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## Assessing Young Children

**S***even Blind Mice* by Ed Young (1992) retells the classic poem by John Godfrey Saxe. In Young's award-winning version, seven blind mice each investigate an elephant from a narrow point of view. It is only when their perspectives are combined that a view of the whole elephant emerges. The insightful moral of this book is "Knowing in part may make a fine tale, but wisdom comes from seeing the whole." To expand upon that moral, I propose an assessment analogy. "Standardized tests and grades make a fine tale, but understanding comes from viewing the whole child and that goal is best accomplished through portfolios and other authentic assessments."

Authentic assessment is more similar to a videotape than a photograph; it is a view over time rather than a moment-in-time snapshot. Young children reveal their capacities and potentials in subtle ways that early childhood teachers access through nuanced observations and interpretations. It is paramount to collect multiple facets of data to guide understanding and decision making regarding the many aspects of children's readiness and modes of learning (National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education [NAEYC & NAECS/SDE], 2003).

While standardized testing remains a staple in American education systems, early childhood teachers seek ways to balance that data with authentic assessment procedures reflecting the whole child—emotionally, socially, and physically as well as academically (Commission on the Whole Child, 2007; Noddings, 2005). Assessment should provide a more complete picture of the developing child and be concerned about more than the measurable. As Eisner (2005) elaborated, "Not everything that matters is measurable, and not

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everything that is measurable matters” (p. 16). Compared to traditional assessment techniques such as paper-and-pencil tests authentic assessment techniques provide a more comprehensive picture of what the learner knows, understands, and is able to do (Erickson, 2007). The No Child Left Behind Act, while mostly associated with state academic assessments to determine adequate yearly progress, also advocates assessment based on systematic observations by teachers of children performing academic tasks that are part of their daily classroom experience.

Assessment needs to be a natural, continual component in early childhood classrooms. It is integral to teaching and learning and is a major factor guiding instructional decisions of how and what is taught and how and what children learn. Scott-Little, Kagan, and Frelow (2003) explained the relationship among standards, curriculum, and assessment by noting that standards articulate what children should learn, curriculum dictates how children will learn the required standards, and assessments measure how effectively the standards and curriculum are implemented.

This chapter presents the goals of authentic assessment and discusses the use of portfolios to attain those goals. A chart of assessment methods explains multiple appropriate assessment techniques and potential applications to facilitate teachers’ decisions regarding which techniques to combine with portfolios into effective assessment systems in prekindergarten through third-grade classrooms. The chapter concludes with a brief review of the research related to early childhood portfolios and assessment as well as a list of key assessment terms and explanations as a succinct reference point to clarify applications.

### **AUTHENTIC ASSESSMENT GOALS**

As Shepard, Kagan, and Wirtz (1998) stated, the major purpose of early childhood assessment is to guide and improve instructional practice while providing a means of understanding how young children are developing competencies. Teachers assess what is happening in the classroom and how to change things to better support children’s learning. Therefore, the assessment of young children should center on classroom-based evidence of learning tied to experiences in which children play, engage in conversations, and construct meaning (Jones, 2003). Effective assessment practices dictate that the use of individually administered, norm-referenced tests should be limited (NAEYC & NAECS/SDE, 2003) and that the determination of assessment methods and strategies should evolve from the following goals:

1. Assessment supports the objectives of curriculum and instruction, measures what is educationally significant, and furnishes useful information to teachers and children.
2. Assessment incorporates multiple tools and procedures appropriate to the characteristics of the individual and the group population, including

age, language, ethnicity, economic status, and prior opportunities to experience academic learning (Association for Supervision and Curriculum Development [ASCD], 2006a; Payne, 2003).

3. Assessment tools and procedures acknowledge individual variations in learners, are responsive to children with learning differences, and accommodate diverse styles and rates of learning.
4. Assessment evidence is gathered over time from situations reflecting children's actual performance and daily activities.
5. Assessment data provides concrete evidence of progress to share with families and other invested adults.
6. Assessment information must be used to benefit children, improve learning by adapting curriculum and instruction, communicate with families, and improve the program by evaluating program effectiveness (Commission on the Whole Child, 2007; National Association for the Education of Young Children [NAEYC], 1997).

## **WHAT IS THE VALUE OF A PORTFOLIO?**

Portfolios directly respond to the previously mentioned assessment goals. Portfolios are tools that provide educators and children with an excellent means of collecting varied evidence of children's learning achievements and assembling that documentation into a coherent whole (Stiggins, 2005). Numerous assessment experts and national organizations recommend portfolios as a key component in an authentic assessment system because of their multiple applications (ASCD, 2006a; Burke, 2005; Herman, Baker, & Linn, 2004; MacDonald, 2005; NAEYC & NAECES/SDE, 2003; National Council of Teachers of Mathematics & National Association for the Education of Young Children [NCTM & NAEYC], 2002; Stiggins, 2005). Portfolios can be used as

- feedback to students for enhanced self-concept and goal setting as children view how they have changed as learners over time;
- opportunities for children to self-assess and reflect upon their work;
- demonstrations of children's effort, preferred modes of learning, transfer of skills, and conceptual understanding;
- communication tools among children, families, and educators;
- documentation of conference information using concrete examples to illustrate achievement and instructional assessments to parents;
- connections between prior knowledge and current learning;
- support for and substantiation of special learning accommodations;
- feedback to teachers as they monitor and improve instruction in the classroom.

Consistent with developmentally appropriate practices, portfolios encourage the capabilities of all children regardless of their current levels of development. After two or three months, children can view the earlier work in their portfolios

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and see growth. If they are working at grade level, below grade level, or beyond grade level, the portfolio validates that they are learning and making progress.

“Assessing young children is an art; early childhood teachers are the artists applying a wide palate of techniques to paint a clear portrait of children’s learning.”

In classrooms, teachers’ assessment practices incorporate multiple methods involving observation, inferences, and data measurements to determine what children know, understand, and can do. Multiple measures mean better accountability and better data to help each child succeed (ASCD, 2006a; Jones, 2003; NAEYC & NAECS/SDE, 2003; NCTM & NAEYC, 2002). Descriptions of a variety of techniques and of how to use each (Figure 1.1) provide a menu of options to assess children’s learning.

To create an assessment system, teachers and administrators determine which combination of tools is the most effective and efficient means of collecting and recording the desired data. The system must efficiently balance the time and effort expended by students and teachers with the quality and usefulness of the procured information (NAEYC & NAECS/SDE, 2003). As teachers become comfortable with certain kinds of assessments, they can incorporate additional or different methods to ensure a more complete view of children’s capabilities and progress.

Determining or adapting methods of assessment is a collaborative process between teachers and administrators because an assessment system cannot survive without administrative guidance and support (Jones, 2003). The system also requires an informed person or group within the school with a deep knowledge of how young children learn and how to align assessments to learning goals.

Regardless of which assessment methods teachers select, teachers need time to review and reflect upon the collected information. For authentic assessment to be successful, Ratcliff (2001) cautioned that teachers must take time to think about what children demonstrate and what skills need to be further developed. Regularly scheduling this time enables teachers to develop understandings of children’s progress and respond to that understanding by planning appropriate continuous learning experiences.

Figure 1.1

## Methods of Assessment

ASSESSMENT METHOD	EXPLANATION This assessment tool is	PURPOSE This assessment tool is used to
Anecdotal record	An informal record of an observed event or behavior.	Document a teacher's insights and observations about children's capabilities and needs during classroom activities.
Audiotape recording	A recording of a child's oral reading, retelling, or dictation in response to an authentic learning task.	Assess vocabulary, processes and achievement levels in an authentic learning situation. Document the tape's content by summarizing assessment conclusions on a rubric, checklist, or anecdotal record.
Checklist	A list of standards, skills, or behaviors applicable to learning and achievement.	Guide and succinctly record observations of standards and skills applications.
Conference-informal or formal	An informal or formal achievement conversation involving teacher, child, peer, and/or family members.	Facilitate one-on-one feedback and information exchanges; elicit a child's vocabulary and perception of achievement; review and set goals.
Demonstration	An assessment of a student performing authentic tasks associated with standards.	Assess processes and product in an authentic learning situation.
Discussion	An informal, interactive, and inquiry-based conversation among teachers and children.	Assess vocabulary, content integration, and a student's perception of the content or concepts; document with a rubric, checklist, or anecdotal record.
Graphic organizer	A spatial device assessing the relationships among content and concepts.	Assess concept complexity, depth, and relationships.
Interest inventory or interview	An informal assessment of a child's interests and experiences.	Provide information about experiences and preferences to customize a student's learning opportunities.
Journals	A running record by children of their responses to learning experiences, particularly in math, science, and language arts.	Assess children's communication skills, concept applications, and reflections of their capabilities and attitudes.

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# Methods of Assessment

ASSESSMENT METHOD	EXPLANATION This assessment tool is	PURPOSE This assessment tool is used to
Learning log	A record of skills, learning responses, and reflections over time.	Provide information about a student's perceptions, acquisition of skills, development, and learning changes over a period of time.
Math problem solving	A demonstration of a child's application of concepts and skills in math.	Provide an authentic measure of a student's problem solving skills and understanding of mathematical concepts; recognize original thinking.
Observation	A teacher formally or informally watches children and records information during a classroom learning experience.	Analyze productive or nonproductive learning behaviors and the application of skills.
Performance or performance task	A demonstration of a child performing authentic learning tasks associated with standards.	Analyze applications of several skills, processes, and products in an authentic learning experience.
Portfolio	A child's collection over time of products that are examples of significant and representative learning achievements.	Analyze complexity, depth, achievement, and growth over time; clarify students' strengths and modalities.
Project or cooperative task	A learning task associated with standards; completed by a student or small group.	Assess content integration through product, process, communication, and cooperative group efforts.
Questioning or inquiry	An informal, interactive, inquiry-based assessment that is usually oral.	Assess content integration and a student's perception of achievement; document with a rubric, checklist, or anecdotal record.
Reading sample or running record	A record of independent reading of fiction and nonfiction to assess the level and pace of a child's literacy development.	Identify a child's reading levels, use of reading strategies, and implications for instruction.
Retelling	A learning task requiring a child to retell a story or process-usually oral.	Identify a student's vocabulary, content comprehension, sequence and organization, use of reading strategies, and implications for instruction.

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Retelling	A learning task requiring a child to retell a story or process—usually oral.	Identify a student's vocabulary, content comprehension, sequence and organization, use of reading strategies, and implications for instruction.
Rubric	An evaluative device specifying criteria and levels of quality for a learning task.	Provide a standard of quality for achievement and grading; provide a quality target for students.
Self-assessment	An assessment format used by children to assess their level of skills, learning behaviors, and achievement.	Help a student recognize levels of expectations and standards of quality; encourage goal setting.
Standardized test	A commercial, formal, norm-referenced or criterion-referenced test of specific content.	Allow for districtwide or nationwide comparisons of achievement.
Unit test—teacher developed	A teacher-prepared test for a segment of instruction.	Diagnose and compare summary information regarding achievement of learning goals.
Written work	An assessment of a child's application of concepts and skills in written work.	Provide an authentic measure of a student's composition skill and acquisition of content-related concepts and skills.

## RESEARCH RELATED TO PORTFOLIOS AND ASSESSMENT

Assessment must be evidence-based and multifaceted to accurately document young children's learning (National Association of Elementary School Principals & Collaborative Communications Group [NAESP & CCG], 2005; NAEYC & NAECS/SDE, 2003). It must incorporate multiple modalities, high-level thinking, and active engagement and support authentic, high-quality learning experiences. Assessment decisions evolve from a research base regarding effective early childhood education. Research testifies to the importance of quality programs, evidenced-based instructional strategies, vocabulary development, parental involvement, teacher effectiveness, and student reflection.

### Quality

The High/Scope Educational Research Foundation's (2005) longitudinal study and Karoly's (2005) report make it apparent that high-quality early childhood programs significantly affect children's life success. Children from poverty and young children with special needs experience higher academic success and fewer social-emotional problems when they participate in a quality-based program

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(Nelson, 2006). Rothstein (2006) asserted that the quality of the program is as important as the existence of such programs themselves.

We know curricula and instruction that engage children as active learners; efficient and effective administration that focuses on the needs and desires of children, families, and staff (NAESP 2005); and ample time and teacher support for children to be involved in play to explore and manipulate materials, concepts, and ideas (MacDonald, 2005; NCTM & NAEYC, 2002) characterize high-quality early childhood programs (High/Scope Educational Research Foundation, 2005; Marcon, 2002). Drawing upon the work of Vygotsky (1962), teachers instruct at levels that are challenging but attainable. Since students' zone of proximal development varies, children experience demonstrations of instruction at different levels (Berk & Winsler, 1995). Assessment methods should be tied to children's daily activities that support children's learning, elicit their perspectives on learning, and teach standards of quality (NAEYC & NAECS/SDE, 2003; Potter, 1999).

High-level thinking continues to play a vital role in learning and long-term achievement for all children (Anderson & Krathwohl, 2001). Ensure that students' thinking progresses from the beginning levels toward more complex levels because knowledge and skills are necessary but not sufficient elements of understanding for long-term retention and achievement (Shepard, 1997; Wiggins & McTighe, 2005; Willis, 2006). Assessment methods should reflect high-level thinking opportunities more than simple, correct answers.

Portfolios and assessment work in tandem with solid instruction to guide and enhance children's potential. Connecting learning experiences appear in several chapters to connect the assessment or evaluation procedure that is being discussed to a classroom learning experience. A template is repeatedly used to frame these examples and signal the reader.

### **Research-Based Instructional Strategies**

Strategies proven through research to have the highest effect on achievement should guide decisions regarding which strategies to apply most frequently in instruction and assessment. Strategies with the highest potential for achievement gains such as similarities-differences and summarization become priorities in instruction (Marzano, Pickering, & Pollock, 2001). Since similarities-differences involve categorization, comparison, and analogous thinking, early childhood learning experiences and assessments incorporate those high-yield strategies frequently. To engage young children in similarities-differences, teachers plan experiences and assessment requiring sorting and grouping, compare and contrast, and oral analogies, such as "A child talking is like a bird \_\_\_\_\_," and "How is a watch like a calendar?"

Understanding increases when the brain seeks meaning by connecting the unknown to what is known and when there is an emotional response integrated



into a learning experience (Caine, Caine, Klimek, & McClintic, 2004; Sousa, 2001; Sylwester, 2003). Thus teachers engage children in learning experiences and assessments that build upon prior experiences, interests, sensory explorations, and emotional engagement. A nonthreatening environment is maintained during instruction and assessment to allow children to succeed. The goal is an appropriate balance between just enough versus too much challenge (NAEYC, 1997).

Effective instruction responds to multiple modes of learning and how students learn best (Gardner, 1996; Grigorenko & Sternberg, 1997; Willis, 2006). Teachers incorporate multiple learning pathways because the more ways information is introduced to the brain the more dendritic pathways of access are created to enhance memory (Willis, 2006). Teachers plan instruction and assessment to activate both mental engagement and process engagement because students' active involvement and personal processing of information increase their understanding and retention.

### **Vocabulary**

Recent research clarifies the synergistic relationship of comprehension and vocabulary (Marzano, 2004; National Reading Panel [NRP], 2000). Specifically, vocabulary is directly related to comprehension and learning achievement. Children's vocabulary level at the beginning of first grade predicts their reading ability at the end of first grade as well as their eleventh-grade reading comprehension (Marzano, 2004). Sustained silent reading and direct instruction in subject-specific vocabulary emerge as the two approaches that combine to help rescue low achievers and enhance the academic achievement of all students (ASCD, 2006b). Frequently read aloud to children and provide ample opportunities for them to individually explore both fiction and nonfiction. Consistently use specific words in context such as *alphabet* rather than *ABCs* and *equation* rather than *number sentence*, so young children have the benefit of enriched vocabularies that increase their achievement potential. Conversations with children, inquiry, tape recordings, and child-involved conferences are examples of assessments that document vocabulary development.

### **Parents and Families**

Research documents that a substantial outreach to parents positively affects young children's learning and long-term achievement (High/Scope Educational Research Foundation, 2005). Furthermore, one aspect of the No Child Left Behind Act is to promote informed parents through an education system that is transparent and responsive to the needs of parents and children (Spellings, 2007). Family members and educators benefit from a collaborative attitude of mutual respect, cooperation, and shared responsibility as they engage in an ongoing information exchange about a child (Commission on the Whole Child, 2007; NAESP & CCG, 2005; NAEYC & NAECs/SDE, 2003).

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Parents are both a valued source of assessment information and an audience for assessment results (Shepard, Kagan, & Wirtz, 1998). Portfolios increase the effectiveness of teacher, student, and parent communication because portfolios provide directly observable products and understandable evidence concerning children's performance (Stiggins, 2005). For example, a child uses a portfolio during a child-involved conference with a parent to share perceptions of learning and collaboratively generate goals. Portfolios promote communication about a child's dispositions, growth, and achievement status at a point in time.

### **Teacher Effectiveness**

In addition to instructional strategies that increase achievement, the teacher emerges as a key influence on children's level of achievement. Karoly (2005) concluded that programs with better trained caregivers are more effective. Research on teacher effectiveness documents what successful adults knew from personal experiences in schools: Skilled teachers create a positive effect on children's achievement and a positive and lasting effect on their lives. A teacher's enthusiasm for teaching and personal love of the subject matter is a model that motivates children and ultimately influences their achievement (Stronge, 2002). Young children are best nurtured in an encouraging and stimulating environment with a professional educator who is able to respond to the children's leads and needs (NAEYC & NAECS/SDE, 2003).

We know that high-quality early childhood programs and effective assessment systems rely upon well qualified and reflective teachers supported by ongoing inservice training (High/Scope Educational Research Foundation, 2005; Jones, 2003). One simple yet powerful example of professional development is teachers and administrators discussing and refining assessment together. Assessment decisions are enhanced when educators meet to build a consensus and common language, to agree on desired goals, and help standardize portfolio procedures and the assessment process (Jones, 2003).

### **Student Reflection and Self-Assessment**

The development of children's self-assessment skills is a positive aspect of the portfolio process (Potter, 1999). It is possible and desirable to involve children in self-assessment and self-selection of products supported by their reflection on the learning that occurred. As Potter stated, "Helping children become more involved and responsible for their progress is consistent with a child-centered approach towards learning" (p. 210). Woodward (2000) considered it vital that children have a valid role in both their learning and the assessment of that learning. NAEYC and NAECS/SDE (2003) recommended that teachers involve children in evaluating their own work, and Black and William (1998) asserted that self-assessment is essential to any child's progress as a learner. Certainly, an important benefit of asking young students to reflect on their work is the opportunity it gives adults to learn about children's perspectives and

value their participation in learning. Children are active partners in the classroom and are sincerely involved in assessment through their reflections and role in developing portfolios.

## ASSESSMENT TERMS AND EXPLANATIONS

A list of explanations for key assessment terminology provides a succinct reference point for parents and educators to clarify applications. Customize this list to respond to staff assessment questions and to reflect the components in the school's assessment system. Share a list with parents to enhance communication.

**Figure 1.2**

*Assessment Terms and Explanations*

ASSESSMENT TERM	EXPLANATION
Assessment	Assessment is the continuous gathering and analysis of data to better understand individuals or groups. It is intended to provide feedback to children, families, and educators as well as diagnose and guide instruction. Tomlinson (1999) states that assessment is today's means of understanding how to modify tomorrow's instruction (p. 10).
Authentic assessment	Authentic assessment analyzes what a child actually does when learning. It evolves from meaningful, significant, and real learning tasks in natural learning environments. These tasks require children to generate responses rather than choose among descriptors, as in a force-choice response.
Authentic tasks	Authentic tasks are classroom learning experiences that resemble real life as closely as possible, such as a child making change in a play store rather than subtracting numbers on paper.
Benchmark	Benchmark is a synonym for an anchor product. A benchmark piece is an example of a student's work that is developmentally significant, denotes current targeted skills and concepts, and provides baseline data for later comparisons of how the child is changing as a learner.
Equitable	Assessments must be appropriate to the entire school population and provide a more objective standard in scoring and feedback so that assessment information is less subject to distortion, rater bias, and inconsistent expectations.
Learning profile	A child's learning profile is how that child best learns. It is influenced by prior experiences, age, gender, kinds of intelligences, culture, and learning modalities.
Learning standards	Learning standards communicate the essential skills and concepts at specific grade levels that children should know, understand, and be able to do.
Portfolio	A portfolio is a systematic collection representative of a child's work that the teacher and student select to provide information regarding each child's developmental readiness, learning profile, interests, achievement levels, and learning growth over time.
Readiness	Readiness is a child's preparedness to learn and is relative to the demands of the particular learning situation, understanding, and skill. It is influenced by age, prior experiences, and opportunities to learn.
Reliability	Reliability is the degree to which assessment tools and procedures yield dependable and consistent results.
Representative work	The products in a portfolio must be representative of the work typical of that child. Representative products reflect long-term patterns and trends in the child's learning and avoid isolated examples.

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# Assessment Terms and Explanations

ASSESSMENT TERM	EXPLANATION
Research-based	Research-based is a term stipulating that best practices evolve from a firm research foundation. Instruction and assessment decisions need to be evidenced-based rather than opinion-based. The terminology is used extensively in the No Child Left Behind legislation.
Rubric	A rubric is a guideline to quality and a standard for grading. It clarifies what quality looks like, and it is used to challenge children to think about quality work and how to plan for success. It is a scoring guide that delineates the criteria used to evaluate a product. It provides a clearer standard to determine grades more accurately and fairly.
School Career Portfolio	The School Career Portfolio is a selection of significant and representative items to document the child's accomplishments and levels of achievement over several years.
Showcase Portfolio	The School Career Portfolio is also referred to as a Showcase Portfolio since it focuses on a few selected products each year and is then added to each year to develop a long-term view of learning.
Validity	Validity indicates whether an assessment measures what it is intended to measure.
Yearly portfolio	The yearly portfolio is the accumulation of the products and reflections that represents each child's responses to the learning opportunities provided through the curriculum and learning standards. This portfolio is actively used throughout the school year, and then, the majority of the products are taken home as a keepsake.