



Research Foundation: Teaching Strategies GOLD™ Assessment System



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In recent years, a growing body of research has offered new and powerful insight into the importance of early learning and its relationship to school and success in later life. Much of this evidence links children's early cognitive, language, and social–emotional development to later developmental and school outcomes (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006).

In response to this growing evidence of the importance of early development and learning, as well as the changing needs of the diverse early childhood programs across the country, Teaching Strategies decided to develop an entirely new assessment system. Although the current systems (*The Creative Curriculum® Developmental Continuum for Ages 3–5*, *The Creative Curriculum® Developmental Continuum for Infants, Toddlers & Twos*, and the related online subscription service CreativeCurriculum.net) have proven to be highly successful and well received by educators, we recognized that new needs had to be met. The new system will

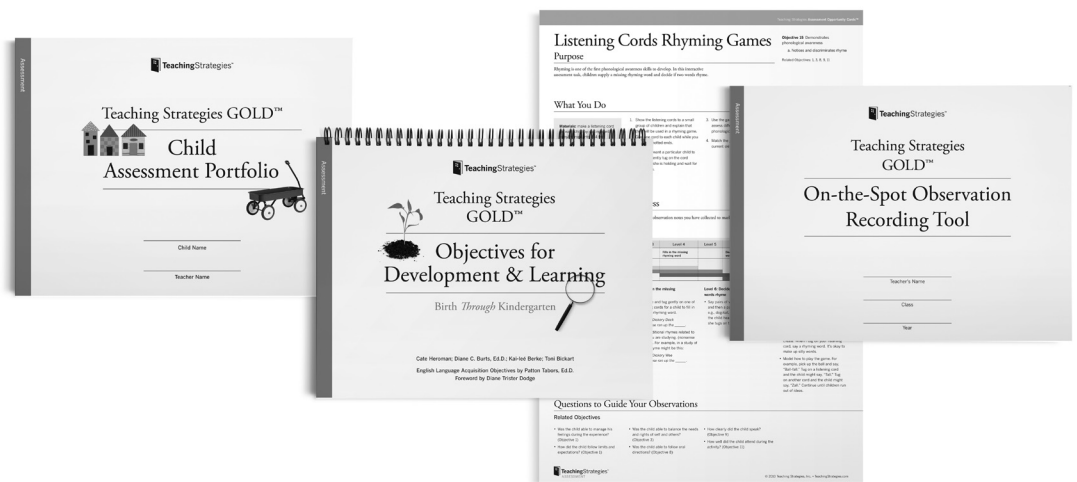
- serve children from birth through kindergarten
- focus on the key elements that research indicates are most predictive of school success
- align with the expected outcomes identified in state early learning standards
- serve the needs of English-language learners

To gather evidence on the most important predictors of school success, Teaching Strategies embarked upon an extensive literature-based research review of the most significant recent studies on early learning. This review resulted in the development of Teaching Strategies GOLD™ assessment system, a seamless, observation-based assessment system for children from birth through kindergarten that blends ongoing, authentic assessment in all areas of development and learning with intentional, focused performance assessment tasks for selected predictors of school readiness in the areas of literacy and numeracy. Designed for use as part of meaningful, everyday experiences in the classroom or program setting, Teaching Strategies GOLD™ is inclusive of children with developmental delays and disabilities, children who are English-language or dual-language learners, and children who are advanced learners.

Because the complex, uneven nature of child development and learning makes it impossible to measure every skill and behavior that children demonstrate in the early years, Teaching Strategies GOLD™ measures the knowledge, skills, and behaviors that are predictive or most important for school success, focusing on 36 basic objectives and two additional objectives related to English language acquisition. Objectives are organized into nine areas of development and learning; the first four describe major areas of child growth and development (social–emotional, physical, oral language, and cognitive), and the following five focus on content learning (literacy, mathematics, science and technology, social studies, and the arts). A tenth area, English language acquisition, helps teachers follow a child’s progress in acquiring both receptive and expressive language in English. Teaching Strategies GOLD™ can be used as one of many tools to inform state efforts as educators develop their own school readiness criteria. It is also appropriate for use with any developmentally appropriate curriculum.

The Research Behind Teaching Strategies GOLD™

Selection of the specific 38 objectives and indicators showing widely held expectations for each age group was based on further review of the current research and professional literature in child development and early childhood education as well as state early learning standards. As evidenced in the research summary below, the first 23 objectives focus on key predictors of school success in the areas of social–emotional, physical, cognitive, oral language, literacy, and math development and learning. The remaining objectives help teachers plan instruction in science and technology, social studies, and the arts, and enable teachers to assess children’s English language acquisition.



Social–Emotional Development

There is a strong connection between children’s early relationships and behaviors and their later development and learning (Smith & Hart, 2002). For this reason, assessing children’s social–emotional development accurately and supporting their growth and competence in this area is especially important. Teaching Strategies GOLD™ includes three social–emotional objectives:

Objective 1. Regulates own emotions and behaviors

Self-regulation is ranked as the most important characteristic necessary for school readiness by kindergarten teachers (Rimm-Kaufman, Pianta, & Cox, 2000). Children who positively regulate their emotions and behaviors do better in school (Blair & Razza, 2007; Bronson, 2000) and have an easier time getting along with peers (Copple & Bredekamp, 2009). Children with poor emotional regulation skills are not likely to get along well with teachers and peers (Berk, 2006; Denham, Blair, Schmidt, & DeMulder, 2002).

Objective 2. Establishes and sustains positive relationships

Children’s ability to form positive relationships with adults is important to their social–emotional development and academic success (Birch & Ladd, 1997; Bronson, 2006; Hamre & Pianta, 2001; Howes, 2000; Howes, Burchinal, Pianta, Bryant, Early, Clifford, et al., 2008; Palermo, Hanish, Martin, Fabes, & Reiser, 2007; Pianta & Stuhlman, 2004). Warm, supportive teacher–child relationships are related to children’s self-direction and positive attitudes toward school (Birch & Ladd, 1997). Children’s ability to build positive relationships with peers affects their social competence, school adjustment, and academic success (Ladd, Birch, & Buhs, 1999; Riley, San Juan, Klinkner, & Ramminger, 2008; Shonkoff & Phillips, 2000).

Objective 3. Participates cooperatively and constructively in group situations

The foundational skills for being a productive member of social and learning groups are established during the early childhood years, and they are important for early school success (Ladd et al., 1999). Positive group participation includes work-related skills like listening, following directions, behaving appropriately, staying on task and organizing work materials; poor work-related skills in kindergarten are related to behavioral difficulties and lower academic achievement in the early primary grades (McClelland, Morrison, & Holmes, 2000).

Physical Development

Physical development includes children’s gross-motor (large muscle) and fine-motor (small muscle) skills. Physical development affects other areas of development. In fact, brain research points to the importance of early, positive movement experiences to brain development (Gabbard, 1998; Robert, 1999), and physical development is linked to children’s emotional development and their school performance (Pica, 2006; Rule & Stewart, 2002; Sanders, 2002; Son & Meisels, 2006). The physical development objectives are:

Objective 4. Demonstrates traveling skills

Traveling involves moving the body through space. The early years are critical for the development of the large muscles needed for traveling. This important skill has implications beyond just the physical. When children with disabilities achieve greater independent mobility, they show improved social and language development (Charlesworth, 2008; Kim, 2005).

Objective 5. Demonstrates balancing skills

Turning, stretching, stopping, rolling, jumping, swinging, and dodging require balance (Sanders, 2002). Children use balancing skills during structured and unstructured play and game activities. Children’s ability to balance affects their performance of gross-motor tasks (Ulrich & Ulrich, 1985).

Objective 6. Demonstrates gross-motor manipulative skills

The early years are important for the development of fundamental gross-motor manipulative skills including throwing, catching, and kicking. When children are told discreet actions to take (e.g., “Watch the ball. Reach with your hands.”), they are helped to focus on the skill so they can perform it more efficiently (Breslin, et al., 2008; Sanders, 2002).

Objective 7. Demonstrates fine-motor strength and coordination

Fine-motor skills involve grasping and releasing objects using fingers and hands and coordinating movements with the eyes. These skills are important in the performance of daily routines and many school-related tasks. When teachers provide structure and guidance, children can increase their fine-motor skills (Stewart, Rule, & Giordano, 2007).

Language Development

Strong language skills are essential for children’s success in school and life (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmer, 2008). Oral language, including grammar, the ability to define words, and listening comprehension helps provide the foundation and is an ongoing support for literacy (National Early Literacy Panel, 2008; Strickland & Shanahan, 2004). The oral language objectives are:

Objective 8. Listens to and understands increasingly complex language

To comprehend language, children must focus their attention and listen with a purpose. They must accurately and quickly recognize and understand what they hear (Roskos, Tabors, & Lenhart, 2004). Receptive language (including listening to, recognizing, and understanding the communication of others) starts to develop before expressive language, but they are closely connected (Hirsch-Pasek, Golinkoff, & Naigles, 1996; Strickland, 2006).

Objective 9. Uses language to express thoughts and needs

Oral language is important to children’s literacy development. Children’s first writing experiences are usually based on what they learned through narrative talk (Beals, 2001; Dickinson & Tabors, 2001; Hart & Risley, 1995), and their literacy development also is influenced by their ability to define words and their knowledge of grammar (National Early Literacy Panel, 2008).

Objective 10. Uses appropriate conversational and other communication skills

Children benefit from conversations that include varied vocabulary and that challenge their thinking (Dickinson & Tabors, 2001). Such conversations contribute to early reading success. In addition, conversations are important to children’s cognitive and social–emotional learning (Hart & Risley, 1995).

Cognitive Development

Cognitive development, also called intellectual development, is influenced by various factors including biological makeup, the environment, and how the child approaches learning tasks (e.g., attention, persistence, curiosity, and flexibility). A child’s background knowledge, or knowledge base, also affects the way a child thinks. This background knowledge influences the child’s information processing, memory, classification, problem solving, language acquisition, and reading and mathematics learning (Bjorklund, 2005; McAfee & Leong, 1994). The cognitive development objectives are:

Objective 11. Demonstrates positive approaches to learning

Children who have positive approaches to learning are more likely to succeed academically and to have more positive interactions with peers (Fantuzzo, Perry & McDermott, 2004; Hyson 2005, 2008; Hyson, Buch, Fantuzzo & Scott-Little, 2006). The ability to resist distractions, remain positively engaged, and persist at learning tasks are related positively to children's academic achievement, cognitive development, and peer interactions (Deater-Deckard, Petrill, Thompson, & DeThrone, 2005; Duncan, Dowsett, Claessens, Magnuson, Huston, Klebanov et al., 2007; Fantuzzo, Perry, & McDermott, 2004; Howse, Lange, Farran, & Boyles, 2003; Hyson, 2008). In addition, cognitive flexibility is important for children's academic achievement (George & Greenfield, 2005; Hyson, 2008), and flexible thinking is critical to children's development of sorting and categorization skills, understanding of concepts, problem-solving skills, reasoning skills, divergent thinking, and inventiveness.

Objective 12. Remembers and connects experiences

As children develop their abilities to attend and to use memory strategies, their learning is enhanced. Adult scaffolding, or support, helps children attend and use memory strategies such as categorizing (Barry, 2006; Larkina, Guler, Kleinknect, & Bauer, 2008; McAfee & Leong, 1994; Mussen, Conger, Kagan & Huston, 1990).

Objective 13. Uses classification skills

The ability to classify is important for learning and remembering (Larkina, Guler, Kleinknect, & Bauer, 2008). Exploration of objects, expanding knowledge of the world, and increased language skills contribute to children's ability to classify (Berk, 2002; Gelman & Coley, 1990).

Objective 14. Uses symbols and images to represent something not present

Thinking symbolically is necessary for language development, problem solving, reading, writing, mathematical thinking, and participating fully in society (DeLoache, 2004; Younger & Johnson, 2004). Before children can effectively use symbols such as letters, numbers, or maps, they must understand implicitly that symbols represent other things (DeLoache, 1991). Dramatic play, sometimes called symbolic play, is an important vehicle for development and learning (Bergen, 2002; Klein, Wirth, & Linas, 2004; Nourot & Van Hoorn, 1991; Similansky & Shefatya, 1990; Steglin, 2005). Dramatic play contributes to children's development of abstract thinking and imagination and supports their school adjustment, memory, language, and self-regulation abilities (Bodrova & Leong, 2004; Fantuzzo & McWayne, 2002; Krafft & Berk, 1998; Newman, 1990).

Literacy

The early years are critical for literacy development. The level to which a child progresses in reading and writing is one of the best predictors of whether the child will function competently in school and in life (Neuman, Copple, & Bredekamp, 2000). Effective instruction in the early years can have a large impact on children's literacy development. The assessment system has these literacy objectives:

Objective 15. Demonstrates phonological awareness

Phonological sensitivity is a strong predictor of later reading, writing, and spelling ability (National Early Literacy Panel, 2004, 2008). Instruction that strengthens children's phonological awareness has been shown to contribute to later reading success (Ehri, Nunes, Willows, Schuster, Yaghouh-Zadeh, & Shanahan, 2001; National Early Literacy Panel 2008).

Objective 16. Demonstrates knowledge of the alphabet

Young children's alphabet knowledge, especially their ability to rapidly name letters and numerals in random order, is a strong predictor of later reading, writing, and spelling ability (Adams, 1990; National Early Literacy Panel, 2004, 2008; Stevenson & Newman, 1986). Children's knowledge of the alphabet is also closely related to their comprehension skills by the end of second grade (Cats, Fey, Zhang, & Tomblin, 2001).

Objective 17. Demonstrates knowledge of print and its uses

Young children's concepts about print are a good predictor of later reading, writing, and spelling ability (Clay, 1979a, 1979b; McCormick & Mason, 1986; National Early Literacy Panel, 2004, 2008; Wells, 1985). In addition, understanding that print is meaningful is one of the first steps children take in learning to read and write (Mason, 1980).

Objective 18. Comprehends and responds to books and other texts

Comprehension of oral language and simple texts is essential to future reading success; children learn to process what they hear and read (Teale & Yokota, 2000). Children who engage in frequent activities with books have larger vocabularies. These children learn to read better than children who have few book experiences (Dickinson & Tabors, 1991; Wells, 1986).

Objective 19. Demonstrates emergent writing skills

Writing letters or name writing is a predictor of later literacy (National Early Literacy Panel, 2008). By exploring writing, children learn about letters, sounds, and the meaning of text (Schickedanz & Casbergue, 2004). Understanding the mechanics of the writing system (letter naming and letter-sound correspondence) has a moderate correlation with reading in the primary grades (Stuart, 1995).

Mathematics

Research has made a clear link between early math skills and later school reading and math achievement. Children's mathematical knowledge at kindergarten entry is considered predictive of future mathematics success throughout their years in school. Evidence shows that high-quality early childhood education programs can make a difference in children's mathematical learning (Clements & Sarama, 2009). These mathematics objectives are:

Objective 20. Uses number concepts and operations

Children's understanding of counting, number symbols, and number operations are fundamental to their success with more complex mathematics (Ginsburg & Baroody, 2003; Zur & Gelman, 2004). Through both everyday experiences and planned learning experiences, children begin to construct understandings of number concepts and operations.

Objective 21. Explores and describes spatial relationships and shapes

Understanding spatial relationships and shapes helps children build the foundation for understanding geometry. Children who have a strong spatial sense do better in mathematics (Clements, 2004).

Objective 22. Compares and measures

Children's initial ideas about size, quantity, and seriation involve comparisons related to their play materials and books. They experiment with measurement by lining up and comparing objects. They begin to connect number to length as they use nonstandard measurement tools, e.g., links, blocks, rods (Clements & Sarama, 2009). In addition, children can benefit from exploring and using tools with uniform units (e.g., rulers and centimeter cubes) as their measurement ideas and skills are developing (Clements, 2003; Sarama & Clements, 2006).

Objective 23. Demonstrates knowledge of patterns

Children begin to identify patterns in their environment at an early age. Guiding children to understand patterns is a foundational skill in mathematics. Learning experiences that focus on patterns facilitate children's generalizations about number combinations, counting strategies, and problem solving (Copley, 2000).

Science and Technology

Young children are natural investigators. They are curious about how things work and what will happen next (Gronlund, 2006; Mantzicopolous, Patrick & Samarapungavan, 2008). During the early years, learning to engage in the process of scientific thinking, gaining understanding, and making connections are more important than learning scientific facts. Young children need many opportunities to explore science concepts firsthand over time so they can connect new understandings to related experiences. The science and technology objectives are:

Objective 24. Uses scientific inquiry skills

Children use a variety of inquiry skills as they connect what they know to new experiences. Inquiry skills include making focused observations, posing meaningful questions, determining what is already known by examining books and other resources, making predictions, selecting appropriate techniques and tools, conducting investigations, reflecting on experiences, and communicating their findings (Chalufour & Worth, 2004; National Committee on Science Education Standards & Assessment, National Research Council, 1996). Scientific inquiry can support the development of young children's explanatory language as well as their scientific knowledge (Lind, 2001; Peterson & French, 2008).

Objective 25. Demonstrates knowledge of the characteristics of living things

No matter what topic of the life sciences children study, they can learn the major concepts as they interact with living things. Through regular contact with nature, children expand their curiosity and observation skills, practice nurturing behaviors as they care for living things, and gain knowledge in other academic areas (Rosenow, 2008; Russo, 2008).

Objective 26. Demonstrates knowledge of the physical properties of objects and materials

By preschool, children have already begun building scientific knowledge about the physical properties of objects and materials (Gelman & Brenneman, 2004). As teachers talk with children about the properties of objects and materials, children develop vocabulary and important background knowledge; this background knowledge helps children observe their environment more closely (Eshach & Fried, 2005).

Objective 27. Demonstrates knowledge of Earth's environment

Young children show an emerging knowledge of the properties of the Earth (Nobes, Moore, Martin, Clifford, Butterworth, Panagiotaki, et al., 2003), but they know much more about their immediate surroundings. When children learn about the Earth's environment and explore the properties of the world around them, they notice changes and make predictions. They begin to understand their environment, learn important ideas, and develop respect for their natural surroundings.

Objective 28. Uses tools and other technology to perform tasks

Technology enables children to respond and represent their learning in individual ways (Northwest Educational Technology Consortium, Northwest Regional Educational Laboratory, 2002). Technology can increase participation for English-language learners and children with disabilities (Murphy, DePasquale, & McNamara, 2003).

Social Studies

When young children study social studies, they learn how to be researchers, critical thinkers, active members of a classroom community, and experts on topics related to everyday life. The social studies objectives are:

Objective 29. Demonstrates knowledge about self

During the preschool years children begin to develop their racial identities and notice differences in social class (Feeney & Moravcik, 2005; Ramsey, 2003). They also begin to develop self-perceptions of their abilities. Negative self-perceptions have been linked to non-social behaviors (Nelson, Hart, Evans, Coplan, Roper, & Robinson, in press). Personal storytelling involving family members serves as a rich source of self-knowledge and helps to instill a child's cultural values (Burger & Miller, 1999; Miller, Fung, & Mintz, 1996).

Objective 30. Shows basic understanding of people and how they live

Young children are eager to learn about other people and how they live. Reading appropriate books to children can be an effective way to help them develop positive attitudes about others and to better understand how people live throughout the world (Feeney & Moravcik, 2005).

Objective 31. Explores change related to familiar people or places

To gain a sense of history, children must first understand that people and places change over time. Change is a difficult concept for young children to understand because they focus on the here and now (Seefeldt, 1997). However, they enjoy thinking about what they can do now that they could not do when they were babies. They can learn about time and change related to their daily schedule, what they did yesterday, and what they will do tomorrow.

Objective 32. Demonstrates simple geographic knowledge

The study of geography for young children needs to be relevant to their experiences; they can learn about the characteristics of the places where they live and the relationship between that place and other places. Children's experiences with mapmaking help them to develop the concepts of representation, symbolization, perspective, and scale (Lenhoff & Huber, 2000).

The Arts

The early childhood years are very important in helping children to realize their creative potential (Kemple & Nissenberg, 2000). Children's involvement in the arts also helps support other areas of learning and development (Epstein, 2007). As children draw, paint, construct, mode, weave, dramatize, sing, dance, and move, they make new discoveries and integrate what they are learning. The arts objectives are:

Objective 33. Explores the visual arts

Children benefit from working with many different kinds of materials and having conversations about their artwork and the work of others (Bae, 2004; Colbert, 1997; Johnson, 2008). The more they are able to experiment with various media and to discuss different ways to use materials, the more children are able to express their ideas through the visual arts.

Objective 34. Explores musical concepts and expression

Music can affect children's literacy development and academic performance (Shore & Strasser, 2006; Wiggins, 2007). Musical activities that relate to story reading can focus children's attention and enhance their social interactions (deVries, 2008).

Objective 35. Explores dance and movement concepts

One of the first ways children express themselves is through movement. Each new movement gives children more information about the capabilities of their bodies (Lutz & Kuhlman, 2000).

Objective 36. Explores drama through actions and language

Drama is an important part of learning for young children; it positively affects their language development and literacy, self-awareness, social–emotional reasoning, and problem solving (Brown, 1990; Pinciotti, 1993; Wright, Bacigalupa, Black & Burton, 2008). Experiences and cultural traditions influence what stories children tell and how they tell stories (Curenton & Ryan, 2006; Wright, et al., 2008).

English Language Acquisition

Language learning is a basic feature of the early development of all children. The language-learning process for bilingual children, or simultaneous language learners, closely resembles the process for monolingual children. Because simultaneous language learners' need to know twice as many words, their vocabulary development may be less extensive in each language in comparison to monolingual children (Oller & Eilers, 2002). Children learning English as a second language, or sequential language learners, follow a different learning sequence. They may first use their home language and they may enter a nonverbal period (Tabors, 2008). This process is cumulative and uneven. The English language acquisition objectives are:

Objective 37. Demonstrates progress in listening to and understanding English

Children begin to hear the sounds of the new language and begin the process of connecting those sounds to the objects and activities around them at different rates (Itoh & Hatch, 1978; Saville-Troike, 1988; Fillmore, 1979). As they acquire English phonology, children may also play with the sounds of the language by inventing new words that sound English-like (Saville-Troike, 1988).

Objective 38. Demonstrates progress in speaking English

A distinct feature of young children's second language acquisition is their memorization and use of social interactive terms (Fillmore, 1979) to help them enter play situations and to have their needs met. Once children have acquired a number of words and socially useful phrases, they can begin to construct original sentences in English (Tabors, 2008).

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