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Highlights of the *BRIGANCE® Screens*

- ☞ Are designed for children from birth through the end of the first-grade year (seven years, six months).
- ☞ Can be administered and scored in about fifteen minutes.
- ☞ Sample children's skills in a broad range of areas including fine and gross motor, general knowledge, language, preacademic/academic, graphomotor development, and in very young children social-emotional and self-help skills.
- ☞ Use a criterion-referenced approach to screening in that, for most items, a complete sample of skills is measured (e.g., knowledge of all letters in the alphabet, shapes, colors, etc.).
- ☞ Produce results that can be easily translated into instructional objectives. *BRIGANCE Screen* items can be linked to items on the *BRIGANCE Inventory of Early Development—Revised (IED-R)* in order to assist with further assessment and programming.
- ☞ Can be used to identify a student's strengths and weaknesses in order to determine what kinds of additional evaluations are needed (e.g., psychoeducational, speech-language, occupational/physical therapy, etc.).
- ☞ Include teacher's, examiner's, and parent's rating forms that, combined with direct assessment, can provide broad background information, which is important when making focused referrals.
- ☞ Offer norm-referenced interpretation by enabling children's performance to be compared with that of other children across the country.
- ☞ Are easily scored by assigning a point value to each skill assessed. Total points for skills demonstrated can be compared with a cutoff score.
- ☞ Identify children with possible language and learning problems.
- ☞ Identify children with possible academic talent and intellectual giftedness.
- ☞ Include *BRIGANCE Screen* Growth Indicators to facilitate use of the measure as a pretest and post test systemwide, to monitor growth and learning across school years, and to monitor individual, class, and systemwide progress.
- ☞ Have separate scoring forms for each six-to-twelve-month age/grade interval. These *Data Sheets* are provided in triplicate for ease of recordkeeping and sharing results with school administrators.
- ☞ Include prompts for optional behavioral observations, and supplemental rating forms for parents and teachers. These assist in holistic screening of children's development.
- ☞ Include directions in Spanish and other languages for use with children who are bilingual or who do not speak English at home.
- ☞ Have a high degree of accuracy in detecting children with difficulties: Almost 75% of children with difficulties can be identified while almost 80% of children without difficulties perform above the cutoff. These clearly approach standards for screening tests (Squires et al. 1996).
- ☞ Used in combination with teacher/examiner ratings, can correctly identify almost 75% of gifted and academically talented children.
- ☞ Have a set of at-risk guidelines for use in prevention programs such as Head Start in order to discern which children need prompt referrals.
- ☞ Have been standardized on 1,972 children who were stratified on the basis of ethnicity (including Hispanic and African-American), geographic location, and socioeconomic status.
- ☞ Have a high degree of internal consistency and test-retest and inter-rater reliability.
- ☞ Correlate highly with criterion measures of academics and intelligence, and of language, social, and motor skills.
- ☞ Produce quotients, percentiles, and age-equivalent scores for systems requiring normative results.

Child Development and Its Measurement

An understanding of the nature of child development and how it is enhanced or deterred, provides an essential background for appreciating the value of developmental screening and the use of the *BRIGANCE® Screens*.

- 1) Development is *malleable*, meaning that it is easily influenced by environmental forces. Children who are surrounded by adults who talk *with* them and respond to their interests will have higher levels of achievement and better success in school than children without such stimulation. For this reason, developmental progress can be facilitated by (a) helping parents learn how to parent, and (b) providing quality early intervention or prevention programs for at-risk children (Gallagher and Ramey 1987).
- 2) Development occurs via a *transaction* based on the interplay between children's *nature* and the *nurture* they receive. Nature refers to children's developmental skills, temperaments, and personality, while nurture refers to the skills of caretakers, their temperaments, and personalities. The transactions between nature and nurture are ideally a process of "mutual regulation." Caretakers are expected to modify and guide children's behavior but children's behavior should also modify and guide caretakers' responses. For example, when a child has a behavior problem, its causes reside not just with the child and not just with the quality of parenting, but also with how the child's behavior modifies the parents' responses and vice versa (Sameroff et al. 1987). Thus, a search for the reasons behind developmental strengths and weaknesses should be comprehensive and include the child's characteristics, the caretaker's behavior, and the interaction between them.
- 3) Development has *age-related manifestations*. Certain skills tend to become visible as children grow. For example, speaking in sentences does not usually occur until the second year of life or later. Similarly, children do not typically have the prerequisites to learn letter sounds until their sixth year of life, i.e., kindergarten age. This means that it is difficult to detect certain kinds of developmental problems at certain ages (e.g., language problems in a child younger than twelve months or learning disabilities in a prekindergarten-age child). This also means that children who may appear to be developing normally at one age may, due to poor or absent skill development, appear delayed or disordered at a later age (Bell 1986). Thus, repeated developmental screening is essential.
- 4) Every child has an increasing risk of disabilities. Due to development's malleability and age-related manifestations, the prevalence of disabilities rises with age: only 1%–2% of children between birth and two years of age are found to have developmental problems, a figure that increases to 8% when two- to five-year-olds are added. For the entire developmental period between birth and twenty-two years, rates range from 11.8% (when using U.S. Department of Education data) (Algozzine and Korinek 1985) to 16.8% (when assessing consecutive samples of students in public schools) (Yeargin-Allsopp et al. 1992). If children with significant emotional and behavioral problems are included, rates swell to 22% (Zill and Schoenborn 1990). Finally, an additional 8%–10% of children have significant deficits in achievement or other developmental areas but do not qualify for special services (e.g., those who are slow learners with intelligence quotients and achievement scores between 74 and 80—fourth to ninth percentiles). Many of this group are at-risk due to psychosocial disadvantage. Thus, it is to be expected that 20%–25% of preschool children will perform poorly on developmental screening tests and require either prevention programs or additional evaluations and special services.

- 5) Some domains of development are better predictors of success in school than others. Language and achievement are the two strongest predictors, while gross-motor and self-help skills are the least strong predictors. This means that measures of development and school readiness must sample heavily both expressive and receptive language and preacademics while they sample more lightly the skills in other domains (Walker et al. 1994).
- 6) Children manifest skills variably and inconsistently, particularly when a skill is newly emerging and hence not fully mastered. Typically, this means that children may not demonstrate new skills in unfamiliar settings or in response to unfamiliar commands (e.g., they may be able to count when told “Count the . . .” but may not be able to respond when asked, “How many . . .?”). Because emerging skills are the best starting point for instruction, it is important for developmental tests to identify skills that are not fully mastered. For this reason, tests must have standardized procedures for administration (wherein examiners cannot reword questions or provide prompts) and preferably techniques for identifying, but not giving credit for, inconsistently demonstrated skills. By contrasting standardized administration with information such as parental report, and by probing but not crediting emerging skills, discrepancies in skill mastery can be easily identified for optimal instructional planning (Dworkin and Glascoe 1995).

Rationale, Definition, and Uses for Developmental Screening

The above six tenets of child development strongly suggest the need for continued monitoring of children’s development and their environments. This is, in fact, the wise recommendation of many professional groups such as the American Academy of Pediatrics, which prompts pediatricians to assess development at each of the twelve well-child visits regularly scheduled between birth and five years of age. Similarly, education associations call for at least annual, if not more frequent, evaluation of children’s skills and progress.

A second rationale for careful monitoring of development is that it is the first step in identifying children who need early intervention or prevention services. Early intervention with children who have special learning needs helps ensure the realization of their potential and their success with critical life tasks. It decreases the need for intense and expensive services, maximizes potential, and improves adult functioning. For young children at-risk for school failure due to psychosocial disadvantages, early prevention can positively alter developmental status, contribute significantly to success in school, and improve future adult functioning (Barnett and Escobar 1990). For children who are intellectually gifted or academically talented, early intervention promotes motivation, task persistence, self-worth, and standards of excellence during a critically formative period (Karnes and Johnson 1986). The tremendous positive impact of early intervention and prevention on children’s current and future development provides compelling justification for detecting emerging difficulties and strengths as early as possible.

The task of monitoring development usually falls on screening tests—brief measures used to sort those who *probably* have difficulties or great strengths from those who *probably do not*. Those with probable problems or gifts are then referred for more extensive diagnostic workups and, if diagnosed, to intervention (e.g., speech-language therapy, enrichment, resource, or other special education services).

Because screening tests are used to nominate children for further assessment, it is essential that they be as accurate as possible. Failure to detect children with true difficulties means they may not receive needed intervention or receive only belated services after their problems have worsened. Inaccurate identification of normally developing children wastes precious diagnostic resources and is stressful to families who must worry unnecessarily about their children's progress.

In addition to early detection, screening tests may be used to monitor progress of individuals, classrooms, and entire school systems. Screening tests are also used to determine eligibility for remedial programs such as Title 1 Reading and Math. They also help identify children who need assistance mastering English as a second language. Finally, screening tests are often helpful for initiating curricular planning by identifying areas of development that require further assessment for educational programming.

Rationale for Development of the *BRIGANCE*[®] Screens

Albert Brigance, the author of the *BRIGANCE Diagnostic Inventory of Early Development (IED)*, which is a comprehensive criterion-referenced measure of developmental skills, received numerous requests from school personnel to develop a screening test to accompany the *IED*. Many systems were using selected subtests as screens and needed guidance on which were the better predictors of school success. In response to these requests, the *BRIGANCE Screens* were developed. The *Screens* were carefully designed to address the numerous uses of screening-test data. The goals of the *BRIGANCE Screens* are: (1) to identify children who may have language, learning, or global developmental problems; (2) to identify children who may have academic talent or intellectual giftedness; (3) to provide teachers with individualized information about pupil performance in order to facilitate curricular planning; and (4) to assist professionals in monitoring selected aspects of children's progress over time (e.g., beginning and ending of the school year, annual check-ups, pre- and post-testing, etc.).

The *BRIGANCE*[®] Screens Basic Assessments and Ages at Administration

The *BRIGANCE Screens* consist of four separate test books.

The *BRIGANCE Infant & Toddler Screen* includes Basic Assessments for screening children within the following age ranges:

- **Infant** (for children from birth through eleven months of age)
- **Toddler** (for children from twelve months through twenty-three months of age)

The *BRIGANCE Early Preschool Screen* includes Basic Assessments for screening children within the following age ranges:

- **Two-Year-Old Child** (for children from one year, nine months through two years, two months of age)
- **Two-and-a-Half-Year-Old Child** (for children from two years, three months through two years, eight months of age)

The *BRIGANCE Preschool Screen* includes Basic Assessments for screening children within the following age ranges:

- **Three-Year-Old Child** (for children from two years, nine months through three years, eight months of age)

☉ **Four-Year-Old Child** (for children from three years, nine months through four years, eight months of age who are either beginning prekindergarten or ending their last year of preschool). For schools using the *BRIGANCE Screens* systemwide, the Four-Year-Old level may be administered to children above four years, eight months of age, although use of the age-appropriate Basic Assessments is preferred.

The *BRIGANCE® K & 1 Screen* includes Basic Assessments for screening children within the following age ranges:

☉ **Kindergarten Child** (for children from four years, nine months through five years, eight months of age who are ending their prekindergarten year or beginning kindergarten). For schools using the *BRIGANCE Screens* systemwide, the Kindergarten level can also be administered to children above five years, eight months of age although use of the age-appropriate Basic Assessments is preferred.

☉ **First-Grade Child** (for student five years, nine months of age or older who are either ending kindergarten or beginning first grade)

☉ **End-of-First-Grade Child** (for students ending their first-grade year or beginning second grade)

Overview, Organization, and Content of the *BRIGANCE® Screens*

DATA SHEETS. For each of the *BRIGANCE Screen* Basic Assessments, there is a *Data Sheet* that lists the subtests, items, and scoring criteria. The *Data Sheets* also enable any supplemental information to be summarized (e.g., observations about student behaviors, such as the child's ability to converse and behave appropriately). Produced in triplicate, copies of the *Data Sheets* can be readily shared with school administrators and curriculum supervisors. Sample *Data Sheets* are included in **Appendix A**.

BASIC ASSESSMENTS. Each of the nine levels (Infant, Toddler, Two-Year-Old, Two-and-a-Half-Year-Old, Three-Year-Old, Four-Year-Old, Kindergarten, First Grade, and End-of-First Grade) contains six to thirteen subtests, or Basic Assessments. These can be categorized into domains or general skill areas (e.g., fine motor, gross motor, etc.) as shown in Table 1-1 and Table 1-2. Domains fall into larger factors that share even broader commonalities. These factors vary somewhat by age and form. For the *Infant & Toddler Screen*, there are two factors: *Communication* (expressive and receptive language) and *Nonverbal* (fine and gross motor, self-help, social-emotional).

For the *Screens* assessing the Two-Year-Old-Child and higher there are three factors. Expressive vocabulary, syntax, articulation, and fluency are all types of expressive language skills. These cluster to create the *Expressive Language* factor. Reading skills are predicated heavily on well-developed receptive language and auditory discrimination abilities. Thus these skills cluster as an *Understanding and Reading* factor. Finally, motor skills, personal information, and quantitative skills cluster into the *Spatial Skills and Knowledge* factor. Table 1-1 shows the factors (e.g., Communication), domains (e.g., Receptive Language), and subtests (e.g., Looks at named objects) with the specific content for the Infant and Toddler assessments of the *Infant & Toddler Screen*, while Table 1-2 shows the factors, domains, and specific content of subtests for the remaining *BRIGANCE Screens*. Both tables show that the *BRIGANCE Screens* assess the better predictors of school success in an age-appropriate manner: there is greater emphasis on language skills in younger children, and more emphasis on preacademic/academic skills in older children.

Table 1-1. Factors, Domains, Subtests, and Specific Content of the BRIGANCE® Infant & Toddler Screen

BASIC ASSESSMENTS		Infant	Toddler
Domains		SPECIFIC CONTENT	
NONVERBAL FACTOR	Fine Motor	places fist in mouth, glances at hands briefly, plays with hands and fingers, has hands predominantly open, reaches for objects, reaches with one hand, holds bottle independently, pokes objects, uses a neat pincer grasp, squeaks toy with hand, puts blocks into box, takes blocks from box, grasps and releases, unwraps objects <i>Subtest 1A</i>	uses a neat pincer grasp, squeaks toy with hand, puts blocks into box, takes blocks from box, grasps and releases, unwraps objects, deliberately pours or dumps, builds five- or six-block tower, imitates scribble <i>Subtest 1B</i>
	Gross Motor	turns head, steadies head, rolls part way to side, sits alone briefly, rolls from back to stomach, transfers objects from one hand to the other, sits unsupported, creeps or scoots, pulls to stand, walks with one hand held, walks well (without frequent falling), stands on one foot, runs (but not well) <i>Subtest 4A</i>	sits unsupported, creeps or scoots, pulls to stand, walks with one hand held, walks well (without frequent falling), stands on one foot, runs (but not well), attempts jump, walks erect with synchronous arm swings, jumps (with at least one foot off floor), runs well <i>Subtest 9B</i>
	Self-help	sucks well, brings hands to mouth, opens mouth, munches or mouths food, reaches for food or toy, refuses excess food, holds bottle independently, feeds self cracker, drinks from cup, chews and swallows, works to reach toy, cooperates in dressing, holds cup and drinks, assists in dressing <i>Subtest 5A</i>	feeds self cracker, drinks from cup, chews and swallows, works to reach toy, cooperates in dressing, holds cup and drinks, assists in dressing, drinks with one hand, removes shoes, begins to communicate toileting needs <i>Subtest 10B</i>
	Social-Emotional	looks attentively at face, visually follows person, responds with a smile, gets excited by toy, smiles or vocalizes for attention, holds out arms to be picked up, is shy with strangers, plays peekaboo, explores the environment, plays pat-a-cake, gives affection, shows an interest in others, initiates interaction, shows pride and pleasure, explores and returns <i>Subtest 6A</i>	plays pat-a-cake, gives affection, shows an interest in others, initiates interaction, shows pride and pleasure, explores and returns, imitates other children, watches faces for clues, mimics adult activities, performs for others <i>Subtest 11B</i>
COMMUNICATION FACTOR	Receptive Language	startles to loud noise, notices faces of others, responds with coo or smile, turns head to find sound, understands words such as <i>bye-bye</i> or <i>mama</i> , gestures for "up," responds to own name, looks at named objects, responds to the word <i>no</i> , responds to commands, waves "bye-bye," understands the word <i>give</i> (with gesture), gives block on command (no gesture), throws away trash on command, puts block into box on command <i>Subtest 2A</i>	looks at named objects, responds to the word <i>no</i> , responds to commands, waves "bye-bye," understands the word <i>give</i> (with gesture), gives block on command (no gesture), throws away trash on command, puts blocks into box on command; points to eyes, nose, feet, hair, mouth, ears; points to cat, dog, key, car, apple, airplane; knows sound of cat, dog, cow, bird <i>Subtests 2B; 3B; 4B; 5B</i>
	Expressive Language	makes throaty sounds, makes different sounds, coos and gurgles, babbles using different consonants, vocalizes at others, "talks" to objects, says multiple syllables, shakes head "no" or points, imitates sounds or words, pretend talks, says real words, pretend talks with some real words, holds up objects for attention, points to objects for attention <i>Subtest 3A</i>	says multiple syllables, shakes head "no" or points, imitates sounds or words, pretend talks, says real words, pretend talks with some real words, holds up objects for attention, points to objects for attention; names cup, spoon, box, block, crayon, toy, chair, light; repeats phrases, uses two or three words in combination <i>Subtests 6B; 7B; 8B</i>