceived strengths and teacher ratings suggests that teachers rated children more frequently as *far above average* when strengths in literacy or numeracy were perceived, with or without accompanying behavioral strengths that might indicate the underlying intellectual abilities. This, along with the apparent low level of familiarity with behavioral indicators of giftedness already discussed, suggests that these teachers, like teachers in other studies (Freeman, 1979; Lee, 1999) were placing emphasis on academic achievement when making decisions about the ability levels of the children. Because lack of challenge appeared, from the perspective of some children and most parents, to be an issue, teachers' judging ability by achievement probably meant judging ability while underestimating the level of that achievement, especially because norm-referenced assessment was apparently rare.

There was more information that would have been useful from teachers, including (a) their usual assessment procedures, (b) their understanding of norm-referenced assessments (including IQ tests), (c) their concepts of giftedness, and (d) the content of professional development courses attended. On the other hand, a longer and perhaps threatening questionnaire at a particularly busy time in the school year might never have been returned.

Conclusions

Exploration from the viewpoints of teachers, parents, and children of identification of giftedness in the early years of school revealed a picture of some accuracy and some underestimation of the abilities of potentially gifted children. Teachers rated more highly the children who scored more consistently in the gifted range. Yet, even with

a selected sample that was likely to include gifted children, the effectiveness rate of teacher identification of giftedness was less than 60%, because there were nine instances where a child achieved at least one concurrent ability or achievement score in the gifted range but was not rated by his or her teacher as *far above average*. Children who were high achievers in class were usually recognized as *far above average* in ability, whereas children whose development was less even or whose abilities had not translated into academic achievement tended to be seen merely as *a little above average*. It appeared from parent and child data that some children were not assessed or taught in ways that invited them to reveal the true extent of their abilities, especially their nonverbal abilities. It also seemed that children's compliance with teacher requests might have contributed to underestimation.

The small convenience sample does not allow generalization of these findings beyond the study's participants. However, the study has highlighted the need to investigate further, with a larger and more representative sample, the effectiveness of teacher recognition of the abilities of the potentially gifted young children they may find in their classrooms. The quantity and quality of the professional development that some teachers had had was unclear, but the underestimation of some children, the minimal use of norm-referenced assessments, the variable nomination of behavioral strengths indicative of giftedness, and the reluctance to tap parent knowledge of the child suggested that it was not adequate. Because early identification of actual or potential giftedness is crucial to appropriate intellectual provisions and social and emotional support, more research is needed about how teachers in the first years of school judge the ability levels of the children in their classes.

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