CHAPTER 20

IDENTIFICATION OF STRENGTHS AND TALENTS IN YOUNG CHILDREN

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> There are hundreds of different images of the child. Each one of you has inside yourself an image of the child that directs you as you begin to relate to a child. This theory within you pushes you to behave in certain ways; it orients you as you talk to the child, listen to the child, observe the child. It is very difficult for you to act contrary to this internal image. For example, if your image is that boys and girls are very different from one another, you will behave differently in your interactions with each of them. (Malaguzzi, 1993, para. 1)

How we view young children matters. It influences ways we interact with, respond to, and predict outcomes of young children's learning. We may think about the image of young children through a metaphor of lenses—with what lenses are children viewed? Are they seen as empty vessels to be filled with knowledge, or as competent and curious human beings, ready to explore the world around them? If children are viewed as gifted, or as having potential for advanced or accelerated work, does that change the teaching of and interactions with these children? In this chapter, we focus on young children (ages 3–8, preschool–third grade), excluding, for the most part, the development of infants and toddlers. Preschool-age children enter the world of academia expected to build kindergarten readiness skills. Many preschoolers already demonstrate mastery of academics, and show the need for a different type of preschool curriculum and instruction. However, others come to preschool from homes where English is not spoken, or from homes where parents did not have enough money or time to provide enriched learning experiences (e.g., travel, visits to the library, campouts in the woods). Do teachers view students who can already read and write as more intelligent or more gifted than those who have not yet been exposed to the types of experiences that would nourish and develop literacy and mathematical thinking? How do teachers view young children who are ahead of their peers—gifted, precocious, or advanced? How do those labels impact the teachers' interactions and expectations of those students?

Views and beliefs about people matter. Having high expectations for children impacts their academic achievement, and stereotype threat can influence achievement (Steele, 2011). *Stereotype threat* occurs when people are or feel themselves to be at risk of confirming negative stereotypes about their identities. In the case of gifted students, who have identities that relate to their intelligence, the way they view their own talents and intelligence impacts not only their achievement, but their willingness to attack challenging problems and grow (Dweck, 2006). Knowing how we think about children impacts our interactions and ultimately their outcomes; therefore, we must be cautious not to project stereotypes, biases, or labels on children. Instead, we must address all children with the intent to learn about them, to connect what they know with new knowledge, and to provide learning contexts that maximize their growth opportunities.

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IMPORTANCE OF THE TOPIC: WHAT WE ARE IDENTIFYING

Early identification of ability is believed necessary to foster the development of talent, yet empirically based identification methods can be challenging to define and implement. This chapter discusses formal and informal methods of assessment that promote recognition of the strengths and talents of young children. Many children enter early childhood classrooms without the prior learning experiences that would make them successful in academic tasks that are included in kindergarten readiness programs. However, this does not mean these students do not have the ability or capacity to learn these skills. In fact, students who may lack academic readiness come to preschool with other competencies including fluency in their own language, an ability to problem solve, task persistence, creativity, social skills, and self-initiative. This chapter addresses how teachers and parents may recognize these competencies in children to provide learning experiences that build on them.

In this chapter, we provide also ways to identify the strengths and talents of young children to optimally challenge and respond to their intrinsic desire to learn and grow. We do not equate identifying strengths and talents in young children with identifying giftedness, and we do not look to find an "accurate" way to label a young child gifted—deciding on a definition of giftedness is quite arbitrary (Hertzog, 2009).

Identification of students for gifted education services has been a controversial topic in the scholarly field, as well as in American public schools (Borland, 2014). Part of the problem stems from a lack of consensus in the field, and in educational practice, on what giftedness is and how to measure it (Cross & Cross, 2005; Dai, 2010). Throughout the greater part of the 20th century, giftedness was construed as high intelligence and intelligence was generally considered a unitary construct that could be assessed through IQ tests (Dai, 2010; Newman, 2008; Sternberg, 1997). Louis Terman's work in psychometrics and longitudinal studies with high-IQ subjects was quite influential in that regard (Newman, 2008). In the 1970s, as theorists began to emphasize the multidimensional aspects of giftedness, a breakthrough federal definition emerged proposing multiple aspects of potential giftedness through the 1972 Marland Report to Congress.

Since then, the federal definition has been amended several times, most recently in the No Child Left Behind Act of 2001, which acknowledges multidimensional aspects of giftedness, such as high potential in "intellectual, creative, artistic, or leadership capacity, or in specific academic field" (p. 544). Although there is a federal definition of giftedness, no official mandate exists related to gifted identification or services (Castellano & Matthews, 2014). In the United States, the federal government has limited involvement in educational policy because of the 10th Amendment to the Constitution, which asserts that all powers not explicitly mentioned as a federal responsibility (e.g., education) are reserved for state and local communities (Ross, 1997). Therefore, it is up to the individual states to make determinations regarding gifted services and identification processes (Stephens, 2008). Definitions of giftedness and identification procedures may vary widely by state, district, and school resulting in the conundrum of children who may be considered gifted in one school system, but not in another (Borland, 2005; L. J. Coleman & Cross, 2005; Hertzog, 2009). More problematic is the overreliance of cognitive assessments to make determinations about who receives gifted education services, especially in making decisions about placement of young children, whose scores on intelligence tests are less stable (Sternberg, 1982).

Best practice suggests that any identification system used should match the adopted definition of giftedness using multiple criteria (Davis, Rimm, & Siegle, 2010; Granada, 2003; Kogan, 2001). Generally, scholars recognize that giftedness extends beyond IQ (Renzulli, 1978; Sternberg, 1997; Tannenbaum, 1986) and that there is "no precise cut[-off] score or set of characteristics that differentiate gifted from not-gifted" (Pfeiffer & Blei, 2008, p. 178; see also Pfeiffer, 2015). An overemphasis on using cognitive assessments, including achievement tests, has partly contributed

to the underrepresentation of culturally and linguistically diverse students in gifted education services (Castellano, 2002; Ford & Whiting, 2008; Gottfredson, 2003; Mun et al., in press). Worrell (2014) noted in his literature review of ethnically diverse students in gifted and talented education, that these students continue to be underrepresented, have lower achievement scores than peers, come from less affluent households, and may require more special attention for retention purposes. For young children, especially those from culturally and linguistically diverse backgrounds, intelligence scores may not accurately reflect their potential. Ultimately, gifted education services should help students to reach their full potential and have the goal of "inclusion, not exclusion" (Obi et al., 2014, p. 75).

Because of the pervasive use of standardized assessments, identification of giftedness in young children is particularly problematic. In the state of Washington, districts are mandated to start gifted education programming in kindergarten. Thus, there is an urgency to create identification systems that match best practice. By reframing the focus from identifying giftedness to identifying strengths and talents, the trait being identified is more visible and concrete, and better able to be assessed. Assessing children's strengths, deficits, and growth in all domains is the work of every early childhood educator. This chapter reframes that work so that the assessments of strengths and talents can be used to challenge young children and provide them the gifted education services and curriculum and instruction they require.

Best Practice for Assessment of Young Children

Identification of the strengths and talents of young children is intertwined with instruction and requires developmentally appropriate assessment practices as articulated by Morrison (2014). An appropriate assessment practice

- Addresses all developmental domains—physical, social, and academic; Remembers social interactions and behavior play an important role in academic achievement;
- Measures developmentally appropriate skills, learning strategies, and learning styles;
- Is conducted in *natural, authentic situations* [emphasis added];
- Is ongoing and closely related to curriculum development and program planning;
- Provides you with guidance on how to design child-centered curriculum;
- Results in information that is useful in planning children's experiences and making decisions;
- Involves parents and families and yields understandable information that is easy to relate to families and other teaching team members;
- Helps you modify environments and practices to maximize child learning; and
- Helps you identify children who need a more focused intervention. (p. 168)

Ongoing assessment for young children should be integrated into the curriculum and instruction of everyday activities, and not just performed at the beginning or the end of the year, as many referral systems seem to require. Even when identification systems are in place for young children, the dynamic nature and the asynchronous growth and development should mandate ongoing reviews of children's strengths and talents in all learning domains. Relying on standardized tests that measure intelligence, cognitive abilities, or achievement are not within best assessment practices for young children and are especially problematic to match children's academic talents and strengths with curriculum and instructional decisions needed to challenge them.

The environment plays a significant role in any child's growth and development. Children's intellectual capacity cannot be predetermined. Bronfenbrenner's (1994) bioecological model emphasized this nature–nurture relationship in his first proposition of his theoretical model:

> Proposition 1: Especially in its early phases, and to a great extent throughout the life course, human development takes place through processes of progressively more complex reciprocal interaction between an active, evolving biopsychological human organism and the persons,

> objects, and symbols in its immediate environment. (p. 38)

Children are dynamic, and all parent/child interactions, as Bronfenbrenner suggested, impact growth and development. Assessment, therefore, must be ongoing, and engage families. Parents are full partners in the education of their children and in their influence of their child's outcomes. A study on parent involvement by Galindo and Sheldon (2012) showed that parental expectations were "predictive of cognitive gains and achievement in kindergarten" (p. 101).

These findings suggest that educators need to work with parents to help raise or maintain expectations regarding children's educational attainment. In particular, Galindo and Sheldon (2012) found that parents who did not expect their children to go to college, had children who performed less well in kindergarten than those whose parents did expect their children to go to college.

The strong role that parents play in the achievement of their children suggests they are significant partners in early learning, and therefore should be part of any process designed to identify strengths and talents in young children. The home and school are environments that have the potential to boost achievement in all domains. Children who come to kindergarten with advanced academic knowledge may have been influenced heavily by their home environments; those who come with academic potential not yet realized, should be instructed with the expectation that achievement will occur.

After completing a literature review on research-based best practices for early childhood gifted education that included research about intelligence, environmental influences, curriculum and instruction for young children, and approaches to learning, Hertzog (2013) concluded that there were four practices that were no longer defensible in the field of early childhood gifted education:

1. The practice of labeling young children as gifted through standardized tests, in particular IQ tests, for the many reasons stated above, including changes in conceptions of intelligence, and what we know influences early learning.
2. The use of behavioral checklists that include curiosity, persistence, and attentiveness to label young children gifted. We know that these skills can be taught and should be part of all early childhood learning experiences.
3. The practice of separating young children—determining some are gifted and others not—does not take into account influences of early learning experiences and unwittingly serves to widen the opportunity gap.
4. Children learning English should be gaining a foundation in their first language as well as acquiring a new language. Pulling them out of instruction in their own language to attend special programs (e.g., gifted programs) should be done with caution. (p. 203)

Therefore, the system for identifying and serving young children who have demonstrated strengths and talents, as well as those whose strengths have not yet been actualized, should be designed on the basis of what we now know is best practice, and not what has typically been accepted in the field of gifted education. Young children identified for gifted education services should have ongoing and authentic opportunities to demonstrate their strengths and talents, at home and in the classroom. Teachers should engage in curriculum-based and performance-based formative (ongoing), and summative assessments to gain information about what skills children have mastered, as well as what skill on which children need to be challenged. Teachers should value information from parents—especially when that information points to mastery of skills that parents see at home and that may not be seen in an early childhood setting. The typical use of test scores to identify young children's strengths and talents should not override the important information that can be gained from parents through interviews, observations, and questionnaires.

Findings on Identification Practices by Parents

Although all sources of data from parents provide important information to guide instruction, most of the previous research related to parents being able to identify or label their children as gifted is based

on matching parent nominations to high test scores on measures of intelligence. In other words, these previous studies have equated giftedness with high scores on IQ tests. These studies consistently show that parents may be better judges of children's intellectual abilities than classroom teachers, yet parent nominations are often underused for early identification of high intellectual ability in schools. Parent identification can be a powerful predictor of high intellectual ability because parents see early patterns in speech development, literacy and numeracy habits, and writing experiences.

N. Williams and Gonzalez (1998) looked at whether parental perception of giftedness is present before children are identified, predictive of specific home environmental factors, or of children's performance on cognitive measures. They found that parent perceptions about giftedness were present before children were identified as gifted and were mainly influenced by one specific home environmental factor: the father's level of education.

Louis and Lewis (1992) acknowledged that although some parents may believe their preschool children to be gifted, little is known concerning those implicit beliefs. The data showed that parental beliefs were associated with their children's IQ scores, suggesting that parents were accurate in their judgments of their children's ability level as measured by those tests.

In a longitudinal study, Worthington (2001) emphasized that parents were the best source of information about their children's abilities. Worthington's (2001) results show that "parents made significantly accurate estimates of their own child's verbal and performance intelligence relative to the child's measured intelligence" (p. 2). This finding supports earlier indications that parents may be accurate sources of information when looking for children who demonstrate high scores on measures of intelligence.

In the literature, there are numerous checklists of characteristics of gifted children and behaviors that may indicate gifted potential, and parents should look for these in their children. It should be noted, however, that the home environment influences these characteristics. Children who have exposure to books, puzzles, and enriching experiences have a stronger foundation for learning. In the Head Start Child Development and Early Learning Framework, five behaviors comprise the approaches to learning domain: initiative, curiosity, persistence, attentiveness, and cooperation. These dispositions can be modeled and taught. Research shows that developing positive approaches to learning at home may be even more critical than at school, affecting long-term academic achievement (Chazan-Cohen et al., 2009; Domínguez, Vitiello, Fuccillo, Greenfield, & Bulotsky-Shearer, 2011; Hindman & Morrison, 2011; Iruka, 2008; Walker & MacPhee, 2011). Children's initiative, curiosity and task persistence are not innate and do not determine giftedness, although they are commonly thought to be traits of gifted children. According to Muzzo and Hertzog (2013), "Positive approaches to learning are critical to achievement and academic success, and they can be mediated by parent and teacher behaviors" (p. 3).

The literature that supports parents as key to identifying giftedness in their young children is also the research that defines giftedness as students who score in the top percentages on an IQ test; a definition that is refuted in many conceptions of giftedness (Marland, 1972; Mcclain & Pfeiffer, 2012; Perkins, 1995; Renzulli, Reis, & Smith, 1981).

During the 2012–2013 school year, the National Association for Gifted Children (NAGC) conducted their biennial review of national gifted education policies and status of funding through the State of the States in Gifted Education survey. They found that 18 out of 38 responding states listed IQ scores as one of the indicators required for identification for their gifted programs, 16 listed achievement data, and 14 listed a range of state-approved assessments from which individual districts could select (NAGC, 2013). McCall, Appelbaum, and Hogarty's (1973) research indicates that the IQ scores of young children do not remain stable over time. So, it is concerning that nearly half of the responding states rely on IQ data for the identification of their students for gifted programs. In their longitudinal study, McCall et al. (1973) found a change of 28.5 IQ points in the average child's score from ages 2.5 to 18, in addition to a significant change in scores at age 6, which they attributed partially to the

beginning of formal education. These shifts in scores are also mirrored in other commonly used cognitive assessments (Lohman & Hagen, 2002; Riverside Publishing Company, 2013).

RELEVANT THEORY AND PRINCIPLES: COMMONLY ADMINISTERED STANDARDIZED INSTRUMENTS

On the basis of this data, it is clear that many districts across the nation still use cognitive assessments to make gifted program placement decisions. Although we do not recommend cognitive assessments to determine giftedness or placement solely on the performance outcomes of these standardized tests, it is important to fully understand their strengths and weaknesses as they relate to young children. In the next section, we provide an overview of the most recent versions of three commonly administered standardized instruments in the identification of giftedness: the Wechsler Intelligence Scale for Children, the Cognitive Abilities Test, and the Naglieri Nonverbal Ability Test. We present information on test development, reliability and validity, and discuss strengths and weaknesses of these assessments, especially when used with young children (ages 5–9). We chose to include the Naglieri Nonverbal Ability Test because it is often used to identify culturally and linguistically diverse children. Educators should consider the following information carefully as they make decisions regarding gifted identification for young children.

Wechsler Intelligence Scale for Children

Test development. The Wechsler Intelligence Scale for Children, Fifth Edition (WISC–V; Wechsler, 2014) and the Stanford–Binet Intelligence Scales, Fifth Edition (Roid, 2003) are two well-known intelligence batteries used for identification of children in gifted education. The previous edition, the WISC–IV, was the most frequently used battery by school and clinical psychologists for gifted identification (Newman, 2008; Rowe, Dandridge, Pawlush, Thompson, & Ferrier, 2014), and it is very likely that the WISC–V will also be widely used for this purpose.

David Wechsler, a student of Charles Spearman and Karl Pearson, created the Wechsler series of tests, including the first WISC (Kaufman, Flanagan, Alfonso, & Mascolo, 2006). These tests were originally designed to gather clinical information from participants (Kaufman et al., 2006). The WISC–V, published in 2014, consists of 21 subtests, seven of which contribute to the full scale IQ, and is for use with children and adolescents between the ages of 6 and 16 (Pfeiffer, 2015). The WISC–V has been revised to include an additional factor, expanding on the original four-factor model (Chen, Zhang, Raiford, Zhu, & Weiss, 2015), which include verbal comprehension, visual–spatial reasoning, fluid reasoning, working memory, and processing speed (Chen et al., 2015; Pfeiffer, 2015), and have been normed with representative samples.

Reliability and validity. Although internal consistency of the WISC–V has been found to be excellent (Pfeiffer, 2015), with reliability estimates for composite scores ranging from 0.88 to 0.96 (Chen et al., 2015), there is limited research on reliability and validity measures because of the relative newness of this version. Previous versions of the Wechsler tests, however, have demonstrated high measures of reliability and validity over time. The WISC–IV composite scales had reliability coefficients that ranged from .88 to .97, which are fairly high, and test–retest coefficients that were stable across time (P. E. Williams, Weiss, & Rolfhus, 2003). Information about structural validity across age was not reported (Kaufman et al., 2006). Several studies have examined the concurrent validity of prior versions of the WISC and Stanford–Binet tests and found moderate to high correlations with a range of .68 to .88 (Lavin, 1996; Rust & Lindstrom, 1996; Wilson & Gilmore, 2012). However, in one recent study, Wilson and Gilmore (2012) found evidence to suggest that there were significant differences between full scale IQs on the WISC–IV and the Stanford–Binet test, with a trend toward higher scores on the WISC–IV, leading to conclusions that these two tests may not necessarily be interchangeable.

Strengths and weaknesses. Young children can develop rapidly in different cognitive areas; so, one

major concern of using IQ tests at a young age is the reliability of test scores over time. Although the WISC–V has reported fairly high test reliability coefficients overall, there is not as much data specifically for young children. An early study by Honzik, Macfarlane, and Allen (1948) found relatively low correlations on the stability of intelligence test scores at early ages. For example, IQ tests at age 2 and 5 correlated only slightly ($r = .32$), but increased noticeably when children's ages increased such as from 9 to 12 ($r = .95$). Similar results were found in another study of young children (Sontag, Baker, & Nelson, 1958). Ellzey and Karnes (1990) examined the test–retest reliability of the WISC–R, for 46 first graders enrolled in gifted programs and found no significant differences in test scores after 1 or 2 years. However, they recommended further testing be done because of their small study sample. They may not have found much difference because their sample was older and the time between testing shorter, as compared with the earlier studies. Siegler and Richards (1982) remarked on the "relative instability of very young children's intelligence test scores" (p. 906) and offered two possible explanations for that instability: (a) younger children start out with a smaller body of knowledge and external factors impact them more (e.g., missing school for several weeks) relative to older children who possess more knowledge to tap into, or (b) different skills are assessed in very young children as compared with older children, so there is less consistency when they take IQ tests at an older age.

The Cognitive Abilities Test, Form 7

Test development. The Cognitive Abilities Test (CogAT), created by David Lohman (2002), is one of the most widely administered assessment of reasoning abilities for K–12 students, and is often used in identification for gifted education services. It measures developed, not innate, abilities of students and is therefore not considered an IQ test, although latent factors for the verbal section of the CogAT–6 correlated highly ($r = .87$) with the verbal scale in the WISC–III (Lohman, 2003). The CogAT was originally published in 1954 as the Lorge-Thorndike Intelligence Test and has since undergone multiple revisions (Lohman, 2003). The most recent version, the CogAT–7 (Lohman, 2011), includes revisions to make it more accessible to English language learners (ELL) and contains more similarities between the versions for kindergarten to third grades and fourth to 12th grades (Warne, 2015) when compared with previous versions.

In a guide for teachers, Lohman (2002) outlined three major ways the CogAT test scores could be used. First and foremost, scores could provide helpful information about students' needs and abilities which teachers could then use to adapt instruction. Second, scores could give more detailed information about the cognitive ability of students—information not typically provided by school grades or achievement tests alone. For example, the CogAT is often used to identify students for academically gifted education. However, students who perform in the top 3% of the CogAT do not necessarily perform in the top 3% of the Iowa Tests of Basic Skills achievement test. Contrary to expectations, Lohman (2002) pointed out that "the lower the students' scores on an achievement test, the greater the probability that their CogAT scores will be at significantly higher levels" (p. 2). Finally, CogAT scores could be used to identify students whose academic performance was markedly different (either much lower or much higher) than expected on the basis of their ability scores. If much lower, students should be checked for other issues such as vision or hearing problems, developmental delays, or learning disabilities.

The original goal of CogAT was to measure children's ability to use and manipulate relationships, abstract and symbolic, in the areas of verbal, quantitative, and figural/spatial systems (Lohman, 2003). After several important revisions, the more recent editions make explicit the connection between the test structure and cognitive ability models. The three major test batteries (verbal, quantitative, and nonverbal) that comprise CogAT–7 (Lohman, 2012) correspond with the three reasoning abilities (sequential, quantitative, and inductive) present in Carroll's (1993) general fluid reasoning factor (Warne, 2015).

Reliability and validity. The norm sample had high score reliability overall with split-half

correlations that ranged between .80 and .92 for the verbal, quantitative, and nonverbal scores, with scores lowest for kindergarteners and highest for older students (Warne, 2015). Two studies examining concurrent validity found correlations of at least $r = .51$ with the Naglieri Nonverbal Ability Test, Second Edition (NNAT–2; Naglieri, 2008), and one study of 25 first graders found correlations of .76 with the WISC–IV (Warne, 2015). The CogAT–7, which was conormed with the Iowa Assessments, has fairly high correlations with that assessment, ranging from .40 to .85 (Lohman, 2012).

Strengths and weaknesses. The CogAT is well-researched with a solid theoretical basis, has a large, representative standardized sample size, is strongly correlated with the Iowa Assessments, and has a sound rationale for having a nonverbal reasoning section, as opposed to a spatial section (e.g., increased opportunities for girls and ELL students). The revisions in CogAT–7 to make the test more fair and accessible to ELLs are particularly admirable (Warne, 2015). However, the CogAT lacks research on reliability and validity over time and the instructional recommendations made on the basis of test results lack sufficient empirical evidence to support such recommendations (DiPerna, 2005). Because CogAT–7 is new, more research is required to strengthen its validity (Warne, 2015). Finally, the primary edition tests (kindergarten–second grade) must be interpreted with caution because younger children have less reliable test scores. The Riverside Publishing Company (2013) acknowledged that significant changes in scores have been known to occur between kindergarten and first grade. Additionally, they write, "for 10% of the students, their standard age scores will change more than 10 points" (p. 61), and that this 10% tends to be the youngest students and those with extreme scores. On the basis of this data, the sole use of IQ scores or cognitive assessments to identify strengths and talents in the very young appears questionable, particularly when these scores are used by school districts that have identification policies to screen out potential beneficiaries of gifted programming options. Test scores are only one source of data that educators must carefully consider when making decisions about placement in gifted programs.

The Naglieri Nonverbal Ability Test

Test development. The Naglieri Nonverbal Ability Test (NNAT; Naglieri, 1997), created by Jack A. Naglieri, is a brief nonverbal assessment of general ability for children and adolescents from kindergarten through 12th grade. The NNAT, along with its most recent version, the NNAT–2 (Naglieri, 2008), has been widely used as a screener for consideration of students into gifted and/or talent development programs (Giessman, Gambrell, & Stebbins, 2013). Nonverbal tests have the purported advantage of minimizing cultural and linguistic bias (Naglieri, Booth, & Winsler, 2004; Naglieri & Ford, 2003) and expanding the scope of assessment for young children in kindergarten through second grade (Lohman & Gambrell, 2012). More specifically, the NNAT and NNAT–2 have minimal verbal directions and were purposefully designed so that an individual could successfully complete the assessments without the need to read, write, or speak (Rojahn & Naglieri, 2006).

Reliability and validity. The NNAT–2 has Kuder-Richardson 20 internal reliability coefficient for kindergarten to second grade levels that ranged between .84 and .92, with standard errors of measurement between 4.79 and 6.36 (Giessman et al., 2013). Concurrent validity has been found to be .69 with the Otis-Lennon School Ability Test, Eighth Edition, for second grade, and between .61 and .70 for the Stanford Achievement Tests, Tenth Edition for kindergarten through second grade (Giessman et al., 2013). There has been some support for use of the test with African American, Hispanic, and Asian children (Naglieri & Ronning, 2000), and in one study of Italian third through fifth grade students, the concurrent and predictive validity coefficients of the NNAT and Raven's Colored Progressive Matrices were found to be moderate (Balboni, Naglieri, & Cubelli, 2010).

Strengths and weaknesses. The NNAT and NNAT–2 have been referred to as "culture fair" tests (Naglieri, 2008; Naglieri & Ronning, 2000)

because of their nonverbal content. Several studies have found smaller differences in test scores between White and minority students (Naglieri & Ford, 2003; Naglieri & Ronning, 2000) providing additional support for their use with culturally and linguistically diverse populations. However, the NNAT and NNAT–2 have also faced their share of criticism. Lohman (2005) questioned the representativeness of the norming sample used, especially of the ethnic subgroups where Black and Hispanic students were more likely to be drawn from high socioeconomic status families, as compared with the White students. In a critical comparison of the Raven Standard Progressive Matrices, NNAT, and CogAT–6, Lohman, Korb, and Lakin (2008) found that ELL students in kindergarten to second grade performed particularly worse on the NNAT, and that across all grades, the standard error of measurement for the NNAT was generally two times as large of that as the Raven Standard Progressive Matrices or the CogAT–6, raising questions about test reliability. Overall, ELL students did not fare as well as their non-ELL counterparts, typically scoring between .5 to .7 standard deviations lower on all three tests. In a more recent study of 2,072 kindergarteners who took the NNAT, low socioeconomic status children were half as likely to be identified for gifted programs as other children based on a 90th percentile district cut-off score, indicating that nonverbal tests do not necessarily "level the field" (Carman & Taylor, 2010, p. 75) for students. In light of their findings, Carman and Taylor (2010) recommended that nonverbal ability tests be used in conjunction with multiple measures for identification purposes. Districts should include multiple sources of data to determine appropriate educational services for students from all populations (Borland, 2014; Davis et al., 2010; Pfeiffer, 2015; Siegle et al., 2016).

TEACHER INPUT: CHECKLISTS, RATING SCALES, AND ALTERNATIVE ASSESSMENTS

Identification systems that use multiple measures to identify students for gifted programs generally include measures of cognitive ability, measures of achievement, and some teacher input. How much emphasis is placed on each of these different sources of information depends on the school district and the design of its gifted program. Although the identification procedure is supposed to match programming, most gifted identification systems rely on measures of cognitive abilities. Teacher nominations are mostly in the form of teacher checklists—often subjective responses to behaviors that are "typical" characteristics, many of which can be taught within the early years, as noted previously. Additionally, alternative assessment procedures that include performance-based assessment and portfolio assessment "hold considerable promise as part of a comprehensive gifted identification protocol" (Pfeiffer, 2015, p. 114).

Rating scales to assess and interpret or indicate children's mental abilities and potential in various forms have been developed since the early 1970s. The Gifted Rating Scales (GRS; Pfeiffer & Jarosewich, 2003; Pfeiffer & Petscher, 2008; Pfeiffer, Petscher, & Jarosewich, 2007) measure giftedness through teacher evaluations. For children in preschool and kindergarten, the GRS–P (preschool–kindergarten, ages 4 years, 0 months–6 years, 11 months) evaluates giftedness on five scales: intellectual ability, academic ability, creativity, artistic talent, and motivation. The GRS–S (first grade–eighth grade, ages 6 years, 0 months–13 years, 11 months) includes a sixth scale—leadership. The GRS has undergone critical peer review and extensive international research since it was published in 2003. It was found to perform well in identifying intellectually gifted students based on IQ scores, and is used as a screening instrument in hundreds of school districts (Pfeiffer, 2015). Combining GRS teacher ratings and cognitive ability test performance scores results in being able to categorize students into four categories of giftedness: high ability and can benefit from a gifted program; high intelligence but may or may not benefit from a gifted program; highly capable but may miss the IQ cut-off score; and good students who might not be considered gifted (Pfeiffer, 2015).

Jarosewich, Pfeiffer, and Morris (2002) assessed three popular teacher rating scales: Gifted and Talented Evaluation Scales (Gilliam, Carpenter, & Christensen, 1996), Gifted Evaluation Scale, Second

Edition (McCarney & Anderson, 1989), and Scales for Rating the Behavioral Characteristics of Superior Students (Renzulli, Smith, White, Callahan, & Hartman, 1976; Renzulli et al., 1997). They stated that the practice of identifying gifted students in schools typically centers on assessing intellectual and academic abilities, and rarely identifies the other areas of giftedness. But they found that the six scales of the GRS supported the federal definition of giftedness, which conceptualized giftedness as extraordinary intellectual and academic ability and high performance capability in creativity, the arts, and leadership. In summary, standardized checklists and rating scales may provide accurate information related to children's growth and development at the time that teachers complete them.

BUILDING INDIVIDUAL PORTFOLIOS

For young children, rating scales do not reveal dynamic growth and development. They yield static information that may be true in the early fall, and suddenly change with an enriching and motivating classroom environment. For example, young children's growth is often asynchronous, and may not reflect the uneven and unpredictable growth in all domains of early childhood development. Some children may read 2 or 3 years above grade level, but may not have the fine motor skills to hold a pencil. Other children may have advanced and sophisticated mathematical reasoning abilities, but may not yet be able to read. Once they enter kindergarten, their literacy skills grow quickly and over other developmental stages. Assessing them in early fall would not necessarily be an accurate judge of their potential.

Teacher input is critical, but because learning is so different and uneven for every child, assessment needs to be more ongoing and dynamic. Helm, Beneke, and Steinheimer (1998) suggested that documenting children's learning experiences is a form of ongoing authentic assessment, that when used in conjunction with a work sampling system (Meisels, Jablon, Marsden, Dichtelmiller, & Dorfman, 2001), it gives teachers and parents a "comprehensive and developmentally appropriate picture of what children can be expected to know and do across all domains of growth and learning" (p. 3). Documentation in early childhood classrooms is used not only to record student growth and progress, but also to improve instruction. Bredekamp (2014) defined assessment as the "ongoing process of gathering evidence of children's learning and development for informed decisions about instructional practice" (p. 342). When teachers review students' responses to activities, they are more informed to shape, modify, and individualize instruction to provide optimally challenging learning experiences. According to Bredekamp (2014), "In practice, formative assessment is so closely linked to teaching and curriculum that teachers may not even recognize it as assessment" (p. 343). Helm et al. (1998) listed many types of documentation:

- Narrative for adults
- Narrative by/for children
- Narrative for display
- Teacher journal
- Staff dialogue notes
- Individualized portfolio items
- Core portfolio items
- Developmental checklists
- Verbal language products
- Written language products
- Pictures
- Webs/lists
- Music and movement
- Constructions
- Statements of dispositions
- Reflections on webs
- Tape recordings of self-reflections (p. 137)

Documentation enables teachers to identify meaningful learning experiences and capture instances where students gain deeper clarity and understanding. In particular, by recording students' preconceptions, they see students' conceptual growth and progress, as well as their dispositions to inquire, pursue answers to questions, and develop positive dispositions toward learning. Recognizing young children's emergent cognitive abilities (e.g., problem solving, finding patterns, organizing data) requires teachers to be active learners and researchers themselves. They must design the environment to provoke higher-level thinking, and

then be recorders and documenters so that students themselves can see their changing ideas and growth in all learning domains. For example, observing how young students play with pattern blocks over time may illuminate differences in the way some students develop complex, symmetrical, and sometimes three-dimensional designs. If students have opportunities to pursue their own questions by gathering their own data, teachers may observe their ability to collect, organize, and synthesize their data and findings. For example, documenting a project investigation on the Tallgrass Prairie in Illinois revealed young children's growth in conceptual understanding (Burns, Chi, & Hertzog, 2008). Borrowing from the practices of the schools in Reggio Emilia, Italy, teachers should adopt the "pedagogy of listening." This is a metaphor for getting to know their students, and observing their verbal and nonverbal behaviors that inform them about their students' growth and learning experiences.

Building a portfolio requires systematic documentation of growth in all learning domains. This is most easily achieved if the documentation is embedded in the everyday instruction of the classroom. Creating portfolios is not a new idea. Wright and Borland (1993) presented a rationale for a portfolio approach, particularly for early identification in the field of gifted education. They described the components of the portfolios designed to document the growth of potentially gifted children. Portfolios may be filled with work samples that demonstrate the ongoing dynamic growth of young children. Emergent curriculum models such as the Project Approach, or Reggio Emilia–inspired classrooms promote opportunities for students to reveal their interests and demonstrate their creative and higher-level thinking in challenging investigative work. These types of learning environments create the context for nurturing, developing, and documenting strengths and talents in young children.

Performance-based learning tasks are also promoted for identifying behaviors in young children that are not easily seen with standardized tools of measurement. Several performance-based learning systems are tied to specific curriculum for identifying underserved children, including young children. Performance-based assessments that have had considerable study include the DISCOVER Project, which focuses on eliciting and nurturing students' problem solving skills (Maker, 2005); Project U-STARS-PLUS: Using Science, Talents and Abilities to Recognize Students—Promoting Learning for Underrepresented Students (M. R. Coleman, Shah-Coltrane, & Harrison, 2010), which connects directly with an investigative project-based science curriculum; and Project Athena (VanTassel-Baska et al., 2003), which incorporates classroom observation and student observation into the curricular projects developed by the College of William and Mary as part of their grants from Jacob K. Javits Gifted and Talented Students Education Program. In these performance-based assessment tools, teachers who were trained to use the assessments and implement the curriculum found more students (often from the underrepresented groups) who qualified for their gifted education services than what districts used prior to using the nontraditional performance-based tasks. These tools specific to curricular implementation reinforce the notion that teachers create the contexts for students to develop their creative and critical thinking.

SUMMARY AND CONCLUSIONS

The gifted education literature is filled with statements about the importance of early identification. Dowdall and Colangelo (1982) argued for a commitment to, and a focus on early identification of young children because the programs they reviewed consistently reported ineffectiveness of interventions later in school. Kuo, Maker, Su, and Hu (2010) claimed that gifted children must be identified and placed into appropriate programs early to improve the likelihood that they will fully develop their potential throughout their youth and into adulthood. If children do not receive adequate challenge in their formative years, students can begin to develop negative feelings toward school that can lead to underachievement. Therefore, it is important to recognize the need to address students' strengths and talents early.

Standardized measures of achievement or cognitive abilities should not be the only ways young children are identified for gifted programs or services.

Best practices for identifying strengths and talents in young children begin with the image of children as a competent, curious, and engaged learners. Teachers should develop the skills to implement pedagogies that create optimal environments for highlighting and developing students' strengths. The Primary Talent Program (kindergarten–second grade) in Maryland is one example of an early childhood gifted program that illustrates the importance of curriculum and instruction as a critical mediator of talent development. The goals of the Maryland program are as follows:

1. Provide opportunities for all children to develop and demonstrate advanced learning behaviors including children from groups underrepresented in advanced programs.
2. Build a profile of student strengths over time, prekindergarten to second grade, which can be used to document the need for differentiated instruction and gifted and talented education.
3. Provide models of the essential learning strategies of analyzing attributes, questioning and creative problem solving which are transferrable to new learning situations. (Maryland State Department of Education, 2015)

Smutny, Walker, and Honeck (2015) emphasized the important role that teaching strategies such as compacting curriculum, differentiating curriculum, and documenting student development play in helping to identify young students with high ability. There is an important relationship between instruction and talent development, especially in young children. In summary, best practices in identifying and programming for young gifted children include the following:

- Identify strengths in young children with ongoing assessment to inform instruction because young children are moving targets, and develop asynchronously.
- Redefine what is meant by a gifted program. Gifted services include professional development for teachers, and programs for parents to help them nurture their children at home.
- Focus resources on professional development for teachers because they are key to developing learning contexts where students can be engaged and challenged.
- Focus on environments where children are appropriately challenged, and document students' experiences within that environment that show continuous growth and in-depth learning.
- Develop and maintain ongoing positive relationships with parents because they know their young children and may provide teachers with insights on how to connect their schemas from home to the learning environment in school.

It is important to provide challenging and appropriate instruction to all students. For young children who may not have had prior academic experiences, it is also important to provide the learning environment that gives them those enriching learning experiences where their strengths and talents can grow and be nourished into deep passions and interests. The belief that all children are intelligent truly impacts how they will be served, not only in preschool and kindergarten, but well into their school careers and their future lives. Malaguzzi's (1993) image of the child matters and guides best practice in identifying and nurturing the talents of all children: "It's necessary that we believe that the child is very intelligent, that the child is strong and beautiful and has very ambitious desires and requests. This is the image of the child that we need to hold" ("Building Strong Images," para. 5).

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