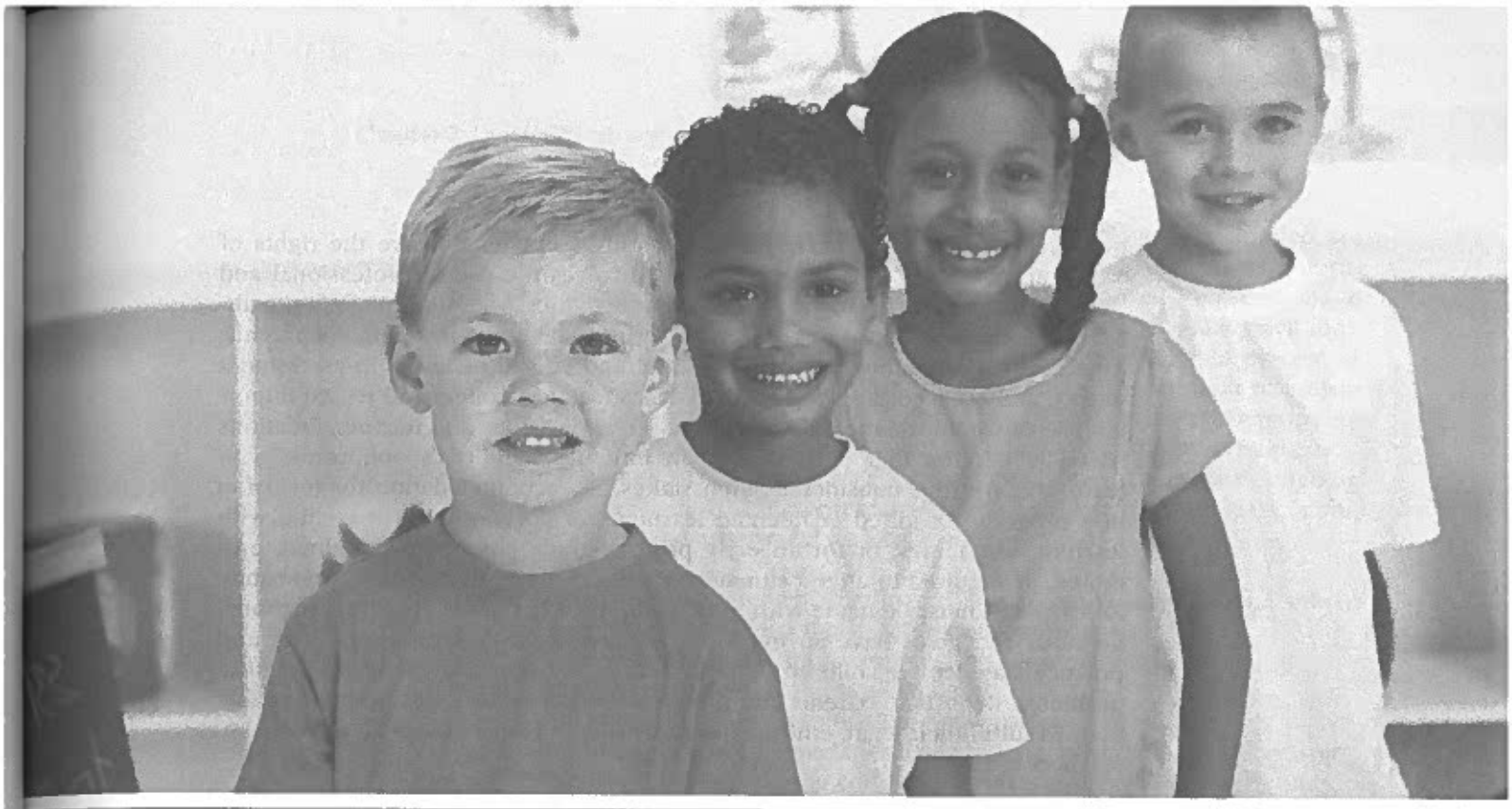

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CHAPTER 2

Legal, Ethical, and Professional Responsibilities in Assessment

Learning Outcomes

1. List the types of requirements teachers must keep in mind as they assess children.
2. Define *reliability, validity,* and *fairness* and describe how to make an assessment more reliable, valid, and fair.
3. Describe what may lead to the assessment bias in today's classroom and explain how such bias can be avoided.
4. Explain why teachers need to be objective and maintain confidentiality while engaged in student assessment.
5. Identify potential ethical concerns associated with the use of assessment results in inappropriate ways.

Teachers must advocate for fairness in assessment, where the rights of all concerned are addressed. This involves the use of professional and ethical behavior toward assessment activities, including planning, gathering information, and conveying the results and their meaning to parents. All teachers must know what professional and ethical behavior in assessment means, and act accordingly. On a daily basis teachers collect and record important, sensitive information about children. The decisions and recommendations based in part on that information can influence children's opportunities to learn and are thus considered "high stakes." A recommendation for inclusion in a program for gifted or talented learners; for special help for a child with learning disabilities; or for an early primary-grade child to be retained, promoted, or required to attend summer school relates to that child's opportunity to learn and must be made with great care. Even decisions about instructional methods and goals have an impact. For example, overemphasis on drill and practice may deprive children of opportunities to apply knowledge to practical problems. Reports to parents and other school personnel must be fair and factual. To fulfill their legal, ethical, and professional responsibility in assessment, teachers must

- Know federal, state, and local requirements related to assessment.
- Ensure that assessment information is accurate and trustworthy.
- Assess all children fairly.
- Follow professional and ethical guidelines.
- Use assessment information in appropriate ways.

This chapter is long and weighty because the topic is weighty. It reflects the importance of educational assessment in schools and society.

Federal, State, and Local Requirements Related to Assessment

Many federal and state laws, regulations, court decisions, and policies influence assessment. These have changed over time and will continue to do so, reflecting social, demographic, and political shifts; perceptions of educational need; economic realities; and a host of other factors.

Federal laws take precedence over state and local laws and policies. They are the "law of the land." What that means in education is that a school or early childhood center supported in part by money from the federal government accepts the regulations and requirements that accompany that money.

Federal Requirements

Federal laws pertaining to student assessment fall into two broad categories. The first mandates large-scale assessment for accountability purposes. These measures are designed to determine if children are receiving the services they are supposed to and learning what they are expected to learn at their grade level. The second category relates primarily to families and children with special needs: physical, mental, or behavioral disabilities or cultural or linguistic differences. These laws have many implications for the assessment of all children.

Assessments for Accountability. Federal requirements for accountability from schools that receive federal money are found in the reauthorizations of the Elementary and Secondary Education Act (ESEA) and the regulations

based on those laws. The specifics of how the requirements are applied are negotiated between each state and the U.S. Department of Education. Educators should expect modifications in those agreements as well as alterations in the legislation and regulations. For example, some states assess and track individual students' progress over time rather than testing to see what percent of children achieve proficiency each year. Consult the U.S. Department of Education website for current information. Refer to the individual states' Department of Education websites for state agreements to comply with the requirements.

Even though specific accountability requirements may change with ongoing legislation, certain aspects of accountability laws are likely to continue to influence early childhood assessment and education:

- To receive ESEA federal funding, all states, public schools, and school districts will need to comply with federal regulations.
- Each state will negotiate its approach to accountability.
- Progress must be shown for all students.
- Emphasis will be on reading and mathematics.
- Resulting data will be made available to parents and the public at large.
- There will be pressure on early childhood educators to prepare children for accountability measures, whatever they are.

Prekindergarten programs that receive federal funds, such as Head Start and Title I, or combinations of federal, state, and local funds have their own accountability measures that vary according to the program, the policies of the state, and the type of program.

Federal Requirements Relating to Children with Special Needs. Federal laws, their amendments, and the resulting regulations and court decisions relate to children, families, and educational assessment procedures. They build on the basic civil rights of all citizens: the right to equal treatment under the law, due process, and privacy.

- Preschool through primary-age children are entitled to a free and public education in the least restrictive environment. They should be assessed in the language they know best.
- Parents must be notified and give informed consent before administration of any measures for classification, planning, or placement. They may request an evaluation, reevaluation, or independent evaluation of their child. Also, they may have their child assessed in the language the child knows best.
- Parents can question and challenge actions related to their child's education taken by the school. They may review their child's records, obtain copies, challenge questionable information, and have such information withdrawn. Schools must have written permission from the parent before releasing any information from a student's records.
- The means used to identify, classify, and place children must be used for the purpose for which they are intended. Such measures should provide information that assists in determining the educational needs of the child academically, developmentally, and functionally. A variety of culturally and linguistically fair assessment tools and strategies should be used. No single procedure can be the sole criterion.
- Information from all sources must be documented and carefully considered. This includes assessment information provided by the parent, current classroom-based assessments and observations, and observation by teachers and related service providers.

- Accommodations and alternate assessments must be available for children with disabilities who are taking part in state- and districtwide assessment programs.
- Young children with disabilities must have an individual educational plan (IEP) prepared by an educational team that includes a general educator, a special educator, someone knowledgeable about assessment and the implications of assessment results for classroom practices, parents, and other involved persons. The educational team is responsible not only for developing the IEP but also for evaluation, delivery of instruction, and monitoring student progress (PL 94-142 (1975) The Education for all Handicapped Children Act; PL 99-457 (1986); PL 101-576 (1990, 1997, 2004) Individuals with Disabilities Education Act (IDEA); PL 93-380 (1974) Family Education Rights and Privacy Act).

National requirements such as these have changed both the nature and the amount of assessment that teachers are expected to do. Two examples will illustrate: inclusive education and response to intervention.

Inclusive education refers to the inclusion of youngsters with special needs as fully as possible in all aspects of education and community life—the "least restrictive environment." At one time, children with special needs were usually taken out of the regular classroom and placed in self-contained "special ed" classrooms. The regular classroom teacher had no responsibility for their education. Inclusive classrooms include all children as much as possible, and teachers are part of an educational team responsible for instruction, including assessment.

Response to intervention (sometimes called *response to instruction*) (RTI) is a strategy for distinguishing between students who may be struggling to learn and those who are learning disabled. It is usually considered as a "prereferral," meaning that it is carried out before a child is referred for evaluation for special education services. In the RTI strategy, high-quality instruction in language, literacy, and mathematics is provided for all children at differing levels of intensity and with differing approaches within a core curriculum. The premise is that most children will learn if they receive appropriate instruction targeted to their assessed needs. Those who do not learn may require special services. The statute and regulations require "data-based documentation of repeated assessments of achievement at reasonable intervals" (International Reading Association, 2009). Frequent, classroom-based, instructionally relevant assessment—progress monitoring—is essential. Response to intervention is a framework to help teachers and schools provide effective instruction, primarily in language and literacy, based on the assessed needs of the learners. In the process, the number of children who achieve success in regular school should increase, and those children who need specialized services will receive them in a timely fashion.

State and Local Requirements

States have varying approaches to accountability. Many have developed their own tests and large-scale testing programs aligned with state standards and objectives. Some use existing standardized achievement tests. These types of tests meet federal testing requirements. State requirements for assessment of children in state-funded prekindergarten programs also vary. Some states have no state-funded prekindergarten programs. Other states require rigorous monitoring of early childhood programs (such as adult–child ratio, floor space, equipment, and activities offered) but no assessment of children. Some states require children's progress to be reported but leave the nature of that reporting up to local

programs. And other states require that all programs receiving state funds use a certain instrument and process such as the Work Sampling System (Meisels, Dichtelmiller, Jablon, Dorfman, & Marsden, 2001) so that results from all programs can be aggregated and analyzed.

Local school district and early childhood center policies about assessment, record keeping, and reporting also vary. Teachers need to know what is kept in cumulative files, personal files, and health records and who sees the files for what purposes; policies about what teachers and children put in classroom portfolios; and policies and procedures for referral of children for further assessment, including prereferral strategies. Also, teachers must be knowledgeable about local procedures for documenting and reporting required information about children and families, such as suspected child abuse and neglect, as well as what information is transferred from one early childhood setting or program to another and how. For example, as primary-school children move to the intermediate grades, what reading and writing samples and records go with them? These are local decisions that will vary, unlike federal laws and court decisions that have national application.

Ensure That Assessment Information Is Accurate and Trustworthy

Assessment should be valid, reliable, and fair. These three criteria help educators evaluate assessments and the inferences that are made based on that information.

The freedom that teachers have in classroom assessment is accompanied by professional responsibility to make sure the information is accurate, trustworthy, dependable, fair, and free of bias (Cambourne & Turbill, 1990; McMillan, 2008; Popham, 2013). Reliability and validity—concepts most often associated with test construction and development—also apply to classroom assessment. Standardized achievement and screening tests meet rigorous standards before they are deemed reliable and valid, and statistical information relating to reliability and validity is published so that potential users can evaluate it. See Chapter 10 for more information on reliability and validity in standardized tests. Such rigor is not necessary for information used for ongoing *continuous assessment* (Shepard, 2000), yet there must be some check on reliability and validity to make sure the results represent what a child knows and what he or she can do. There are no statistical tests for fairness or absence of bias. However, that does not lessen its importance in assessing children's learning in a diverse society.

Evaluation of the trustworthiness of assessment information is part of the overall process of assessment and should be done continuously—as information is being collected and recorded, and as it is summarized, analyzed, and used to make decisions or reports. It is easy to assume that because the teacher is directly measuring something, the appraisal is reliable, valid, and fair. This is not the case, however. Throughout this text are examples of ways to increase the accuracy and trustworthiness of information. At this point, here are some general guides and cautions.

Reliability

The results of assessment should be reliable, consistent, and dependable. They should be reproducible—in other words, one should be able to obtain a similar performance at another time or place. *Reliability* is the extent to which any

assessment technique yields results that are accurate and consistent over time. To increase reliability:

- Make assessment situations nonthreatening and supportive.
- In informal assessment, make questions and requests clear and understandable.
- Especially in a published assessment, follow the directions exactly.
- Be alert to the impact of environmental distractions on children's performance.
- Check that assessment results seem consistent with overall capacities; the child's mental or physical state—how he or she "feels"—can influence performance, as can other factors.
- Make more than one assessment.

Direct and persistent questioning can make children uneasy, resulting in performances that do not reflect their true abilities. This is true for all children, but particularly for those who do not regularly engage in back and forth dialogue at home. Adults they don't know speaking in an unfamiliar way in an unfamiliar setting may render even the most talkative child mute!

Be precise in following directions on published assessments or standardized tests. The reliability of these tests depends on duplicating the original conditions (Chapter 10). In informal classroom assessment, vague or confusing questions and requests yield unreliable results because they can be interpreted in various ways at different times.

Environmental distractions such as a noisy group discussion in another part of the room, interruptions by other children, or a strange situation can cause unreliable results (Maeroff, 1991; McMillan, 2008). Unexpected events such as a loose hamster, unplanned assembly, or fire drill can affect a child's responses and therefore the reliability of the assessment.

How the child is feeling, including mental state, illness, fatigue, lack of interest, anxiety, or a "bad day," also impacts reliability. An argument at home, on the school bus, or on the playground can make any appraisal done that day unreliable. Be alert for uncharacteristic behavior or inconsistencies. The information obtained on one occasion should be comparable to information obtained on other occasions and consistent with other information collected at other times from other sources and methods (Sattler, 2008). For example, suppose Ms. Maclaren is measuring social interaction of a group. As she reviews her record of the interaction, she finds that José stayed alone most of the morning. Ms. Maclaren thinks, "This is so unlike José. He is usually right in there making suggestions." Ms. Maclaren concludes that this is not a reliable sample of José's social interaction because it does not capture his normal behavior. On another day, he would probably interact freely. The difference in performance suggests unreliability of the assessment.

To increase reliability, make more than one measurement of the same behavior. If you decide information from an assessment is unreliable, do not use it. If you suspect information may be unreliable, mark it, and have the child repeat the activity or demonstrate the behavior in a different situation. One of the big advantages of informal assessment is that youngsters can have more than one chance to demonstrate their capability.

Validity

Validity is the extent to which any assessment technique fulfills the purpose for which it is intended. It has to do with both the assessment and the interpretations, conclusions, or inferences that can be made based on the information

gathered (Cronbach, 1990; Popham, 2013). Valid assessments appraise what they were designed to do; that is, they provide accurate information about the item under consideration. The interpretations or conclusions are also reasonable and fair, given the information that has been collected (Woolfolk, 2012)

In addition, teachers need to think of validity in terms of what is being assessed (Herman, Aschbacher, & Winters, 1992). Is it significant and important? Is it aligned with expected outcomes for children—what children have or will have an opportunity to learn? Will it be meaningful to you, the child, and others who are concerned with the child's learning and development? To increase validity:

- Provide enough samples to cover or adequately represent a behavior.
- Assure that the samples are "balanced"—that is, don't overemphasize one type of information or one context.
- Check to see if information obtained in different ways converges.
- Confirm that the assessment is measuring what you intend.

All assessments are samples, because it is physically impossible to assess every possible incidence of a behavior (Sattler, 2008). A valid assessment must have enough samples to be representative of the entire behavior. There are no hard and fast rules about how much information is needed to cover or adequately represent a behavior (Cronbach, 1990). This depends partly on the behavior being assessed. It takes only a few items to yield valid results on a specific behavior such as using a ruler or indicating equal-arm balance. Much information will be necessary to make valid statements about development in a large and complex domain such as cognitive or social development.

To be valid, the representative sample must be balanced (Cohen, Swerdlik, & Sturman, 2012; Kaplan & Saccuzzo, 2012; Miller, Lovlar, & McIntire, 2012). The assessment should not overemphasize one type of information or oversample one context. For example, a child's ability to identify letters should not rely solely on information from written work; pointing to or saying the letter names should be included. To obtain a valid measure of a child's sharing behavior, a teacher must observe the child in several contexts: outdoor play, snack, cooperative learning groups, and others. Evidence from a variety of sources, methods, and contexts measuring the same thing should converge (Cronbach, 1990).

A valid assessment provides evidence about what it is supposed to assess and not something else. Suppose a teacher is interested in the number of roles children will assume during a dramatic play activity. He sets up a bus and invites several children to play. During the assessment, one child makes herself the bus driver and insists that all the other children act as the children on the bus. When any of the other children suggest roles other than children, the "bus driver" shouts them down. The total number of roles played in the session is one per child, although different children attempted but were not allowed to change roles. The appraisal is not measuring the number of roles children take but the social interaction when one child dominates the group. The teacher must make another assessment to measure role-taking and role-changing behavior.

One way to check validity is to compare children who do well with those who do not, then identify reasons for those differences. If the reason for the differences is the behavior you are trying to measure, then the assessment is probably valid. If differences are caused by something else, then the assessment is not valid. For example, Ms. Aptos designed an art activity using small seeds glued to paper to measure patterning abilities in children. Comparing the group of students who produced a pattern with those students who did not, she found that there were no differences in the ability to make a pattern with blocks and beans—objects larger than the small seeds she used. But results from the seed

project were similar to those of her appraisal of fine motor skills. Children who did well in the fine motor assessment also did well in this patterning activity. This was not a valid assessment of patterning, because fine motor skills were assessed, not the ability to produce patterns.

Do not use invalid data. Repeat the assessment, modifying the way information is gathered for that particular individual or group. If information was not representative or too few indicators were included, assess to obtain the missing data.

Fairness

Probably no issues related to assessment are more emotionally and educationally charged than those related to bias and fairness. One of the harshest criticisms of standardized tests is that they may be biased against children who are not of the dominant culture and language or are from families with low income and educational levels. This concern for *fairness* extends to all assessment procedures. Indeed, informal appraisals that rely on an individual to gather information and determine its meaning increase the potential for bias.

Bias usually refers to a test, procedure, result, or use that unfairly discriminates against one group in favor of another. It is a complex concept, not easily simplified, and involves not only tests and assessment procedures but also use of the results (Aber, Jones, & Cohen, 1999; Berk, 1982; Cronbach, 1990; Jones, 1988; Shepard, 1982). The overrepresentation of young minority group children and dual-language/English-language learners in special education classes and their underrepresentation in programs for gifted and talented children is a frequently cited example of bias (Hosp & Reschly, 2004; Snow & Van Hemel, 2008).

Fair assessment is essential to the education of all children in a diverse society. The next section explores the concept of fairness as it pertains to contemporary concerns.

Assess All Children Fairly

We will discuss three conditions in which fairness in assessment is of particular concern to early childhood educators: assessing children with disabilities, children who need challenge, and children whose linguistic, social, and cultural backgrounds differ from those of the dominant culture. There is expanded guidance on fair assessment of children from racial, ethnic, and language minority groups.

Children with Disabilities

Identifying and educating youngsters with special needs—such as disabilities, developmental delays, or learning problems—is a challenge. Many children with special needs do not fit any categories, or alternatively may fit several. Those who have severe hearing or vision impairment or severe neurological, orthopedic, muscular, or multiple disabilities are usually identified and diagnosed before they enter the classroom setting. Less obvious needs—such as learning disabilities, speech and language problems, emotional disturbance, attention deficit disorders, or mild developmental delays—may first be detected by a classroom teacher. The developmental "red flags" in Appendix B will alert you to a possible need for special help.

Even when teachers are sensitive to possible problems, they must be careful not to overidentify. Many school "problems" are perfectly normal behavior for children of a given age, developmental level, or cultural group (Armstrong, 1995; McAfee, Leong, & Bodrova, 2004; Woolfolk, 2012). Children's abilities to listen and attend are influenced by the time of day, the number and type of distractions, their interest in the activity, and other variables. Inappropriate educational programming or classroom guidance may result in failure to learn or in child behavior that is distracting or disruptive. Active young children who are asked to sit and work at tasks beyond their developmental level, or just to sit still too long, may seek unacceptable outlets. Children who need to manipulate, arrange, rearrange, and solve problems with objects may fail to learn if the same task is presented with symbols only.

Developmentally and individually appropriate programs lessen unrealistic expectations of young children and allow identification of children who truly have special needs. Most schools, centers, and agencies have multiple safeguards to ensure that children's and families' rights are protected. These include classroom intervention and instruction strategies for struggling students, such as response to intervention/instruction (RTI). Evaluations that lead to placement in special programs are considered "high stakes," and teachers work with many other people to make those recommendations.

Children Who Need Challenge

Young children may need special challenge for many reasons: the richness and variety of their educational and family experiences; early learning of basic skills; precocious development in a particular area; generally advanced development; being older than other children in the group; or being creative, gifted, talented, or of "high potential." Classroom assessment can identify children who need challenge, the areas in which they need it, and some guidance for appropriate activities to nurture their interests and abilities. Not all children who need challenge are gifted or talented, but fairness indicates that teachers should be as alert to these children's needs as to those who have difficulty.

As with any other assessment of young children, the potential for error is great. It is easy to mistake rapid learning, early maturation, or special training for true giftedness. Teachers are likely to confuse conformity, neatness, and good behavior with giftedness. Giftedness and talent take many forms, but early childhood schools frequently recognize only intellectual prowess—being "smart." Parental pressures to have children in gifted programs can have negative effects on the child. Designating a youngster as gifted, talented, or of high potential should be done with all legal and ethical safeguards.

Children from Diverse Social, Cultural, and Linguistic Backgrounds

Young children in the United States come from diverse backgrounds. They vary in race and ethnicity; culture and degree of acculturation; language dominance and fluency; family income and educational level; rural, rural-isolated, urban, suburban, or inner-city home location; family structure and values; and prior school experience. Administrators and teachers represent those same backgrounds. And regardless of whether they recognize it, all these individuals bring those differences to the classroom assessment process. Teachers, families, and children are often unaware of cultural differences that may influence children's performance (Gonzalez-Mena, 1997, 2008; Phillips, 1983; West, 1992). In

a fast-changing cultural setting such as the United States, acculturation occurs at varying speeds, and knowledge of the powerful and subtle ways home, community, and culture influence children's development is often lacking.

Fair, authentic assessment is essential if schools are to educate all children regardless of their social, economic, or cultural backgrounds. To these differences in child backgrounds—including racial and cultural heritage, health, family situation, as well as experience with schooling—one could add gender, place of residence, family financial and social status, educational level and English-language proficiency of parents or guardians, length of time immigrant families have been in the country, genetic inheritance, and the many other influences that shape human development and make each person unique.

Standardized tests are criticized for lack of sensitivity to sociocultural influences on children's learning. Classroom assessment holds the promise of being more sensitive. This will not happen automatically, or even easily. In practice, the challenge of developing equitable assessment processes for children from diverse backgrounds may become the responsibility of the classroom teacher. Consequently, teachers must acknowledge and understand the influence that sociocultural background has on classroom assessment. These range from a simple thing as whether the child is used to answering "test-like" questions to deep-seated family attitudes—supportive, nonsupportive, or indifferent—toward anything connected with educational institutions. For example, some families may help their children in anything connected with schooling, coaching them on how to behave and respond and providing supplementary experiences. Others may not know how to help children bridge that gap, or even that they could.

Teachers are also products of a particular sociocultural background, often with little conscious knowledge of why they have certain values, expectations, or ways of acting. When they interact with people who speak languages or dialects other than theirs, or act in different ways, they may have a tendency to judge those people's behavior by their own standards. Understanding their own cultural values will help teachers become more sensitive to cultural differences in children and families (Derman-Sparks & Edwards, 2012).

Local sources offer the best guidance about cultural, language, and other differences in a given community. Families, a family coordinator, a school–home liaison, a cultural guide, or a language specialist, if available, should have local and current information that will increase understanding. Schools, centers, and human resource agencies often distribute printed information or conduct workshops on significant differences likely to be found within cultural groups in a particular area. Economic, language, ethnic, and cultural groups are not monolithic in their attitudes and practices, and generalizations may or may not apply to particular individuals, families, or communities.

> People have individual values, personal inclinations, and behavior styles that determine how they will act. Any statement about culture is a generalization and doesn't tell you how an individual in that culture will act. You can see trends, themes, and probabilities, . . . but be careful about generalizing that information to individuals. (Gonzalez-Mena, 1997, p. 98)

It is tempting to equate sociocultural differences with skin color, ethnic origin, name, or economic status, but reality is not that simple. Many families have mixed ethnic, racial, and religious backgrounds through marriage, adoption, and other circumstances. Some families have definite preferences and choices about the cultural orientation and education they want their children to have—regardless of family background.

Cultural and Linguistic Differences That May Influence Assessment

Children's backgrounds influence their knowledge, skills, attitudes, vocabulary, and ways of interacting with other people. The language or languages they speak and their level of proficiency in each are intertwined with their family and community background in complex and subtle ways.

Knowledge and vocabulary about the ocean or the desert, inner-city or suburban life, street games, families, food, and anything else will be related to the place of that knowledge in a particular culture, and may be quite different from what others expect. Children may have had limited opportunity to learn about things others assume "everyone" knows—sports, television programs, movies, holidays, advertisements, celebrities, and more.

Rules for expressing opinions, discussing, and taking turns in conversation may differ from one culture to another (Gumperz & Gumperz, 1981). Politeness and respect are communicated in different ways: averting the eyes or looking "straight in the eye"; silence or response; saying or not saying "Yes, ma'am," or "No, sir." Even "thinking seriously" is communicated in different ways. When asked a difficult question, children from one culture may look up, whereas children from another culture may look down. Teachers filter this behavior through the school or their own culture to determine its meaning. Chances are that the child looking up will be assessed as "trying harder" than the child who looks down, unless the teacher is aware of the cultural difference.

Sociocultural values help shape children's development. This is a complex process, but some simple examples will illustrate. One culture may emphasize fine motor skills so that children may be advanced in cutting and drawing, but behind in jumping, kicking, or running. Another may emphasize large motor development so that children's physical development is far ahead of expectations. Some cultures emphasize independence, whereas others emphasize cooperation.

Children from one cultural group may have learned ways of responding to questions that put them at a disadvantage in school. One researcher found that African American children's responses were more likely to describe objects and events in relation to themselves or their experience rather than to name the object or event (Lawson, 1986)—for example, "It's bigger than the one I have at home" as opposed to "It's bigger than the statue of the dog." The expected response in most school settings is the name of the object or event. Rules that govern conversations—such as taking turns and being aware of pace in conversations, pauses and silence, and who asks and answers questions—may differ from what is expected in school. Children's interactions with adults—when they are to talk, to whom they are to talk, and what kind of language they are to use—are influenced by their home culture (National Association for the Education of Young Children (NAEYC), 2005). All these factors may influence assessment.

The thinking processes and learning styles that children develop and use are closely linked to the sociocultural environment in which they develop, as those processes are nurtured in collaboration with others or in social arrangements of children's activities (Bodrova & Leong, 2007; Rogoff, 1990). Learning processes, such as memory strategies, classification processes, and approaches to problem solving, are not developed solely within the individual, but "are intrinsically related to social and societal values and goals, tools, and institutions" (Rogoff, 1990, p. 61). For example, taxonomic classification—putting things together in

abstract categories on the basis of their presumed relationships—is emphasized in school and some cultures. Perceptual categories—how things look the same or different—are emphasized in others (Ceci, 1991). As schools and centers aim to assess and teach complex cognitive processes, as well as reading, computation, and recall of facts, the influence of sociocultural differences may be more, not less, important.

Assessment that occurs in school settings is subject to the biases of the school culture. All schools have a "culture," including certain values, rules for interaction and behavior, and expectations (Frank, 1999). All children must make some adjustments to being away from home. For most youngsters, these adjustments expand their world and the repertoire of behavior and skills they have at their command (Powell, 1989). However, children from some ethnic, cultural, and community backgrounds must make more and often difficult adjustments (Kagan, Moore, & Bredekamp, 1995) They may not be used to following oral directions, performing on demand, or operating within the restrictions of the setting. They may base their answers on social cues rather than on what they "think" or know (Sattler, 2008). It is likely that these children will need more explicit directions and support.

Implications for Assessment

"Assessment . . . presents a formidable problem for teachers of children outside the economic and cultural mainstream" (Bowman, 1992, p. 136). Little definitive research exists on the way assessment should be done to be sensitive to diversity. Whenever human judgment is involved, the potential for human bias increases. Teachers should take extra care to overcome that possibility. The following guidelines are based on available information, older research that has implications for current practices, strategies particularly suited to working with young children, and personal experience in assessing and teaching young children.

Assume There Will Be Sociocultural Influences on Children's Actions in the Classroom. If nothing more, there will be differences among expectations of the home and community, previous schools, and the current setting. Children from a setting that stresses individual choice, initiative, creativity, and much peer verbal interaction may be perceived differently from children who are quiet and wait for direction. These differences may be present across all cultural, social, or economic backgrounds. Assume, also, that there may be lack of congruence among the school culture and the sociocultural settings of the home and community. Competitiveness and cooperation, gender-role differentiation, the importance of schooling in the life of the family or community, the relationship of the child to adults, and many other aspects related to learning and teaching may be involved. If you suspect that cultural, language, or other differences may be operating, check it out. Use this information to understand why children may be having trouble, and then gradually help them learn whatever it is they need to know. However, don't make the mistake of blaming all problems on a child's home background.

Distinguish Social, Cultural, Language, and Ethnic Differences from Deficits or Disabilities. The disproportionate representation of minority groups in special education is a national concern (Hosp & Reschly, 2004; Snow & Van Hemel, 2008). Sometimes sensitivity to cultural differences in assessment

and instruction is sufficient safeguard. Other safeguards related specifically to assessment include:

- A clear prereferral and referral system that rules out cultural differences, lack of English-language proficiency, or economic disadvantage as contributing factors
- Documentation of prereferral efforts (such as response to intervention) and their results
- Multiple assessment measures and a broad base of student data
- Tests and procedures that are technically acceptable and culturally and linguistically appropriate
- Personnel who can interpret results in a culturally responsive way

Involve Parents and the Community. Parents and community language and cultural specialists provide information and insight about children and the diverse cultures and languages they bring to the classroom. They can also work with the school to support children's learning. Encourage parents to read to, converse with, and instruct children in the language of the home, whatever it is. Supply appropriate resources, if needed. For example, if parents are not comfortable reading English, help children learn how to discuss wordless picture books, and make such books available to use at home.

Use Multiple Assessment Measures in a Supportive, Familiar Context. Use both verbal and nonverbal measures. Set up assessment situations so children can demonstrate their full capabilities. The freedom to do that is one of the big differences between classroom assessment and standardized tests. "Most children in low-income and minority communities have mastered [developmental tasks similar to those expected of all children], but their mastery may be displayed in unfamiliar dress" (Bowman, 1992, p. 134). If one approach is not appropriate, another may be; one provides a check against the other, so that a youngster who is unable to respond in one context or to one method of assessment has some options (Villegas, 1991).

Be prepared to rephrase, restate, or recast a task or expectation in terms familiar and sensible to the youngsters. Change the assessment context to a more familiar one. Assess using children's interests and activities, which should, in turn, be linked to their homes and communities—the sociocultural setting.

Children who are unable or unwilling to respond to structured performance tasks may be able to demonstrate their knowledge in informal "real-life situations." When she was asked to name colors, 4-year-old Leila simply did not respond. Less than a half-hour later, during informal lunchtime conversation with her teacher, Leila said all the color names correctly, linked with examples and incorporated into functional, real conversation. Which is Leila's true competence level? Assessing in noncontrived "contextualized" situations—informal, comfortable, and familiar—may enable children to perform at higher levels (Cazden, 2006).

Appreciate and Accommodate the Similarities and Differences among Children's Cultures. Identify and work with differences in a positive manner. All too often teachers focus on perceived differences and overlook the similarities (Jones & Derman-Sparks, 1992; Rogoff, 1990). Similarities may give points of entrance for assessment and instruction. Above all, do not assume a lack of ability or potential based on social, cultural, ethnic, or language differences

(Burnette, 1999; Gonzalez-Mena, 2008; National Association for the Education of Young Children (NAEYC), 2005; Snow & Van Hemel, 2008).

Dual-Language Learners/English-Language Learners

Given the diversity of languages and cultures, accurate and fair assessment of *dual-language learners* and English-language learners is difficult and complex. Schools have varying approaches to helping these youngsters attain English-language proficiency. The following suggestions are congruent with most approaches. The recommendations that apply specifically to language learning augment the more general ones relating to cultural and linguistic diversity.

- *Ideally, classroom assessment of dual-language/English-language is done by bilingual, bicultural adults who know the child.* These adults may be teachers, language specialists, assessment assistants, or specialized consultants (National Association for the Education of Young Children (NAEYC), 2005).
- *Assess in both English and the child's home language whenever possible.* This should give the maximum amount of information to guide instruction.
- *Assess to get information on English-language proficiency plus knowledge of expected school-related content.* Children may have adequate English to get along in the classroom, but not to do content-related tasks such as contrasting and comparing, sequencing, or comprehending terms used in reading instruction (Gottlieb, 2006).
- *Except when assessing English-language proficiency, accept the home language, English, or a mix as an appropriate response.* It is the ideas and concepts that are important for learning, regardless of what language they are in.
- *Assess language development repeatedly over time, with emphasis on assessment in everyday, natural settings.* Learning a language takes time; children do not "pick it up" as rapidly as was once thought. They may acquire social language rapidly, but require much more time for academic proficiency (Gottlieb, 2006; National Association for the Education of Young Children (NAEYC), 2005).

The National Association for the Education of Young Children, Head Start, and other groups have additional guides for assessing dual-language/English-language learners. Guides relating to standardized testing are in Chapter 10.

Follow Professional and Ethical Guidelines

Organizations involved in assessment have lengthy statements of professional and ethical responsibilities related to assessment. Many of those principles address the use of tests and testing. Some have special relevance to classroom assessment: maintaining objectivity in assessing children and instruction, avoiding labels, and maintaining confidentiality.

Be as Objective as Possible

Being *objective* means trying to obtain and use facts, information, or data without distortion by personal feelings, beliefs, or prejudging. When personal experiences, beliefs, or opinions strongly influence someone's perception of events,

facts, or behavior, that person is being *subjective*, not objective. For example, the teacher who believes that boys are "better" at mathematical and mechanical tasks may perceive all children through those beliefs unless that teacher takes great care to look at what individual children know and can do. Likewise, if a teacher believes that girls are "better" at language and reading, those beliefs may influence her or his assessment and instruction in many subtle ways.

No one is totally objective. Even the information a person chooses to collect is influenced by that individual's personal experience, beliefs, and interests. One teacher observing children at play may focus on their social interactions; another may note the cognitive and language aspects of what they are doing; still another may zero in on their physical development. Teachers might judge children on whether their hair is clean and neatly combed; the appropriateness of their clothing; the dialect variations in their speech; the match of their personality and interests to that of the teachers; and deeply embedded cultural values. These judgments are often so much a part of a person and so subtle that the person does not realize they exist. Although prejudging is sometimes connected with low-income or minority families, it extends to all children: those with nontraditional family structures; those whose mothers work outside the home; those who are intellectually, socially, or economically privileged; or those who are "different" in any way.

Objectivity in collecting, recording, understanding, and using information about children can increase the fairness, accuracy, and usefulness of assessment. By no means should personal insights, feelings, and intuition be excluded, but most educators need the discipline of objectivity to achieve impartiality (Bentzen, 2009).

Being objective involves more than objectivity in collecting information about children. Teachers should observe and evaluate not only children but also how classroom procedures, instructional practices, and teachers influence children's behavior and learning. Not everything can be attributed to child characteristics or learning needs. A child who is "distractible" in a noisy, chaotic classroom may be task oriented in a different setting. A youngster who "hasn't a clue" about some math or science concept may "get it" with different examples, a more down-to-earth explanation, or a different instructional approach. A teacher who has worked hard to help a group of children master something may find it difficult to believe that children still have much to learn. It is even more difficult to acknowledge that instructional practices may need to be changed.

Avoid Categories and Labels

It is easy to place a "halo" on some children and see everything they do in the best possible light. It is equally easy to consistently interpret the actions of other children less favorably, especially those who always seem to be simply average, regardless of their performance (Almy & Genishi, 1979). This lack of objectivity may mask the needs of the "halos" and substantive progress of the others.

Labels—often in current jargon—slip out so easily: "ADHD" (attention deficit hyperactivity disorder), "ASD" (autism spectrum disorder), "shy," "withdrawn," "acting out," "underachiever," "gifted," "troublemaker." Not only can a label give the false impression that a real and unchanging characteristic has been identified but it can also stick to a child for years regardless of its accuracy. Labels usually have connotations, often negative, that may set up inappropriate expectations about individual children. Concentrate on describing and understanding individual children instead of labeling them (Goodwin & Driscoll, 1980). There are times when children have to be diagnosed as being in a certain group to

receive appropriate services, but such diagnoses are beyond the authority of the classroom teacher.

Maintain Confidentiality

Federal and state laws and policies establish that parents and children have several rights relating to assessment. One of these is the right to privacy. Parents must give permission before any testing or release of information to someone other than the parent or the educational institution. It is the responsibility of the school to keep a written record of who has seen or requested to see a child's records (PL 93-380, the Family Educational Rights and Privacy Act of 1974).

In addition, there are ethical constraints on school personnel. When working with children all day, it is easy to carry incidents, frustrations, or interesting observations into a teachers' lounge, nearby restaurant, or social gathering. Don't fall into this trap. Share information about children *only* with people who have a need and a right to know. Never make potentially damaging oral or written remarks. Keep written notes, checklists, or other records—even those that are in progress—in a place where they are not readily accessible to adults or children who might casually read them. Place private information in the appropriate and confidential file, and discuss it only on a professional basis. Teachers are in a position of trust. In this privileged role, they know many things about children and families that may never appear on paper, much less arise in casual conversation. Teach ethical behavior related to confidentiality of information to any classroom assistants or volunteers.

Children's portfolios that consist primarily of work products are usually all right in open folders in the classroom. However, if you share classroom space with other community groups, find a lockable cabinet in which to store the folders. Keep portfolios that contain information usually considered private, such as performance results or summary reports, confidential. Children's journals present a special case. Although they are done as part of classroom work, they sometimes contain children's feelings, concerns, and problems, including ones from home. Make a distinction between journals that simply report on a child's project or class work and those that may be more personal. Young children can seldom make a distinction between what is private and what is to be shared with other children and teachers. Teachers may have to screen student work.

Notes, full or partly completed checklists, rating scales, and other forms should be placed in a file folder, a drawer, or slipped to the bottom of the stack on a clipboard, away from casual reading by anyone. Also, remember to teach ethical behavior related to confidentiality of information to classroom aides and volunteers.

Use Assessment Results in Appropriate Ways

The following are guidelines for using assessment results in appropriate ways.

Know the Limitations of Each Method of Assessment and Guard Against Overreliance

Each method of getting and recording information about children has strengths and limitations. Checklists, for example, are a good way to record the presence or absence of knowledge or skills, but they give little information about

the precision and subtlety of children's thinking processes. Interviews, discussions, or children's reflections are needed to tap thinking processes. One type of information complements the other. For important, high-stakes decisions, use multiple assessment windows—several sources, methods, and contexts—to get the best information possible (American Educational Research Association, 2000; American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014; National Association for the Education of Young Children (NAEYC) & National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE), 2003). Results of standardized tests or inventories should be weighed against the outcomes of other types of assessment.

An appropriate test, clinical assessment, or in-depth diagnosis by a specialist can validate or cast doubt on the results of informal appraisals. Human behavior is complex, and the instruments for assessing it are relatively crude. Assessment results are estimates, at best. Teachers must regard them as tentative, subject to error, and subject to revision on the basis of additional information.

Use Assessment Results for the Intended Purposes

Assessment results should be used for "specific, beneficial purposes: (1) making sound decisions about teaching and learning, (2) identifying significant concerns for individual children, and (3) helping programs improve their educational and developmental interventions" (National Association for the Education of Young Children (NAEYC) & National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE), 2003, p. 2). Other purposes include reporting to and communicating with families, other professionals, administrators, funding and regulatory agencies, and citizen groups, and helping to know and understand the students in the classroom. Inappropriate uses include delaying children's entrance to school; retaining children in grade; recommending children for special programs without proper safeguards; and placing them in rigid, unvarying groups or "tracks."

Summary

As early childhood teachers assume additional assessment responsibilities, they also assume professional responsibilities specific to assessment. Federal, state, and local requirements for assessment and accountability impact most classrooms. Legal and ethical responsibility relates to giving all children an equal opportunity to learn. Teachers should know federal, state, and local requirements related to assessment; ensure that assessment information is reliable, valid, and fair; assess all children fairly; follow professional and ethical guidelines; and use assessment information in appropriate ways.

Federal laws pertaining to assessment fall into two broad categories. The first mandates large-scale assessment for accountability purposes. These measures are designed to determine if children are receiving the services they are supposed to and learning what they are expected to learn at their grade level. The second category relates primarily to families and children with special needs—physical, mental, or behavioral disabilities—or with cultural or linguistic differences. These laws, regulations, and court rulings have implications for the assessment of all children.

Information from assessments should be reliable, valid, and fair (free from bias). To increase reliability, make assessment nonthreatening and supportive; make directions, questions, and requests clear and understandable; follow directions on published instruments exactly; be alert to the impact of environmental distractions on children's performance; check that results seem consistent with overall capabilities; and make more than one assessment.

To increase validity, get enough samples to adequately represent a behavior; maintain "balance" in the samples (that is, don't overemphasize one type of behavior or one context); check to see if information obtained in different ways converges; and make sure the assessment is measuring what is intended.

To increase fairness to all children and families, be as objective as possible, avoid labeling or categorizing children, be objective in evaluating classroom procedures and instructional practices; and maintain confidentiality. Take special care to be fair to children with special needs because of disabilities or developmental delays, children who need challenge, children from diverse sociocultural backgrounds, and dual-language/English-language learners. Because of the increasing cultural diversity in the population, and the increasing number of dual-language/English-language learners, guides for better assessment of these children are given. Teachers must be sensitive to the way children and families from different cultures and backgrounds respond to assessment and make appropriate adjustments or changes. Obtain information from families and communities in culturally sensitive ways.

Use assessment results in appropriate ways. Know the limitations of each method of assessment, guard against overreliance on any one; and use assessment results only for the intended purposes.

Check Your Understanding 2.1: Click here to gauge your understanding of chapter concepts.

Media Connections 2.1: Click here to apply your understanding of chapter concepts.

For Personal Reflection

1. Objectivity is essential in assessment, yet no one is totally objective. Reflect on your thoughts, feelings, and attitudes in your interactions with young children. What do you detect that might interfere with your objectivity? What do you detect that could aid your objectivity? Identify some possible reasons for these tendencies.
2. Every culture, including the school culture, has "rules" that govern its members' behavior. In classrooms these rules are usually known so well they are noticed only when someone doesn't follow them. Identify the "rules" of a classroom setting with which you are familiar. Which are explicit (stated) and which are implicit (not stated, but assumed)?
3. Look at your own sociocultural background, the language or languages you speak, and your familiarity with children and families with backgrounds different from yours. What strengths do you bring to a classroom of culturally diverse learners? What may you need to learn?

For Further Study and Discussion

1. The school you are teaching in plans to use paraprofessional classroom assistants to help observe and make records of children's performance. Identify what classroom assistants and teachers need to know and do to safeguard the ethical and legal responsibilities of the school.
2. Mr. Hiller is assessing Matthew's reading comprehension and recall by evaluating an oral book report given in front of the class. Matthew says very little when giving his book report orally to the class. Mr. Hiller suspects that Matthew's anxiety level is very high, so he talks to Matthew informally and confirms his suspicions: Matthew was too nervous to talk! Using the concepts of reliability and validity, discuss how Mr. Hiller should understand this assessment and in what other ways he could check Matthew's reading comprehension and recall.
3. Children who need challenge are sometimes overlooked in the regular classroom. What are some reasons for this? What could you, as a teacher or future teacher, do to respond to those children's assessed strengths and needs?

Suggested Readings

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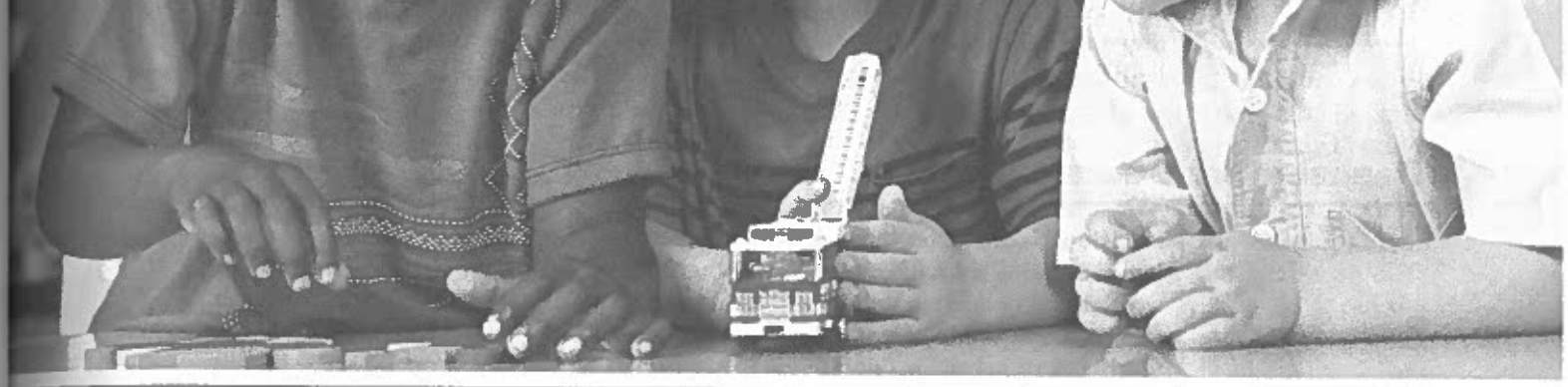


Photo: Auremar/Shutterstoc

CHAPTER 3

Why, What, and When to Assess

Learning Outcomes

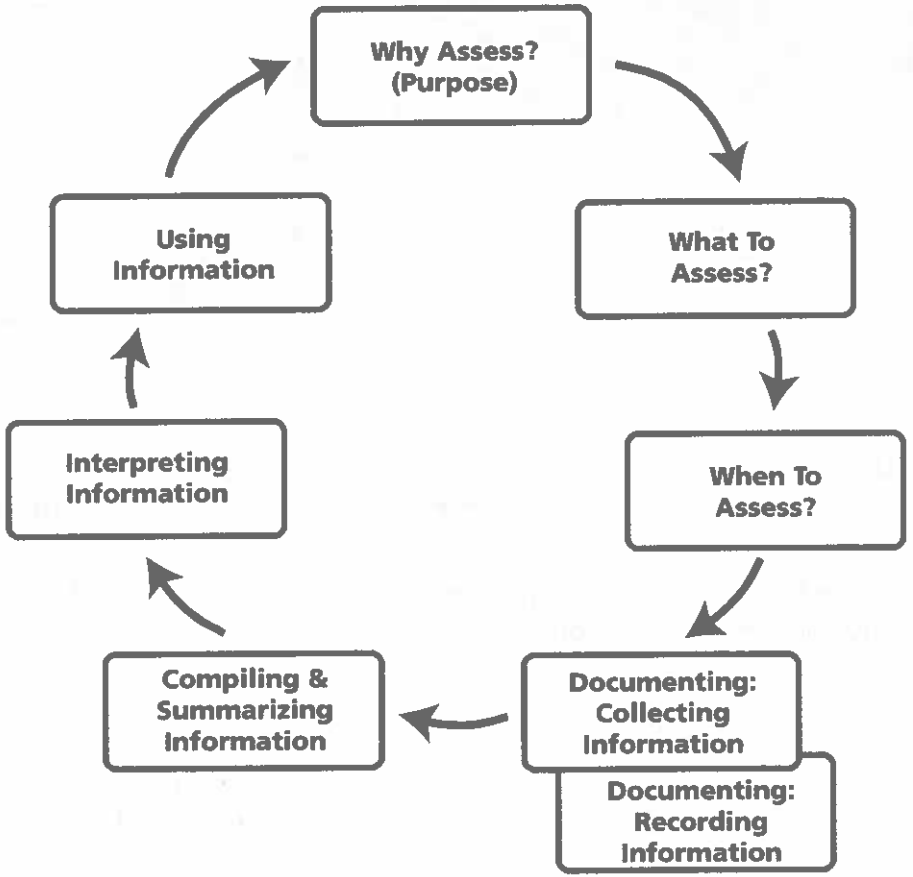
1. List all major decisions in the assessment cycle and explain how these are interconnected.
2. Name the four purposes of assessment and provide examples of each.
3. Differentiate between assessment done to learn about children as individuals and as members of a group and assessment done to monitor children's progress toward expected outcomes.
4. Explain how the timing of assessment influences the type of information gathered and the assessment procedures used.

personal stamp on what and how they assess, how they organize files, and how they use information. However, a systematic way to think about assessment can help organize the process and make it workable.

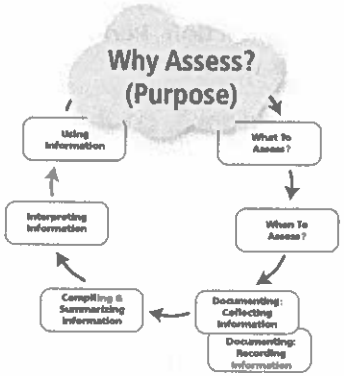
Assessment Decisions

Decisions have to be made before the process even starts: Why is assessment being done? What will be assessed? When? Deciding how to assess requires decisions about collecting and recording information (Chapters 4 and 5). Compiling, summarizing, and interpreting information help clarify what it means so that teachers can use it for the intended purposes (Chapters 6, 7, and 8). To simplify the process, consider assessment as a decision-making task. Figure 3.1 highlights major decisions in the assessment cycle.

Figure 3.1 Major Decisions in the Assessment Cycle



Why Assess?



"The intended use of an assessment—its purpose—determines every other aspect of how the assessment is conducted" (Shepard, Kagan, & Wurtz, 1998, p. 6). Teachers assess to determine individual children's developmental status at a given time and their progress and change over time. *Status* refers to children's current condition or situation with respect to any particular aspect of growth, development, or learning. What do the children know? What are they able to do? What are their feelings, interests, and attitudes as well as their physical health and well-being? Status is concerned with "where children are" in their development. This basic information is then used for other purposes:

1. To monitor children's development and learning
2. To guide classroom planning and decision making in order to help children learn
3. To identify children who might benefit from special help
4. To report to and communicate with others

These purposes are not entirely separate, of course. Information that guides classroom planning may also be used for reporting to parents; assessment during daily activities may reveal concerns about individual children that other measures miss. Let's look at each of these purposes separately.

Monitor Children's Development and Learning

Teachers can't assume that any given child or group fits their expectations of children that age. All 4-year-olds or 6-year-olds are not the same weight and height, nor do they all know and do the same things. Diversity of every kind—in language, culture, prior experiences, social skills, and basic temperament—is to be expected. Teachers assess to determine a child's and a group's strengths and needs at a given point in time.

Teachers also monitor and keep track of children's progress and change over time. They do this to (1) provide evidence of learning to themselves, parents, and children; (2) guard against the assumption that because "we've worked on that" the children have learned it; and (3) make needed changes in response to what children have or have not learned (formative assessment).

Because teachers and aides work daily with children, they may not realize how much children are developing and learning. Progress often comes gradually, in small increments. Only when a child's (or group's) performance is compared with what she or he did on the same task a month or several months ago is progress evident. Such evidence of progress motivates adults and children alike. Most teachers are elated when a child who has been having trouble with something "gets it." They are delighted when the experiences they have planned and implemented result in desired outcomes—and are motivated to continue.

and progress. All teachers are inclined to think that if something is "taught," learners will "learn." This cannot be assumed, either with a preschooler trying to learn how to enter and become a part of a play group or with a primary youngster trying to master regrouping in addition and subtraction. Periodically, a focused look and comparison with earlier information is needed.

Guide Classroom Planning and Decision Making in Order to Help Children Learn

Assessment information is essential to plan and implement an appropriate program. Assessment "in the service of instruction" helps teachers decide where and how to begin, how long to work on a given goal or objective, when to review, and when to make changes to help children learn. Initial assessment and periodic assessment of progress, placed against program goals and expectations, can help teachers make long- and short-range plans. Assessment also helps teachers in day-to-day classroom planning, because what children do one day prompts changes in plans for the ensuing days. If a new art activity captures the children's interest and leaves them wanting more, a teacher has definite guidance in shifting tomorrow's or the next day's plans to take advantage of that interest.

Teachers use information gained from ongoing, *continuous assessment* "to understand specific children and to gain information on which to base immediate decisions on how to direct, guide, teach, or respond" (Phinney, 1982, p. 16). Teachers seek to understand children's thinking and learning processes, not just what the youngsters know and can do. During interactive teaching and instructional conversations, teachers learn to adjust what they say and do so that they can recognize children's current level of understanding. In response to that awareness, a teacher might try out words and strategies to increase that understanding. As children respond, teachers revise and modify approaches in a continuing interplay. They use assessment information to help them choose materials, select one activity and reject another, allocate more or less time to a given portion of the day, decide what to do about the continuing squabbles in work groups, and rearrange learning centers to increase interest. Effective, developmentally appropriate programs depend on this type of formative assessment.

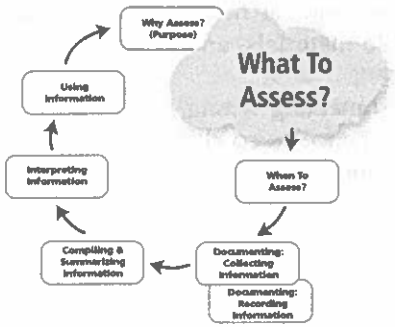
Identify Children Who Might Benefit from Special Help

Assessment is valuable in identifying children who might need special help. Teachers may be involved in screening, prereferral strategies such as response to intervention (RTI), or other processes to identify children who might need an in-depth assessment to see if they could benefit from specialized services. Teachers may also identify children who need special help in the classroom. Some may need more challenge; others may be falling behind and need more help in class.

Systematic assessment also keeps teachers from "losing" individual children. In any group of children, certain ones get a lot of adult attention. Some demand it by their spirited behavior; others get it because they are so cooperative or responsive or because they have great need. Others may get lost along the way unless teachers take care to know them and meet their needs.

or analyze costs and benefits. Teachers also report assessment information to parents in conferences and on report cards. They share information as they collaborate with special educators, reading specialists, and other professionals.

What to Assess?



Human development is so complex that teachers cannot assess everything of interest. They must focus, select, and sample (Stiggins & Conklin, 1992). Teachers make decisions about what to assess in two broad categories:

- Information to help them know and work with children as individuals and as members of a group, including information that will help with problems and concerns.
- Information to determine and monitor children's progress toward expected outcomes of the program in major growth and development domains and toward official learning standards. Standards are examined in detail because of current educational emphasis on them and because most teachers will be required to assess children's progress toward them.

Assess to Know Children Individually and as Members of a Group

Just as every child has distinctive qualities and personality, so does every group of children. Teachers need to know and be able to work with both. There are no tests or inventories that capture the personality of an individual or the complex interpersonal relationships of a group. Those understandings build over time, as teachers and children live and learn together. Leaders and followers emerge, friends are made, and patterns of behavior become established as adults and children learn to work together. Sensitive observation and assessment of social and interpersonal relationships in a group, and of individual children's functioning within that group, is essential to establishing a learning community. This is a teacher's most basic task.

Children and groups will have their own distinctive "approaches to learning"—attitudes, values, habits, and learning styles that influence what and how they learn. Approaches to learning include "(1) openness to and curiosity about new tasks and challenges; (2) initiative, task persistence and attentiveness; (3) a tendency for reflection and interpretation; (4) imagination and invention; and (5) cognitive styles" (Kagan, Moore, & Bredekamp, 1995, p. 25). Children will also have distinctive abilities, knowledge, and insights in language, mathematics, science, music, motor and physical skills, and social interactions (Gardner, 2011). Knowing these abilities enables educators to use that uniqueness to help students develop and learn. Teachers planning a project or theme should assess

nothing." "What is going on in the dramatic play area? Almost everyone used to participate over the course of a few days. Now, Danielle, Monica, and Latasha seem to have taken over." "Jordan talks all the time, but never seems to read or write anything." "I don't like what's happening in our opening class meeting. Instead of thoughtfully planning what they are going to do, the children just say the first thing they think of."

If the problem is clearly an individual one, there is no need to assess the whole class. Focus on the child. However, remember that many things influence what a child does. Often teachers must look beyond an individual or group to the physical environment, scheduling, available materials, and other children and adults to find the sources of a problem.

Indications of a developmental "red flag"—Is something wrong?—call for gathering more information. Be alert for and document concerns so children who need help can receive it as soon as possible. Red flags are further discussed in Appendix B.

Assess Progress Toward Expected Outcomes in Development and Learning

Expectations for children are typically grouped into two broad areas:

- Child growth and development domains, such as cognitive, affective, and psychomotor or intellectual, social, emotional, and physical. Sometimes language, moral, spiritual, and aesthetic development are considered as separate domains.
- Academic disciplines or subjects, such as science, mathematics, reading, social studies, physical health and nutrition, creative arts, speech and language, and literacy.

Frequently, various aspects of these are combined in an effort to adequately describe the complexity of children's development and learning. However they are stated, teachers of young children have to be concerned with both the "domains" and the "disciplines," as well as the way they relate to each other (Copple & Bredekamp, 2009).

Expected Child Outcomes in Major Development Domains

Plan to gather information on major domains of children's development: physical, social, emotional, and cognitive. Social/emotional development and behavioral self-regulation are as important to young children's development and academic success as learning to read (Raver, 2008). A lack of social skills will plague a youngster in everything that child does; poor muscle development and motor coordination will hold a youngster back in the classroom as surely as on the playground. Even if reporting in certain areas is not required, assess progress. State and federal requirements may focus on literacy and mathematics, but there are many other desired outcomes. Commercially published instruments may include items that a given program does not teach, or omit items that a

there is little teachers can do with information except use it for understanding and social guidance. For instance, a very tall or short youngster may encounter difficulty, but nothing the school can do will change the child's height.

Expected Child Outcomes Stated as Standards

In an effort to be specific about the development and learning that is expected of children, school districts, state departments of education, national organizations (such as the Council of Chief State School Officers and the National Governor's Association), agencies that sponsor educational programs (such as Head Start), professional organizations (such as the National Council of Teachers of Mathematics), and commercial publishers have developed and published learning documents outlining and describing those expectations. Assess to determine children's progress toward these outcomes.

Content Standards. Outcome statements may be called *standards, early learning guidelines, essential knowledge and skills, child outcomes framework, goals and objectives, learning expectations*, or something else altogether.

Historically, every state in the nation developed expected outcomes or *content standards* for kindergarten through grade 12. Similarly, every state with state-funded prekindergarten programs had developed such standards for prekindergarten.

Not surprisingly, the result was great variation among the states in what children were expected to learn at comparable levels of education. Such differences make little sense at a time of high student mobility and a global economy. To address these and related concerns, in 2009 the Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices (NGA Center) initiated a state-led process to develop and adopt a common core of state standards for kindergarten through the twelfth grade (corestandards .org). The first sets of core standards are in the foundational skills and content of English language arts and mathematics. They designate the expected outcomes and learning progressions grade by grade. States can adopt them voluntarily and on their own timelines. At the time of this writing, 43 states, the District of Columbia, four territories, and the Department of Defense Education Activity (DoDEA) have adopted the Common Core State Standards. There are no plans to extend these standards to prekindergarten; however, some states have started the process of revising their existing early learning guidelines to align these with the Common Core State Standards.

A common assessment system is also planned. It will include multiple forms of assessment and will provide assessment *for* learning as well as assessment *of* learning. Two state-led consortia—Partnership for Assessment of Readiness for College and Careers (parcconline.org) and the Smarter Balanced Assessment Consortium (smarterbalanced.org)—were formed to develop student assessments aligned with the Common Core State Standards. The first sets of assessments are now developed for selected grades in English language arts and mathematics.

Teachers must look beyond the specific labels to the intent, which is to specify what children are expected to learn, and how various aspects of that learning relate to each other. The hierarchical organization of the expectations helps educators see how children can meet broad, general expectations, such as "understands basic concepts of scientific inquiry" or "knows basic facts about society and one's role in it" by achieving smaller components of those expectations day by day and week by week. The following example from language and literacy development shows how this organization and specification works.

1. Broadest and most general expected outcomes in a given domain of development and learning (standards, goals, essential knowledge and skills).

   Example standard
   - Uses general reading skills and strategies

2. More specific expected outcomes (benchmarks, objectives).

   Example benchmarks related to the standard "Uses general reading skills and strategies"
   - Understands the differences between letters, numbers, and words
   - Knows that print in English is read from left to right, top to bottom, and that books are read from front to back
   - Understands the relationship between written words and spoken language

3. Intermediate levels of expectations as needed, depending on the complexity of the topic and the expected outcomes.
4. Most specific expected outcomes (knowledge/skill statements, instructional objectives, indicators).

   Example indicators related to the benchmark or objective "Understands the differences between letters, numbers, and words"
   - Identifies a word as a unit of print
   - Knows that letters and numerals are different
   - Identifies uppercase and lowercase letters in a grouping of letters and numerals

   This level of expected outcome is specific enough to observe, to develop instruction for, and to assess.

A *benchmark* is a clear, specific description of knowledge or skill that students should acquire by a specific point in their schooling. It is a "grade-appropriate or developmentally-appropriate expression of knowledge or skill that is more broadly stated in the content standard" (Kendall, 2001, p. 2). Although there is inconsistency in how standards and benchmarks are stated, some examples will illustrate their nature.

A science standard states that children should know about "the structure of matter." The benchmark reads that by the end of second grade, students should

child

- Engages in a series of locomotor activities (e.g., timed segments of hopping, walking, jumping, galloping, and running) without tiring easily.
- Participates in a variety of games that increases breathing and heart rate.
- Sustains activity for increasingly longer periods of time while participating in various activities in physical education. (National Association for Sport and Physical Education (NASPE), 2004).

There may be several knowledge and skill statements for each benchmark, specifying the expectations in greater detail. These are specific enough that teachers should be able to develop assessment strategies to determine what children know and can do.

Some cautions about benchmarks: Benchmarks that use broad age/grade bands, such as K–2, present significant problems for teachers. If you teach second grade, it is clear what the children are supposed to know by the time the year is over. If you teach kindergarten or first grade, the expected outcome for the children that year is much less clear. There need to be guards against inappropriate expectations for the younger children.

Ideally, standards and benchmarks between age and grade levels, such as kindergarten and first grade, align to make a learning progression. Expected outcomes stated in general curriculum frameworks should align with specific curriculum materials such as a literacy or mathematics program. Because such *alignment* frequently does not exist, teachers have to make the adjustments.

Performance Standards. *Performance standards* define the levels of learning that are considered satisfactory and suggest ways of gauging the degree to which content standards have been attained (Kendall, 2001; Lewis, 1995; Ravitch, 1995). Performance standards try to answer the question, How good is good enough? Changing expectations about what young children can learn, and at what ages, makes judging performance of young children especially difficult. What was "good enough" at one time or in one setting may not be considered adequate in another. Some child outcome statements include performance standards or expectations that make it very clear what children are expected to be able to do, such as

Count objects in a set of up to 20, and count out a specific number of up to 20 objects from a larger set.

Compare two sets of up to 10 objects each and say whether the number of objects in one set is equal to, greater than, or less than the number of objects in the other set.

Locate numbers from 1 to 31 on the number line.

Adequate performance may also be defined as an acceptable score on a test or inventory, or as a certain level on a scoring rubric.

From the General to the Specific. If expected outcomes are too general, teachers have to make them more specific in order to assess and teach effectively. For example, references to helping children develop concepts of relative location or space are usually found or implied in most outcome statements. If curriculum guides, frameworks, benchmarks, or suggested assessment tasks do not identify the experience, action, or behavior children will do to show their experience and learning, then teachers must. Which of the many concepts of location and space should they learn? Which do they already know, and at what level of understanding? What is involved in understanding and using location and space concepts such as "above/below," "over/under," "left/right," "top/bottom"? What can teachers watch and listen for that will reveal children's understanding and use of these complex spatial concepts?

Developing a specific objective that can be taught and assessed involves breaking down general statements of intent into appropriate objectives, then identifying *indicators* of progress toward, or achievement of, those objectives. Then assessment tasks and activities can be identified or devised.

One of the advantages of performance assessment is that it is flexible and comprehensive enough to assess progress toward achievement of almost any goal or standard, not just knowledge and skills.

Practical Considerations

Practical considerations influence classroom assessment. These include the number and type of assessments that are required, the balance between recorded and unrecorded information, teaching load, age of children, years of teaching experience, and selection of relevant items to assess. Given the situation in this classroom, this school, this program, what is possible?

Required Assessments. Teachers have to plan for, and often administer and mark, any assessments that are required by the school or center. Usually these have to be done during a designated time period, such as during the first or last month of school, or three times a year.

Balance of Recorded and Unrecorded Information. It is neither possible nor desirable for teachers to record everything. Teachers often assess, then use the information immediately to adjust interactive teaching, shorten or lengthen the time spent on an activity, or guide a child's social interaction.

Other information helps teachers develop a sense of the child's personality and style over a longer period of time. Much of this is never written, nor is there any need for it to be. However, the more teachers record, the better they are able to keep track of children's learning. Throughout this text are suggestions for ways to achieve a balance that enhances both assessment and teaching.

Teaching Load. Class size, adult-to-child ratio, available classroom and clerical assistance, hours per day and week teachers are with children, number of classes a teacher has, number of hours and quality of aide and volunteer assistance, length and placement in the day of planning time, availability of assistance for children

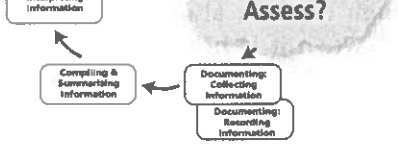
Age and Development of Children. Although teachers always have final responsibility for assessment, there are instances when it is beneficial for students to be involved in their assessment. However, children's abilities to record what they have done, select and file their own papers and materials, and self-assess and self-reflect vary with age, development, and prior experience.

Teaching Experience. A teacher who is still learning how to teach cannot be expected to incorporate systematic assessment into the classroom as easily as one who has taught for several years, has gained confidence and proficiency, and is ready to take on a new challenge. As Julius Caesar once related, "Experience is the teacher of all things."

Expected Outcomes. If statements of standards, goals, and objectives resemble either idealistic wishes or a shopping list of all possible items, try to determine more realistic expectations. Check with experienced teachers and an administrator. Review reporting instruments—progress letters, report cards, sample portfolios, or other progress reports—to find indications that some objectives are emphasized more than others. Reporting instruments may show items that are not mentioned in objectives, such as the ability to get along with other children, attention span, self-regulation, or work habits. Start with priority expectations—items that are simple, developmentally on target, and related to immediate teaching decisions.

If program objectives are overwhelmingly specific and discrete—perhaps listing all the names of body parts, animals, means of transportation, or vocabulary in science and mathematics that children might learn—try grouping them into logical categories that can be assessed and taught together. Integrated curriculum can reach many goals simultaneously. Assess and teach the items to reach broad goals, such as classifying, comparing, seeing relationships, or solving problems. If your school or state requires that you rate or rank children on their progress toward broad outcomes such as "comprehends a wide variety of written material," but does not identify indicators or descriptors, you may have to identify indicators specific enough to assess.

Representativeness, Significance, and Authenticity of Assessment Items. Select assessment items that (1) are significant and worthwhile in and of themselves and (2) stand for a group of other items. For example, many items on readiness inventories bear little relationship to the skills and understandings required in reading. New knowledge and innovative conceptions of how children learn to read and write have made them obsolete (Lonigan & Shanahan, 2008; National Reading Panel, 2000). In classroom assessment, teachers can often find out what they need to know directly, rather than through a test or performance task that stands for a whole class of other items. For example, to find out if a child can use classroom tools—crayons, scissors, chalk, paintbrushes, pencils, and so on—simply assess those skills directly and authentically. Astute sampling is often appropriate. Children don't have to perform every large muscle task of strength, coordination, and endurance; representative tasks may suffice.



The time period during which the assessment is done influences the type of information gathering and recording you will do. The initial "sizing up" (Gage & Berliner, 1998; Russell & Airasian, 2011) calls for efficient procedures, such as sensitive group observations, checklists, written parent reports, and child-generated performance samples. Ongoing assessment allows greater depth, using procedures that may take more time, such as recording observations through short narrative records or participation charts. Figure 3.2 summarizes the assessment tasks teachers do before school starts, in class during the school year, and outside of class time.

Figure 3.2 Specification of Items to Assess and Teach, and Indicators of Attainment within a Given Developmental/Curriculum Area

Area of Development/Curriculum	Cognitive development; language; science (Preschool–Primary)
Relational Concepts	Position/location in space; time; size; weight; quantity; volume of sound; speed; texture; temperature
Specific Focus Concept	Relative location or position in space
Specific Learnings	*Concepts to be developed:* in front of/behind (in back of); beside/next to/between/in the middle; under/over; above/below; front/back; in/out, into/out of, inside/outside; top/bottom; up/down/upside down; on/off; near/far; first/last; left/right—own body, then projective; others *Ways and levels of knowing:* • Experience • Experience linked with words (Look, you put this block on the top.) • Comprehends (place; point to; hand me …) • Recognizes (Is Tran behind you or in front of you?) • States location (Tell us where you're going to sit.) • States and uses concepts in new situations • Uses words and concepts spontaneously and functionally • Understands relational aspects of position in space • Understands that position in space is sometimes relative, sometimes not (top of head is always top of head; top of a blank sheet of paper is determined by position) • Is able to shift perspective and viewpoint physically and mentally • Understands and states concept of overlapping position (e.g., playground equipment is outside school, but inside fence)

are at set times, schedule those times. Teachers will need to summarize information, review portfolios, and prepare for showing evidence of the child's progress in learning and development. Also, organize filing and record-keeping systems (Chapters 6 and 9). Study existing records, information from parents, and transition materials from previous programs. If tradition, time, and resources permit, a visit to children's homes can be enlightening.

Make tentative plans for the different times you will be gathering information: required assessment; ongoing, continuous appraisals integrated with teaching and learning; periodic appraisals, including initial, interim, and final summaries and assessments; assessments before and after major units of study, themes, projects, or investigations; and "as needed" to address specific problems or concerns. Teachers collect different information, using different procedures, at these times. They also make assessment serve two purposes, such as when a major project or unit of study coincides with the end of a reporting period.

Do Required Assessments at the Specified Time

It is important to know the number and type of tests and assessments necessary and when they are required. Deadlines will vary depending on the age and grade level of the children, what entity funds and regulates the program, current laws and regulations, and school and community traditions.

Assess Day by Day

"Assessments make the most sense if they occur on an ongoing basis as particular skills and content are being learned" (Shepard, Kagan, & Wurtz, 1998, p. 7). Good teachers continuously appraise children and revise procedures and interactions accordingly. In fact, some of the best and most useful information is obtained while a teacher is taking dictation from a child; listening to a child read a story she or he has written; assisting with paints, papers, or modeling clay; helping with math story problems; conversing during snacks; leading a discussion; guiding playground activities; or working with manipulatives. This formative assessment is embedded in the interactive process of teaching and learning. For instance, Mr. Sena lays out the beginning of a pattern of rods of differing lengths for Rosa, to see if she can discern and continue the pattern. She does not perceive the pattern he started, but does continue the line of rods across the table. When Rosa has finished, Mr. Sena lays out another, much simpler pattern for her, bringing the task closer to her level. For Jackson, sitting beside Rosa, the teacher may increase the difficulty of the pattern, because Jackson so clearly enjoys studying and mastering the complex and varied patterns Mr. Sena starts for him. Sketches and notes about the children's work go in the files. Just as important, Mr. Sena immediately integrates the information into his interactions with the children and makes written or mental notes about future ways to help children grasp the concept of pattern based on today's appraisal.

ties. Over several days, children may demonstrate their abilities to solve measurement problems in mathematics and science or represent ideas through art and construction.

Initial assessment occurs when a new group, part of a group, or a new child begins. It yields information on a child's or a group's initial status—ability, attitudes and dispositions, prior knowledge and understanding, and skills and habits in relation to what the school or center emphasizes—to provide basic information for planning classroom activities and experiences. This initial reading or "sizing up" (Gage & Berliner, 1998; Russell & Airasian, 2011) should be done as soon as possible, but held tentatively, as all first impressions should be. Interim assessments are usually done halfway, or one-third and two-thirds of the way through the time the children are in the classroom. If children begin in September, a January or February "How are we doing?" allows for midcourse correction. Final assessment is done toward the end of a group's time with a particular teacher or teachers. It is a summing up before a youngster moves on to another teacher, unit, or school.

Teachers seeking to identify and use instruction that will help children having difficulty with basic skills, such as reading or mathematics, will monitor progress more often, so that the information can be used to modify instruction as needed. Such progress monitoring is an essential element in the strategy to help struggling learners called "response to intervention." It should come at intervals far enough apart that children have an opportunity to learn, but frequently enough that ineffective instructional practices are detected in time to change. Centers and schools with nontraditional yearly schedules—year-round schools or child care centers, and child development centers or preschools that operate for a relatively short time—modify assessment times to fit their schedule.

Assess Before and After a Concentrated Emphasis

Assess before making final plans for any sustained unit, project, or topic, and again at its conclusion. Determine what children already know and can do, and consider their thinking and reasoning in relation to whatever is being planned. At the conclusion, summarize assessment information collected during the project, and, if necessary, look again to determine what children have learned, in what ways they have developed, and what continuation activities are needed.

Appraise children's interests, attitudes, and level of understanding of the essential elements of the topic, which may be quite different from recall knowledge. Consider what concepts the children hold about the topic and how it relates to other learnings. Look at the pattern of errors and the size of the gap between "where they are" and "where they are to go."

Let's look at one way to appraise before beginning a unit of study, theme, or project. Concept "webbing" or "mapping" is often recommended as a way for teachers to organize the concepts and relationships in a topic (Katz, Chard, & Kogan, 2014). It can also be used to assess how children organize their thinking, which is equally important for teachers to know.

to do a preliminary appraisal of how suitable the topic is for this group. After several days of informal observation and recording, Mr. Warner has a class discussion to find out what the children know about insects. As discussion proceeds and a chart or web develops, Mr. Warner begins to have a good idea of the current knowledge, attitudes, and interests of this group and its individual members, including a wealth of misconceptions and negative attitudes. Only after Mr. Warner has studied his notes and information from the class discussion will he decide how to develop a project on insects.

Assess When a Specific Problem or Concern Arises

Concerns about specific children, a subgroup, or the total group don't always correspond to units of study or reporting periods, nor is continuous assessment always adequate for problem solving. Regardless of whether it fits the "assessment schedule," take a closer look as needed. Suppose a usually attentive, interested second-grader becomes restless, inattentive, and aggressive or anxious and clingy. If illness is not the cause, turn to other sources for information to shed light on this unusual behavior and ways to help the youngster. Problems outside the classroom, such as parental separation, death, divorce, job loss, moving, a birth in the family, and innumerable others, may influence children's behavior. Simply observing the child won't give you the necessary information.

Children who move frequently from one school or center to another are a special concern. If adequate records are sent from previous schools, continue from there. More often, children come with minimum enrollment information. Integrating them into the life of the classroom is top priority. What the teacher can assess depends on when children enter and how long they stay.

Some Final Thoughts

Although we have teased apart aspects of classroom assessment and curriculum for study and discussion, in the classroom there is no such distinction. They are merged. Questions of why, what, when, and how to assess are also closely related. Assessment is not an invariant linear or time-bound sequence in which you do the first step at the beginning of the year and the last one at the end of the year. On the contrary, information collected early in the year may result in immediate program modifications. Ongoing formative assessment keeps teachers and the program sensitive and responsive to children. A teacher may quickly "size up" (collect data on) a particular situation, understand its meaning, and use the information on the spot. For example, a sensitive teacher leading a group discussion may see and hear the children whispering, nudging each other, yawning, playing with a neighbor's hair, or making faces at someone across the circle. She collects this information (actually, it forces itself on her), understands its meaning to be "this group discussion is off target," and uses that interpretation as a signal to switch to something more appropriate. Another teacher reading a counting book to a small group of children finds that when he asks, "How many balloons does the clown have?" the children either simply sit, or say, "Blue and

Summary

Thinking about assessment as a series of decisions helps simplify a complicated process. Basic decisions pertain to why, what, and when to assess—the focus of this chapter. Teachers also decide how to collect and record information and how to organize, summarize, interpret, and use it.

Assessment helps determine and monitor children's status and progress in growth, development, and learning. This information is used to guide classroom program planning and decision making in order to help children learn, to identify children who might benefit from special help, and to collect and document information for reporting and communicating to parents and children; other professionals; and funding, regulatory, and advisory groups.

Teachers need information to help them know children individually and as a group, so that a functioning classroom can be established and maintained. This is a teacher's most basic task. Teachers need information about development and learning in two broad areas: (1) child growth and development "domains" such as psychomotor, socioemotional, and cognitive; and (2) academic "disciplines" and school subjects such as mathematics, science, reading, and physical education. These are often stated as expected outcomes, content standards, core content, or learning expectations, and organized to reflect the way smaller units of learning (indicators or instructional objectives) lead to the achievement of broad outcomes. Practical considerations, such as what is required, when it is required, and the age and development of the children, influence how much and what type of assessment teachers can do.

The timing of assessment determines much of its utility, so a tentative plan should be in place and preliminary tasks done before school starts. Different types of appraisal take place at different times. Continuous assessment is integrated with ongoing classroom activities. Periodic assessment takes place to monitor progress and adjust instruction. Focused appraisals take place before and after a concentrated curriculum emphasis or when the need for specific information exists. Assess as needed to study a problem or concern.

Check Your Understanding 3.1: Click here to gauge your understanding of chapter concepts.

Media Connections 3.1: Click here to apply your understanding of chapter concepts.

For Personal Reflection

1. Teaching experience is a practical consideration in making assessment decisions. Appraise your own teaching experience. In what ways might the amount and type of your experience influence the assessment decisions you make?

For Further Study and Discussion

1. Secure samples of the report cards or progress reports for parents that local school districts use. Analyze these for (a) likenesses and differences in type of reporting, (b) guidance they might give a teacher about what should be assessed, and (c) balance and comprehensiveness of the curriculum.
2. Interview the teacher of a neighborhood school or learning center to find out what assessment of children is done (a) in his or her classroom and (b) throughout the school. (If you are already teaching, interview a teacher from another type of school.) In what ways is the information used? When does the teacher assess? Combine what you find out with the information gathered by other students to see if there are any likenesses, differences, or general conclusions you might draw.
3. State Departments of Education post their standards documents online. Access the standards from your state and at least one other. In what ways are they similar? In what ways do they differ?

Suggested Readings

Enz, B. J., & Morrow, L. M. (2009). *Assessing preschool literacy development: Informal and formal measures to guide instruction.* Newark, DE: International Reading Association.

Gronlund, G. (2006). *Make early learning standards come alive: Connecting your practice and curriculum to state guidelines.* St. Paul, MN: Redleaf Press. Washington, DC: National Association for the Education of Young Children.

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Shore, R., Bodrova, E., & Leong, D. (2004, March, Issue 5). Child outcome standards in pre-K programs: What are standards; What is needed to make them work. *Preschool Policy Matters.* Online at www.nieer.org.

Snow, C. E., & Van Hemel, S. B. (Eds.). (2008). *Early childhood assessment: Why, what, and how.* Washington, DC: National Academies Press.

Photo: Studio 8/Pearson Education

CHAPTER 4

Documenting: Collecting Information

Learning Outcomes

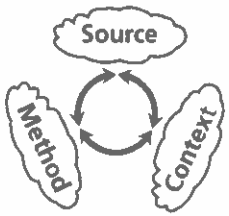
1. Explain why teachers need to collect assessment information using multiple windows.
2. Compare different sources of information with regard to different kinds of assessment data that a teacher can obtain from these sources.
3. Evaluate different methods of collecting information in terms of their strengths and limitations.
4. Describe the main factors affecting the choice of a particular context for assessment.
5. Identify the considerations important in selecting an assessment window

multiple measures should be used. The assessment data, or evidence, that teachers use to guide day-to-day planning and interaction with children can be less rigorous, because such plans can be changed (Shepard, Kagan, & Wurtz, 1998). Even then, a second look from another perspective may reveal strengths or needs not always apparent from one measure. In addition, early childhood educators are active participants in assessing and planning for special needs and high-risk children, where multiple measures are required (Council for Exceptional Children, 2005; Taylor, 2004). This chapter explains how to document using multiple sources and procedures in varying contexts—in other words, how to open "multiple windows." This chapter and Chapter 5 draw an essential distinction between two related but separate processes: collecting information and recording information.

Collecting and recording are often thought of as the same. Ask teachers how they find out about children's progress, and you may get an answer such as "We have a checklist," or "Anecdotal records." Checklists and anecdotal records record and preserve information. They are *records,* not ways of collecting information. Information is *collected* by observing children, interviewing them, studying the work they do, or some other process. Keep these two steps—collecting information and recording information—separate to open up options both for learning about children and for recording what you discover.

There are many ways of obtaining information about children and as many ways of recording that information. Teachers are free to mix and match these methods as appropriate. Information can be *recorded* several ways. For example, an observation of problem-solving strategies can be recorded either as an anecdotal record or on a rating scale. Information *collected* in different ways can be documented with the same recording technique. For instance, a checklist can record reasoning strategies observed in a cooperative science project, elicited by teacher questions, or reported by a child after building with blocks. This chapter focuses only on collecting information, not recording it. Consult Chapter 5 for the recording process.

Multiple Windows



Teachers gather information about children through many "windows"—combinations of sources, methods, and contexts. Think of a house with many windows looking out on a panoramic view. To see the entire panorama, you must look through each window because each includes and excludes part of the view. From one window you see the mountains but miss the lake. From another, you see only part of the lake but get a good view of the meadow. It is the same with assessment. Different ways of discovering information yield distinct pictures or pieces of information. No one source of information tells everything. One method reveals aspects of a child's behavior that another does not. One context

bination of windows, or measures. Any single assessment is an estimate of a child's or group's status and is not an exact indication of performance (Russell & Airasian, 2012). Using multiple windows results in better and more complete information about children (National Association for the Education of Young Children (NAEYC) & National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE), 2003) and increases reliability and representativeness (Cronbach, 1990). It frees teachers from the rigidity imposed by overreliance on one approach and decreases the possibility for errors. Three aspects of classroom assessment can be varied to provide multiple windows or perspectives—multiple measures:

1. *The source of information:* the child, other children, parents, specialists, other adults, or records about children
2. *The method of obtaining information:* systematically observing, eliciting responses from children, collecting products from classroom activities, or eliciting information from parents and other adults
3. *The context, setting, or situation for the appraisal:* outdoors or indoors, at a desk or on the floor, in the classroom or a testing room, using paper and pencil or manipulative materials, alone or in groups, or with familiar classroom staff or strangers (Figure 4.1)

Figure 4.1 Multiple Assessment Measures

Sources	Child/Children Other adults Records Parents Specialists
Methods	Observe children Elicit responses from children (discuss, question, interview) Collect products Elicit information from parents and other adults
Contexts	Various physical spaces Assorted materials Mixture of activities Diverse people Varying amount of teacher structure

give a diverse, well-rounded picture of a child. For example, assess the variety of Jeremy's fine motor skills by asking him to fold napkins at snack time; by listening to his gleeful report of tying his shoe; by watching him build with Danella and Jesse; by noting when his dad says, "Jeremy helped string snow peas for dinner"; and by reviewing records in which Jeremy's previous teacher recorded that he can use scissors. Each source presents distinct, valuable information about Jeremy.

The Child as a Source of Information

The most authentic and direct way of obtaining information is by watching, analyzing the work of, talking with, and listening to *the child*. Assessing how a child functions in a group yields information about her or him and the group that is not available in any other way.

Opportunities for obtaining information from children occur as natural outcomes of day-to-day classroom interaction. After reading a story about friendships, a teacher discusses it with a small group of children and records their concepts of "a friend." A child's construction with math manipulatives reflects a sense of number and pattern. Activities in which children cooperate, talking and explaining their thinking as they work and play, offer rich assessment opportunities.

Children volunteer information about their own activities, making comments about what they like and dislike and what they understand. Sometimes these self-reports are unprompted and unsolicited: "I've done this before," or "I have one like this at home," or "I know how to do this." At other times children respond to questions: "What would you like to learn about tornadoes?" "What is the most interesting thing you have done this week?" "What do you know about Martin Luther King, Jr.?" Self-assessments convey the child's self-image as a learner. Even though young children may have difficulty articulating or demonstrating internal thought processes and feelings, their reports reveal information difficult to obtain in any other way.

Parents and Other Adults as a Source of Information

Other people—parents, specialists, teachers, aides, and other school personnel—are an indirect source of information about children. Insights from other people, particularly parents, improve and deepen a teacher's understanding of a child. Meimei seldom talks in school and never participates in singing or fingerplays during group time. The teacher learns something important when parents report, "When Meimei comes home from school she tells us everything she did. She sings the songs and chants the words to all of the fingerplays." Children may not display their most mature behavior at school, or they may reveal a different side of their personality to a particular teacher.

Parents provide a special perspective. They have known their children better and longer than anyone else. They have information about events occurring at home that might affect a child's behavior in the classroom. They may see a side of the child that is not revealed at school. Parents provide insights about home

is systematic, focused, and used for collecting information. Teachers cannot take in everything happening with a group of 15 to 20 children. Simply looking does not guarantee *seeing*. Attention must be directed to a child, a particular pattern of behavior, a situation or problem, or progress toward an identified goal. This kind of observation is called *systematic observation*.

Guides for Systematic Observation

Determine the purpose of the observation and focus on that. The purpose may be to find out more about a particular child's progress in oral reading, to identify what is causing the confusion during transitions, or to gather more information about a new child's apparent inability to enter into class activities as the first step toward helping him or her. It may be to look for evidence of progress toward broad program goals, such as problem solving or individual ability to read and comprehend a book. One of the advantages of observation is that it can be used to gather information on almost any classroom or school concern.

Be as objective as possible. The importance of objectivity in assessment of any kind is discussed in Chapter 2. We suggest you reread that at this time. Our personal beliefs and experiences influence what we choose to focus on, what we see and hear, and how we decide what that means. There are several techniques to help observers increase objectivity: Be aware of your own prejudices; avoid labels and stereotypes; strive to get an accurate account of the behavior being observed; and separate facts from inferences based on those facts.

Focus on the facts and details of what is occurring with as little interpretation and filtering of information as possible (Boehm & Weinberg, 1997). Look at and listen to what a child does or says; what others in the group did or said; how long they spent drawing; how a child divided group resources equitably; what a child said or did to persuade others to join in a game, and how the others reacted; or what the child did when confronted with an unknown letter, number, or word.

Any inferences based on that evidence, any attempt to determine what it all means, should come later. An inference is an interpretation of a child's or a group's behavior. It may include speculation about feelings, intentions, motivation, knowledge, thinking processes, or attitudes. Inferences may include evaluations and judgments about the significance of a behavior for future development or comparisons of what the child did in this observation with what she did in the previous observations.

Distinguish between the description of what happened and the interpretation or analysis of what happened. People are used to seeing and hearing others and simultaneously interpreting and responding to them. Colleagues actions, for example, may lead you to think they are "friendly," "surly," "having a bad day," "discouraged," "inattentive," or "tired." This serves you well in everyday life, even though you may sometimes be wrong. To increase accuracy in observation, suspend judgments, conclusions, and other interpretations of meaning until after the observation. Some observations need no interpretation.

- Classroom routines and activities do not have to be changed.
- Children are assessed in a familiar setting relevant to the event.
- Observation is the most direct and valid way to obtain information about some behavior. For example, a teacher must watch and listen to children interacting to find out how they negotiate taking turns, sharing resources, or completing a project.
- Observation can be used to get information about almost any aspect of children's development and learning, unlike prepared checklists and scales.

LIMITATIONS

- Some important aspects of development, such as attitudes, values, and other mental processes, cannot be assessed by observing behavior.
- Systematic observation requires focused attention and is difficult to do while interacting with children.
- Personal elements that may color an observer's perceptions can never be completely eliminated.

Observe both verbal and nonverbal behavior. Listen for verbal behavior—the actual words said and the way they are said, including fluency, intonation, enunciation, and pronunciation. Simultaneously, watch nonverbal behavior such as body stance and movement, motor responses, gestures, and facial expressions. Make several observations when important decisions will be influenced by the information.

Elicit Responses from Children

Teachers and children converse, discuss activities, and exchange questions and answers in daily classroom interaction and assessment. Teachers save time by focusing on needed information in a direct request to a child instead of waiting for spontaneous evidence. Teachers may also use instructional conversations or dialogues to explore children's thinking processes, problem-solving strategies, reasoning, and concerns about almost anything (Berliner, 1987; Ginsburg, 1997).

Authentic assessment has added several specific assessment approaches to traditional oral and written responses to adult prompts. These include performance assessment, dynamic assessment, interviews, conferences, and discussions. A brief description of each of these is given in the sections that follow. Teachers seldom have time to conduct in-depth interviews with individual children. However, they can incorporate many interview techniques into instructional conversations and dialogues. For instance, teachers can probe the thinking behind a child's responses, or help determine what a youngster can do with assistance. In all "instructional conversations" or "instructional dialogues," especially those being used for assessment, teachers must give careful thought to the questions or statements they use and what they expect children to do. Sometimes the most important question is not the initial one, but the follow-up to a child's response. Guides for developing appropriate questions, prompts, and expectations conclude this section.

as a piece of writing), or both. For example, a first-grade teacher can assess both writing process and product. He first observes a pupil writing and notes how the child holds and manipulates the pencil, positions the paper, and sits; then he judges the written product's content, letter formation, legibility, and spacing.

Early education teachers rely heavily on performance assessment because of young children's limited communication skills. Teachers observe and assess naturally occurring behavior or set up structured performances (Russell & Airasian, 2012).

Dynamic Assessment. A specific way of eliciting information from children is *dynamic assessment*, using Lev S. Vygotsky's concept of the Zone of Proximal Development (ZPD)(Vygotsky, 1978). Instead of seeing a child's performance as only what the child can do independently, dynamic assessment probes skills that are on the verge of emergence; they can be tapped as teacher and child interact. Teachers try to identify learning strategies a child already uses as well as instructional processes most likely to promote future learning (Berk & Winsler, 1995; Lidz, 2003). The hints, prompts, cues, and questions the teacher uses are recorded along with the child's responses. Examining the assistance that makes a difference in the child's ability to perform a task often reveals the child's current level of understanding and skill and gives direction for future teaching.

Unlike traditional assessment, where children are supposed to get everything correct, dynamic assessment starts at the point where a child is having difficulty performing or is making many errors. Dynamic assessment provides information at both levels of the ZPD: the lower, or unassisted, level and the upper, or maximally assisted, level. It integrates assessment with responsive teaching. Dynamic assessment does more than just allow teachers to provide hints and cues during the assessment; it also helps teachers know what they might teach next and provides a means to explore the child's receptiveness to the supports for the next steps (Shepard, 2000).

Melissa is at the beginning stages of learning about sound–symbol relationships. Ms. Mansfield and Melissa look at a picture of a horse in a meadow with the word *horse* written underneath. Ms. Mansfield points to the word. Melissa looks at her expectantly. "I wonder what this word is," Ms. Mansfield says. "Sun," replies Melissa, looking at the sun in the picture. "This word starts with an . . . ," prompts the teacher. "H . . . is it *tree*? Pony?" asks Melissa. "H . . . ," prompts Ms. Mansfield. "Oh, *horse,*" says Melissa. Ms. Mansfield notes that Melissa uses picture cues to try to read, doesn't connect the sound of *H* to the word without prompting, but once prompted, thinks of a word that both makes sense and has that beginning sound. By prompting with *H,* Ms. Mansfield exposed more knowledge about the sound–symbol relationship than she would have if she had just stopped at the child's response to "I wonder what this word says," or "This word starts with an. . . ."

Using a developmental continuum or a sequence of the likely next steps in learning as a guide, teachers plan prompts to provide assistance as the child needs it (Chapter 8). Assistance can be with specific skills and knowledge, or with broader strategies such as problem solving and seeing relationships.

reveal individual approaches to learning and thinking processes. Open-ended questions also help children learn how to give extended responses to an adult.

Conferences are usually conducted in relation to work a child has done, such as writing, science, or mathematics, but they are appropriate for almost any topic. The teacher and the child discuss the work, each one contributing insights and suggestions. Conferences reveal pupils' level of understanding and confidence and are widely used in helping pupils analyze and reflect on their own work (Calkins, Hartman, & White, 2005; Stenmark, 1991).

Guides for Eliciting Responses from Children

Construct oral or written response prompts (questions, requests, statements) to elicit the desired level of performance. Teachers ask questions; make requests, statements, and suggestions; give directions, hints, and clues; present tasks or problems; and give nonverbal cues to elicit responses from children. The wording and form of these prompts determine the response. For instance, assessment questions frequently call for a factual, one-word or limited-word response. "What is the name of this animal?" "Where did the children in the story go?" "What happened after ... ?" Prompts that encourage children to combine, apply, and evaluate what they know will reveal and encourage complex thinking. Prompts that encourage children to *construct* responses—to say, write, graph, draw, or otherwise demonstrate what they know—are appropriate as soon as youngsters have the necessary knowledge and skill. The following distinctions will help you target prompts to the level of response the child is ready for:

- *Recognition versus recall response levels.* Asking the child to choose the correct answer from an array taps *recognition:* "Is this one bigger or smaller than this one?" "What do we call the animal we saw on our walk—a squirrel or a chipmunk?" At the *recall* level, children must give the correct answer without the benefit of alternatives to choose from, as in "What is two plus two?" or "Who is this book about?" Children, like adults, are usually able to recognize information before they can recall it (Berk, 2012; Lightfoot, Cole, & Cole, 2012).

- *Receptive versus expressive response levels.* Requests at the *receptive level* call for a motor response, such as "Point to a circle" or "Go around the tree, and then up the ladder." *Expressive-level* questions and statements direct children to express, produce, or state ideas in words, such as "Tell me the name of this shape." Generally, receptive-level questions are easier to answer than expressive-level questions.

- *Convergent versus divergent response levels. Convergent questions or statements* request a specific verbal or nonverbal response and have correct answers: "What color is this?" "If I had two apples and I gave you one, how many would be left?" "Put this animal next to his home." "Mavis, show me you can climb this ladder!" "Point to the *L*." "Write your name right here." *Divergent questions or statements* are appropriate when eliciting a child's opinion, thoughts, reasoning, or feelings; they do not have specific correct answers. "As you read, think of some reasons the animals in this story try to solve their problem in different ways. We'll discuss these reasons when you finish." "Miguel, what did you

complex thinking and reasoning abilities authentic assessment can tap (Herman, Aschbacher, & Winters, 1992).

Determine how children will respond. Teachers can request an individual response—one child at a time—or a group response—all children together. Responses can be verbal, nonverbal, or written. A *verbal* response would be saying the answer aloud. *Nonverbal* responses are any motor action or physical response, such as pointing to, nodding, holding up a hand, or performing the behavior or skill. A *written* response entails drawing, circling, checking, or writing an answer. For example, a child could be asked to say the name of the animal, point to the animal, or circle a picture of the animal.

In many performance samples, children are told exactly what to do and how to do it, such as, "Jump on your left foot five times without touching the floor with your right foot." The criteria are transparent (Gage & Berliner, 1998), which makes it easy to interpret the results of such assessments.

Present prompts (questions, statements, problems) in ways that make it easy for children to respond.

- Frame questions and requests clearly, directly, and explicitly.
- If a specific response is required, include it in the directions—for example, "Jump up and down" or "Tell me what you like about the story." Avoid

Figure 4.2 Levels of Cognitive Complexity

Knowledge. The ability to recall, remember, or recognize an idea or fact. "What is the name of this shape?" "Point to the letter *B*."

Comprehension. The ability to translate or explain in your own words. "Explain in your own words what a mammal is." "Tell me the names of some things having a *circle* shape."

Application. The ability to use information, applying it to new situations and real-life circumstances. "Use your math skills to divide up this pizza." "Use your reading skills to figure out which of these words rhymes with *look*."

Analysis. The ability to break information into parts. "Compare a tiger to a pet cat." "What is the difference between a triangle and a square?" "What information do you need to solve this problem?"

Synthesis. The ability to assemble separate parts into a new whole and recombine information from various sources into a new form. "Let's make your own poem using words starting with *B*." "Make your own pattern from these cubes."

Evaluation. The ability to make judgments about information using a standard or a set of criteria. "Could this really have happened?" "Explain why you think the ending of this story was a good one." (Bloom et al., 1956)

- It is a more effective and reliable means of checking understanding than using incidental, nonverbal cues (Berliner, 1987).
- It can probe the level of a child's understanding, clarify answers, identify misconceptions, and help children learn and demonstrate complex thinking skills.
- Dynamic assessment integrates assessment with teaching and points the way to effective scaffolding of a child's learning.
- Interviews, conferences, and discussions can give insight into children's feelings and attitudes as well as into their knowledge and thinking processes.
- For children who read and write, eliciting responses through informal classroom tests provides information directly linked to classroom activities.

LIMITATIONS

- If a child does not respond, the teacher does not know that he *could* not, only that he *did* not.
- A child's response may reflect social factors rather than "knowledge." Cultural differences in adult–child interaction between the home and school may influence responses. Children who have difficulty answering may lose self-confidence and fail to respond although they know the answer. A child may even guess or answer what she or he thinks the teacher wants to hear.
- The way a question is framed influences responses. Children may not know how to respond to confusing or misleading questions.
- Unless sensitively done, questioning may be perceived by children as threatening.

being indirect—"Would you like to show me the capital letters?"—or vague—"How many times can you jump up and down?"

- Brief prompts, preferably one at a time, are easier for children to follow than long multiple requests.
- Make sure children understand the question or request. Use some practice items to confirm that they understand.
- Have more than one way to ask the same question. If one way does not work, try another.
- Allow "think time" before expecting a response.
- Respond to children's answers in ways that encourage them to continue.

Use sound test construction principles to construct or select any paper-and-pencil tests. As children become proficient at reading and writing, written responses are used to appraise knowledge in reading, writing, spelling, and math. These include written performance samples, activities, practice papers, and informal

opment, steps in learning, and progress toward a goal.
- Products or artifacts are easy to collect because they are the outcome of many classroom activities.
- Products can be collected for groups and individuals.
- They can be collected and compared over a period of time.

LIMITATIONS

- Much important development and learning does not result in a product. For example, a child who has learned to take another child's perspective will not have a product to show for it.
- Children will have unique products, making it difficult to get a sense of classroom needs.
- Overemphasis on assessment of products may shift the classroom focus away from "process" to "product."
- It is difficult to know which and how many examples to save.

tests made by teachers or taken from teacher resource books. Informal tests for beginning writers usually ask children to identify the correct answer from an array by checking, circling, underlining, drawing a line to it, or making an *X*. These types of tests usually have minimal items and maximal picture cues. Questions are read aloud or are printed on the test. As children get older, they read directions and questions, then construct and write answers.

The younger the child, the less valid and appropriate are written tests. Young children's fine motor skills may interfere with writing. Weak reading and writing skills cause poor performances even when children know the answers. Children lose their place, mark the wrong question, don't follow the directions, and do other things that have nothing to do with their knowledge. When written tests are used, teachers need to help children learn test-taking skills.

There are two major types of test items: selected response and constructed response. *Selected response items* include true/false, multiple choice, matching, and fill in the blank. *Constructed response items* for primary children request short written answers. These items are closer to real-life experiences.

Guides for and examples of the various types of test items are shown in Figure 4.3. Evaluate tests from teacher resource guides using the same criteria. In addition, check to make sure the test matches what has been taught.

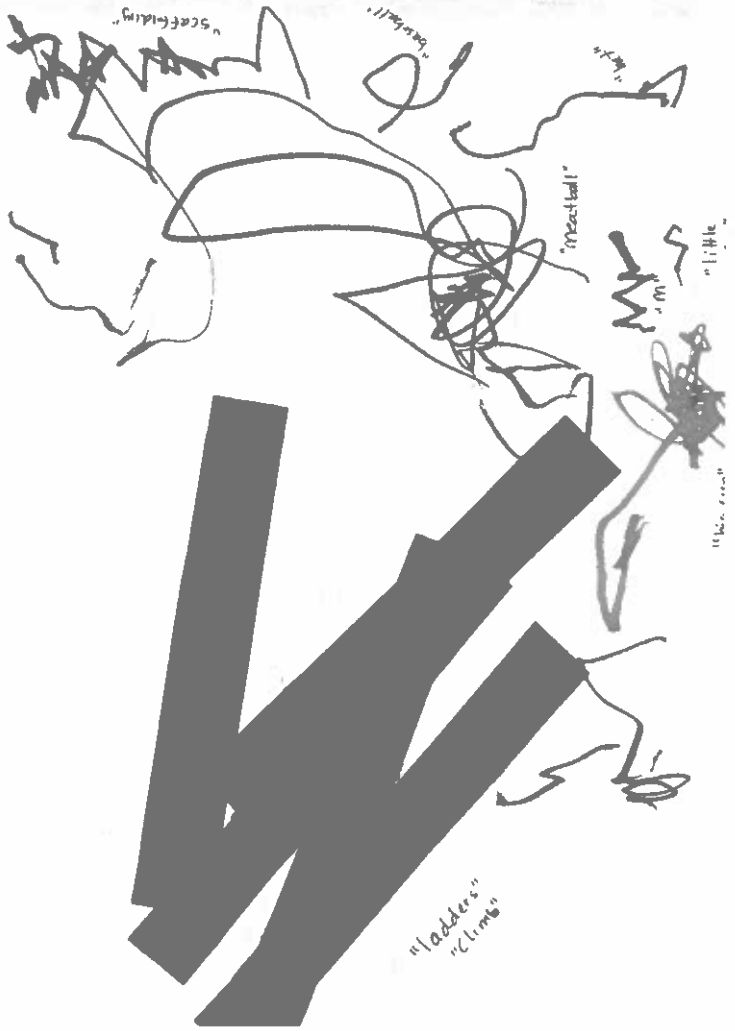
Collect Work Products from Classroom Activities

Many classroom activities result in a product or object that provides valuable evidence of a child's status and progress. Although the clay snake Josefa made will not be saved, the fact that she can make snakes shows small muscle development. Michael and Mara have built an elaborate town using interlocking plastic blocks. The town is evidence of task persistence and social

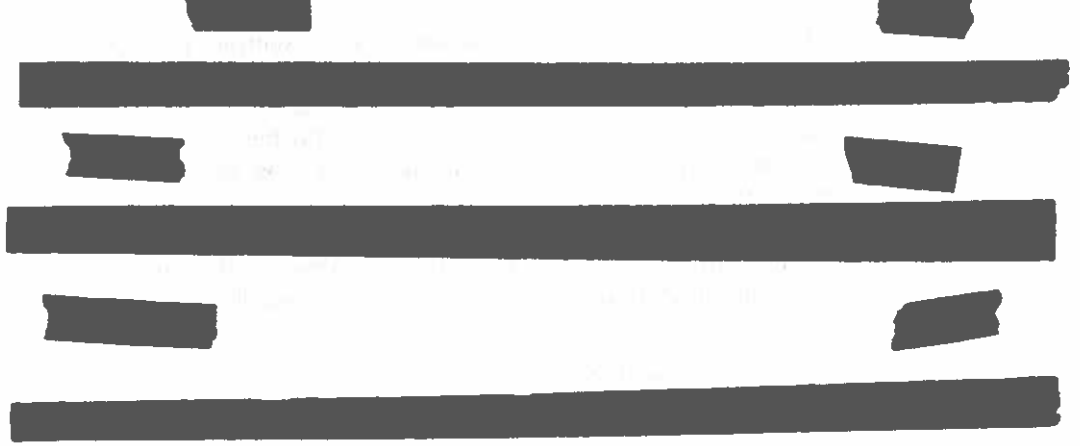
Multiple choice Stem with alternatives	First grade beginning of the year: 1. Why did the family go for a swim? a. It was a cold day. b. It was a hot day. c. It snowed. End of first/second grade: 1. Little Red Riding Hood was going to visit _____. a. her dog b. the three little pigs c. her grandmother d. her teacher	• Use a stem that is a statement to be completed or a question; questions are easier for young children. • Keep the wording in the choices to short sentences or phrases. • Students should be able to understand the question or problem by the stem alone. • Have only one correct response. • Avoid using *none of the above or all of the above.* • Avoid using the word *not* in the stem. • Construct plausible alternatives that have about the same number of words. • Place alternatives in varying order, with the correct item in different places. • Avoid grammatical clues (articles or verbs).
Matching Two columns of items to be matched	1. I'm she is 2. she's is not 3. isn't I am 4. who's I have 5. I've who is	• Have the same number of items in each list; one item in one column matches one item in the other with no extra words in a column and no double matches. • Keep the same type of words in the same column (e.g., all contractions in one column, all words that correspond to the contractions in the other). • Have no more than five items in each column.
Fill in the blank Sentence with missing word	1. There are 3 _____. 2. There are 2 _____. 3. There are 4 _____. ponies cats dogs	• Use one blank per word. • The missing word should be a critical word or concept. • Place possible choices at the bottom or next to the item; have the same number of choices as items.
Short answer Child writes the answer in his/her own words	1. Why did Grandpa want to make the toy?	• Use direct questions rather than incomplete sentences. • The answer should be able to be concise, usually one or two sentences. • Teach the characteristics of an acceptable answer. • Develop a scoring rubric for grading.

Develop a plan for selecting products. For example, plan periodic sampling for those items meant to show progress. Collect a variety of products in different media to document all developmental and content areas. Choose products based on how well they show what a child has learned or experienced. Look for "breakthrough" samples—products that show particular growth and development. Products do not have to be neat or pretty; choose products because of the process they show. Figures 4.4 and 4.5 show two children's abilities to represent events and objects. In Figure 4.4, Troy constructed seemingly unrelated objects, some of which require a label to be recognized. His dictation consists of one- or

Figure 4.4 Troy's Product



Used with permission of Danielle Erickson.



Used with permission of Leslie Alamer.

Watch the video to see early childhood expert Sue Bredekamp talking about formative assessment. What are some of the challenges teachers face as they collect data for assessment purposes? (https://www.youtube.com/watch?v=vluKdtIlG4g)

two-word names for the objects. Jennifer's picture of the swimming race shows a purposeful and successful use of paper strips to represent objects in the event, and her dictation captures the whole story (Figure 4.5). There are also differences in fine motor skills, as evidenced by the use of glue, paper, and pencil.

Choose products because they demonstrate a child's unique approach to a problem or conceptualization of something. Marta, for example, makes intricate patterns with whatever materials she has. Tyler, using the same materials, will create something about favorite TV shows.

Set up a system for storing and summarizing products. Record the child's name, the date, and the reason for saving directly on the product, on an entry slip attached to it, or electronically if you are scanning and storing on a computer. Store pieces in chronological order. Cross-reference group products. See Chapter 6 for more ideas on how to choose and organize work products.

Elicit Information from Parents

Information from parents is available in many forms: informal conversations and communications, conferences, email exchanges, home visits, forms, and questionnaires, as well as involving parents in assessing their own children. All involve personal communication: asking questions, discussing concerns, attentive and active listening or reading, and responding. The following section suggests a wide variety of ways to set up parent–teacher communication related to assessment. Try those appropriate to your situation. Not all parents cooperate, but many do, and that involvement benefits everyone. Continued efforts by teachers result in increased parent involvement (Epstein, 1987).

- Parents can share information about home/school, cultural, and linguistic differences.
- Other people's experiences and insights increase a teacher's knowledge about a child. Parents have a long-range perspective of their child from birth to the present. Also, specialists with expertise in a specific area can augment a teacher's understanding of a youngster.

LIMITATIONS

- Other people's biases can distort a teacher's perception of a child.
- If parents are not familiar with the purpose of assessment, they may place pressure on the child to perform in a specific way.
- Specialists are usually brought in only for selected cases.

Guides for Eliciting Information from Parents and Other Adults

Be respectful of parent and community culture, customs, and language. If some parents are not comfortable speaking, reading, or writing English, perhaps a multilingual educator can use the parents' primary language or the teacher can arrange for a translator. Use sensitive, responsive discussion and listening techniques.

Advise parents about what information will be helpful. Some teachers simply ask parents, "What would you like me to know about your child?" Similar open-ended questions are listed in Figure 4.6. Many parents do not realize that family events may influence a child's behavior at school and that teachers can be more understanding if they are aware of a particular situation. Provide examples of what is helpful and why: significant events, such as the birth of a baby, moving, illness, marriage, divorce, or the death of a pet; as well as daily ups and downs, such as illness, disruptions in sleep patterns, or a "bad morning."

Use existing communication opportunities. Background information on enrollment forms may give details such as previous schools, family composition,

Figure 4.6 Open-Ended Requests to Elicit Information about a Child from Parents

"What do you hope your child will get out of being in this program?"
"What are your child's current play (reading, learning) interests?"
"What are your child's strengths?"
"What special needs should we be aware of?"
"What do you do as a family?"
"We would like to know about your child's friends and friendships at home and in the neighborhood—ages, what they play, how they get along."
"What other things would you like us to know?"

ents deliver or pick up their children. Have a specified place for exchanging messages to take full advantage of this opportunity. Some schools and centers have a place for comments on or near the daily sign-in/sign-out forms. In others, teachers plan the day so they are available to talk. Telephone calls help overcome distances when children ride buses, walk to school alone, or are dropped off at the school. Voice mail, answering machines, email, and web pages provide other opportunities.

Many programs have joint teacher–parent goal setting for the child at the beginning of the year. Parents list expectations of themselves and the teacher and then respond to prompts such as those listed in Figure 4.7. The parents and teachers keep copies of the expectations and at the end of the year give their perspectives on how the child has progressed.

Figure 4.7 Items Used for Joint Parent–Teacher Goal Setting

"I would like to see my child doing more of the following:"
"I would like to see my child doing less of the following:"
"At school, I would like the teacher to help my child with the following:"
"At home I would like to help my child do the following:"
"Ways in which we can work as partners in the child's total education:"
"I would like to know more about my child's . . . "

Be diplomatic when obtaining needed information related to a problem or concern. Some teachers describe what they see at school and then solicit parents' insights, similar experiences at home, and other information that will help the teachers understand and determine a course of action. Be honest about concerns, but be open to parents' perceptions and viewpoints.

Have parents do some assessment and documentation. Develop a few nonthreatening tasks that parents and children can do at home. Give clear directions, including suggestions about appropriate timing, keeping tasks casual, and sensing when to stop. Figure 4.8 provides examples of ways parents can help with assessment.

Figure 4.9 is an example of a reading log that parents and children can keep at home. Parents keep the log for children who are not yet readers and writers. Children who read and write keep their own log, noting whether parents read the book to them or whether they read it themselves. For beginning writers, enlarge the cells. Explain and give examples of what goes in the "Comments" section. When the page is full, place it in the child's portfolio.

Determine other teachers' and specialists' knowledge of children in a professional manner. Avoid the sometimes unprofessional exchange of opinion in a teachers' lounge or the labeling of a child. By sharing knowledge about a child in a professional manner, the teacher may prevent gossip-type conversations. Refer to Chapter 11 for more suggestions.

"What are your favorite things to do at school? Least favorite?"
"What are your favorite things to do at home? Least favorite?"
"What are your favorite television shows (books, computer games, sports, and so forth)? Why?"
"What is your favorite thing to eat? Tell me how to make it and I will write it down."
"What are some things you are learning (have learned) at school?" (Use only if the school is making an effort to help children become aware of and remember what they are learning.)
"Tell me some things you know about (proposed topic of study)."

Help document strengths and needs:
Tape record the youngster reading aloud at home to get reading samples for portfolios.
Help the child keep a log of books read to the child and books the child reads independently.
Answer teacher-prepared questions about homework, noting the type of help the parent gave the child:
"How long did the assignment take?"
"How difficult was the assignment? Easy? About right? Difficult?"
Note study habits with which the child needs help.

Figure 4.9 Reading Log Maintained at Home

Reading Log

Name _____ **Date Started** _____

Name of Book and Author	Who Read? *Child = C* *Adult = A*	Dates *Start*	*Finish*	Comments*

*Comments can include impressions, opinions, or reactions to the book or writing; revealing associations between events in the book and prior knowledge or experience; reflections on the plot or themes in the book; or other personal reactions. Write as much as you would like.

assessment is an "authentic assessment." The context can increase child motivation and personal involvement, which, in turn, affect the complexity and maturity of responses (Cazden, 1972). Behavior during an interesting, involving activity differs from behavior during an uninteresting activity. Likewise, if a child feels at ease in a setting, the child will perform better. Anxiety in an unfamiliar, strange situation may cause uncooperative behavior, such as acting silly or refusing to respond. Context is a key factor in determining how a child will act (Bodrova & Leong, 2007).

Consider the following factors when choosing a context for assessment: physical space, materials, activities, people, and amount of teacher structure.

Characteristics of the Context

Physical Space. The arrangement of physical space can increase the frequency of certain behavior and minimize distractions. For instance, putting climbing equipment in a line will increase the likelihood that children will use the pieces in sequence and will climb, swing, and balance. Also, children are less apt to interrupt each other's progress if there is an implied order.

Materials. Adding new materials or changing the ones normally present will affect assessment. A new book in the reading area, new mystery rocks at the science table, or other subtle variations often produce changes in behavior. Adding one or two props in the dramatic play area may encourage a child to join in who would not ordinarily do so.

Activities. Activities have a direct impact on behavior. More large muscle skills are observed in certain activities, such as outdoor play, a game of tag, or a movement activity, whereas small muscle skills are more likely to be observed as children put together puzzles or work on their art projects. Choose activities that are sufficiently involving and interesting. Activities that are a usual part of the classroom may be too familiar to elicit interest and involvement. To attain the level of involvement and interest necessary for a good assessment, modify familiar activities. Sometimes activities not commonly associated with a specific behavior are novel enough to increase child interest. For example, counting jumps in an outdoor activity may be more involving and interesting than the usual counting tasks with manipulatives.

For children younger than age 7, the activity most likely to elicit complex and mature behavior is play (Bodrova & Leong, 2007). Watch a child playing or pretending, for example. Perhaps Anna does not listen while the teacher reads a story to the group. However, when she is "playing school" with a friend who pretends to read, Anna listens attentively for 10 minutes.

People. Children's behavior is influenced by the number of people present and who they are—friends, peers, or adults. Group behavior is more

efforts to get children to play her way, dominates conversations, and tries to keep other children from talking. Stacy's behavior in turn is influenced by Said, who follows her lead, and Marta, who resists. Subgroups within a larger group also have an effect on interaction, such as when two best friends dominate a cooperative learning group by constantly rejecting other children's suggestions.

Amount of Teacher Structure. Contexts range from those with little teacher intervention to structured settings where teachers directly modify and control the environment. In most situations, teachers provide some sort of structure, ranging from putting out new materials, to organizing an activity, to participating in activities. Structured activities flow with normal classroom interaction patterns and are not noticeably different from them. To observe cooperative behavior, set up a cooperative game. During the game, you will see more examples of cooperation than usual, yet children view the game as a normal part of classroom life.

Examples of Contexts for Assessment

Many contexts lend themselves to assessment. Some are obvious, such as using the manipulatives area to assess small motor development or the book area for literacy skills. Others are overlooked, although they are excellent contexts for appraisal. Consider the following:

1. *Daily routines.* Assess during snack, cleanup, lunchtime, transitions, and other daily routines.
2. *Outdoors.* Watch children as they play in organized games or alone. Many aspects of development can be observed, including large muscle and social development, language use, and problem solving.
3. *Dramatic play.* Dramatic play can be a context for assessing social, language, and cognitive development, as well as fine motor skills.
4. *Learning centers.* Children can be assessed or assess themselves as they work in learning centers. Many products from learning centers provide a record of what the children have done. Children who read and write can assess themselves by filling out charts and rating scales, or by tape recording comments.
5. *Classroom meetings or large groups.* An often overlooked context for assessment occurs when the class gathers together. Teachers can assess group functioning and individual participation as well as specific knowledge and skills.
6. *Cooperative group activities.* Groups in which children learn together are the ideal context for assessing the social and content goals for those groups.

factor in the setting separately influencing a child's response, causing a child to deliver a performance that is not typical (e.g., physical space, materials, activities, people, and the amount of teacher structure). Avoid scheduling assessment on days that are unusual or when children don't follow the typical routine, such as the first day after holiday break or the afternoon of a field trip.

Make sure the children feel at ease. Be certain that the children have had time to practice with materials before they are assessed. If they have never written to a picture prompt, let them practice doing that. If the teacher has never asked a question and not told the children if they are correct, then the teacher needs to explain how the questions are asked and how he or she will reply: "I'm going to ask you a question. Usually, I say, 'That's right,' but this time I'm just going to nod."

Use physical space to increase desired behavior and minimize distractions. The way assessment is set up in the classroom will be more distracting for some children than others. Setting up in the hallway might make some children feel awkward, but setting up in a noisy corner of the classroom will likely not work. If possible, keep the classroom setting the same. For example, don't remove the alphabet chart or the Word Wall from their normal places on the walls.

Make the context interesting and realistic enough to engage children. When young children are assessed on tasks that are taken out of context, they often perform at a level that is lower than they are capable of simply because they get easily bored. Another reason is that they may assume that they do not have to give a complete answer because the adult already knows the answer. This is why asking a child to set a table and to make sure everyone has a plate and a napkin may be a better context for assessing preschoolers' one-to-one correspondence than asking them to match each blue counting bear with a red one.

Remember that the size and composition of the group influence interaction. It helps to experiment with the size and the makeup of a group to find out the entire range of the behaviors being assessed. Some children tend to "clam up" and not talk much in a large group, whereas others like to "perform" for their peers. A child who does not seem to enjoy reading independently shows more enthusiasm when asked to read to a younger classmate.

Choosing the Appropriate Assessment Window

Because so many possible combinations of sources, methods, and contexts exist in an early childhood classroom, a teacher can vary the assessment

The focus behavior guides the choice of source, method, and context of the assessment. Therefore, you should identify, as explicitly as possible, the behavior you decide to assess (Chapter 3) and what you want to learn about it.

Two illustrations clarify this: If a teacher is interested in how children function in small groups during dramatic play, the teacher should choose the children playing in a *group* as the source of information. Observation is a good *method* for assessing social interaction, because it can be done without interfering with group dynamics. To select the best *context,* the teacher must consider the number of children, materials, and composition of the group, such as ages and friendships of members.

If "using inches, feet, and yards to measure" is the focus behavior, the most authentic *source* of information is the child. The best *method* is to elicit information in a performance task that focuses attention on specific facts and behaviors. Any *context* in which children can demonstrate these skills would be good, such as measuring the sidewalk, measuring objects to be used in a construction, or determining their own height.

Use Authentic Assessment Windows

Appraisals should tap the identified behavior as directly as possible. Choose the source, method, and context that will best accomplish that. Use direct sources of information whenever possible, except when the perspectives of parents and other adults are your focus. If you are assessing a behavior that usually occurs in a specific setting, use that context. An authentic assessment of cooperative learning is a cooperative learning activity. Although cooperation also occurs in dramatic play, it is not the same kind that takes place in cooperative learning.

Maximize the Frequency or Chance of Seeing a Behavior

Assessment windows should maximize the chance of seeing the behavior. To determine how many children can classify objects by one attribute, choose activities in which children sort and classify objects. One person or source may see behavior more frequently than another source; for instance, the playground supervisor sees more gross motor behavior than the reading specialist. Certain settings tend to restrict interaction and limit certain types of behavior. Spontaneous play happens more often during dramatic play than in a teacher-directed activity. Certain activities are more engaging and elicit better, more reliable samples of behavior. Contexts affect motivation—children might be more motivated to use their addition skills during a toss-catch-and-answer session than during a paper-and-pencil test.

No formula exists for deciding how many different assessment windows are necessary. Teachers must use their judgment. Consider the following general guidelines:

- To assess progress, at least two assessment windows must be similar. A drawing collected at the beginning of the year should be compared with a drawing collected later, not with a painting. The first appraisal and at least some later comparisons should have similar sources, methods, and contexts.
- If several appraisals are made, more variation is acceptable. For instance, if five samples of problem solving will be collected, no more than two or three of them should come from the same source, method, and setting. If ten appraisals are made, three or four using the same source, method, and setting are acceptable.

Figure 4.10 shows the wide variety of assessment windows available for assessing what children know and can do in different development and curriculum domains (Gage & Berliner, 1998; Meisels & Steele, 1991; Russell & Airasian, 2012).

Figure 4.10 Assessment Windows Used to Appraise Major Early Childhood Goals

Large Muscle/Gross Motor

- Systematic observations of child in movement during movement activities, outdoor play, physical education
- Self-reports or elicited information about a child's favorite games, activities, or apparatus and why they are favorites
- Systematic observations of a child's skill level
- Evidence of participation in large muscle activities
- Performance sample of an obstacle course combining several skills
- Performance sample of one specific skill
- Evidence of the length of participation in active physical exercise without tiring
- Performance sample of mimicking of progressively harder patterns of movement (following a song, videotape, or teacher)
- Descriptions of after-school and weekend physical activities from parents

Small Muscle/Fine Motor

- Systematic observations and examples (products) of a small muscle skill, such as fingerplays or use of writing instruments, modeling clay, manipulatives, crayons, paints, pencils, chalk, clay, paste, or other material that requires small muscle use (these can be spontaneously generated or elicited by the teacher)
- Spontaneously generated work products and performance samples of cutting
- Spontaneously generated work products and performance samples of scribbling or printing of letters and numerals

- Child sketches of own constructions
- Performance samples of constructions (build a bridge from this side of town to the other, build a tower that is this high)
- Self-portraits drawn at the beginning and end of the term
- Systematic observations of self-help skills made by the teacher
- Reports from parents about self-help skills seen at home

Cognitive Development

- Elicited information about a child's knowledge or thinking processes (using a web or semantic map to record information)
- Elicited information or self-reports of what a child was thinking in a particular operation, project, or process (Why did you sort the shells that way?)
- Self-reports, elicited information, or work products showing a child's ability to present information in graphic form
- Systematic observations or performance samples of puzzles, problems solved, and how they were solved
- Work samples from different subject matter areas
- Performance samples of a child's ability to carry out basic cognitive processes—classify, pattern, seriate, think, and represent using symbols; sequence; use number concepts and operations; observe; compare and contrast; and others
- Self-reports or elicited descriptions of memory strategies (e.g., list made by child)
- Self-reports or elicited descriptions of a child's understanding of a process, such as how a favorite food is made
- Performance samples of specific knowledge or skills
- Work products, such as reports, practice papers, displays, presentations, models, or other end products of project work
- Performance samples of problem solving with teacher- or child-recorded information
- Self-reports of games the child has made up or played and how to play a known game (knowledge needed, strategies used)
- Systematic observations, elicited descriptions, or self-reports of things child uses to aid own thinking (use of fingers, self-talk, monitoring thinking processes)
- List of hints at different levels that helped the child solve a problem; list of hints that were not helpful
- Descriptions of error patterns found on practice papers and performance samples
- Descriptions of child's favorite problem-solving games and puzzles from home
- List of the "How does this work?" and "Why?" questions children ask their parents

Language and Literacy Development

- Systematic observations and performance samples showing communication competence
- Evidence of comprehension and use of specific concepts, vocabulary, and constructions
- Evidence of time spent reading or looking at books, times in book center
- Self-report or record of books read or books read to child at home or school
- Self-report or elicited listing of favorite books
- Performance sample of child reading aloud to another child, parent, aide, volunteer, or the teacher (may be recorded on audio- or videotape)
- Evidence of child's understanding of functional uses of print (e.g., signs, maps, letters, newspapers, lists, books, teacher recordings, photographs)

(continued)

- Group compositions or experience charts
- Performance samples showing a child's conceptions about print
- Parent reports of favorite books or reading activities at home

Personal and Social Development

- Teacher observations and recordings of specific aspects of a child's interactions with peers
- Evidence of friendship and affiliation abilities
- Self-reports or observations of a child's skills in cooperative work groups, class projects, and outings
- Evidence of a child's choices of activities for a specified time
- Evidence of participation in and contributions to various activities requiring peer interaction
- Elicited information about friendship (what it means to be a friend and have a friend) and social problem solving (How would you handle this problem?)
- Observations of positive initiations with others or of negative, inappropriate interactions
- Descriptions from parents of the child's friendships and affiliation abilities at home
- Elicited or self-reports of a child's conception of self (Who am I?)
- Systematic observations and self-reports of a child's level of motivation during different types of activities

Attitudes and Dispositions (about almost everything)

- Evidence showing time spent at a given activity or task
- Evidence showing a child's choices of activities, books, projects, food
- Elicited information and self-reports of "favorite" activities, books, songs, subjects, things to do at home and on playground—and why
- Evidence of a child's uniqueness in approach, attitude, and disposition
- Self-reports or elicited information of the number of books read, puzzles completed, maps made, pictures drawn, or skills mastered
- Knowledge and skill in a particular developmental or subject area
- Parent reports, reports from other teachers about a child's attitudes and dispositions
- Description of motivation levels, attitudes, and dispositions observed during performance samples in a specific area

Specific Content Areas

- Performance samples of a child's ability, designed to elicit specific skills, concepts, or processes
- Practice papers and other work products: science, math, or integrated project journals or reports
- Evidence of the relationships between concepts, processes, and strategies for use (may be documented by webs or semantic maps)
- Descriptions of specific skills, concepts, and processes

Other Important Assessment Windows

- Attendance and tardiness records
- Child's reflections on own development
- Observations of who sleeps at nap time and for how long (preschool)
- Observations of who is tired or hungry in the morning
- Observations of a child's preferred study time (morning or afternoon), quiet time, reactions to noise or new situations, and other learning style characteristics

physical space, materials, activities, and people to achieve different contexts or settings.

Each approach has strengths and limitations. To choose the most appropriate combination of source, method, and context for a given assessment, use these criteria: choose a combination that is as authentic as possible, that is appropriate to the purpose, and that maximizes the chance of seeing a behavior. Use a variety of approaches to avoid overdependence on one source, method, or context.

Using different assessment measures requires teachers to have certain skills and attitudes. These are described under the various Guides headings throughout this chapter. Teachers must be respectful of community culture, customs, and language, as well as sensitive and skilled in talking with parents and children. With parents, use existing communication opportunities to elicit their perspective, have them do some assessment, and help set goals. With children, use authentic performance tasks; interviews, conferences, and discussions; and dynamic assessment strategies. Ask a range of questions to stimulate both memory and the reflection that prompts complex thinking and reasoning. Employ a variety of questions, requests, and prompts at different levels of difficulty and complexity to increase the accuracy and amount of information from children.

Check Your Understanding 4.1: Click here to gauge your understanding of chapter concepts.

Media Connections 4.1: Click here to apply your understanding of chapter concepts.

For Personal Reflection

1. Context, or setting, is one of the variables that teachers must consider in assessing children. Think of times and situations in which context influences what you do. What aspects of those settings are influential? Physical space? Materials? Activities? People? Structure? In what ways do they exert their influence?
2. Teachers often have strong opinions about studying records made by other people as a source of information about children. Examine your own beliefs about records. What are some of the reasons for those beliefs?

For Further Study and Discussion

1. Mr. Lee is interested in determining which children can count by 1s, 2s, and 5s. Identify three different assessment windows to gather the information. Explain your choice of sources, methods, and settings.

about a concept such as relative location or relative size. Conclude by writing a question or statement about insects that would elicit responses at the recall and recognition levels. Use Bloom's Taxonomy to develop questions and statements about the concept of food, calling for varying levels of cognitive complexity.

4. Underline the portions of the following observation record that are inferences and not a description of what was actually observed. Justify your decisions.

> Tina and Norm are playing a game of tag outside. Tina accidentally trips Norm. He lashes out at her, pushing her to the ground. Tina's feelings hurt, and she begins to cry and runs to the teacher. The teacher is more sympathetic toward Tina than Norm because he is usually a discipline problem in the classroom. She says, "What happened to you, Tina?" Tina replies, "Norm pushed me down and I hurt myself." The teacher takes her hand and walks over to Norm, who by now is quite angry and feeling sorry for himself. "Norm," says the teacher, "did you push Tina down? Why did this happen?" Norm says, "She tripped me first." Tina says, "Well, I didn't mean to." Tina and the teacher realize that there is a misunderstanding. Norm is an aggressive child and always responds aggressively.

Suggested Readings

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Enz, B. J., & Morrow, L. M. (2009). *Assessing preschool literacy development: Informal and formal measures to guide instruction.* Washington, DC: International Reading Association.

Ginsburg, H. P. (1997). *Entering the child's mind: The clinical interview in psychological research and practice.* Cambridge: Cambridge University Press.

Helm, J., Beneke, S., & Steinheimer, K. (2007). *Windows on learning.* New York: Teachers College Press.

McMullen, M. B., & Elicker, J. (2013). Appropriate and meaningful assessment in family-centered programs. *Young Children, 68*(3), 22–27.

Popham, W. J. (2013). *Classroom assessment: What teachers need to know* (7th ed.). Upper Saddle River, NJ: Pearson.

Russell, M. K., & Airasian, P. W. (2012). *Classroom assessment: Concepts and applications* (7th ed.). Boston: McGraw-Hill.

Photo: Olesya Feketa/Shutterstock

CHAPTER 5

Documenting: Recording Information

Learning Outcomes

1. Describe strengths and limitations of the following procedures used to record classroom assessment information: narrative records; photo, audio, and video records; checklists; frequency counts; participation charts; and rating scales and rubrics.
2. List the factors influencing the choice of a specific procedure to record assessment information.

Documenting: Recording Information

Records of what children have done and learned are the basis for communicating with other people. Teachers depend on records to help them remember what children know and what they can accomplish (Leong, McAfee, & Swedlow, 1992). During an average school day, teachers have 1,500 interactions with children (Billups & Rauth, 1987). Obviously, these educators cannot rely on memory alone.

Recording information in a systematic way helps focus attention on each child's development, on important educational targets, and on the way authentic assessment and good instruction are linked. The discipline of *documentation*—collecting and recording information—makes educators better observers and teachers. This chapter is divided into two sections: (1) description and examples of recording procedures and (2) selecting an appropriate recording procedure.

Teachers and researchers have developed a bewildering array of recording techniques that fall into three basic types: those that describe; those that count, time, or tally; and those that rate or rank whatever is under consideration. Figure 5.1 shows the most frequently used procedures in each type. Other procedures usually involve a combination or variation of the basic types.

Figure 5.1 Types of Recording Procedures

Procedures That Describe	Descriptive narratives, anecdotal records, jottings Diagrams, sketches, photographs Audio and video recordings
Procedures That Count	Checklists Participation charts Frequency counts
Procedures That Rank or Rate	Rating scales Rubrics

Descriptive records are "pictures" of a behavior that are written, drawn, photographed, or tape recorded, as in anecdotal records or sketches. Counts or tallies note the number of times a behavior occurs, usually on a checklist of some type. Rating scales or rubrics record information by ranking or rating attributes on a continuum relative to that of other individuals or a predetermined standard. Figure 5.2 compares the information from one incident recorded using the three procedures: describing, counting, and rating.

Only basic recording tools that are feasible for teachers to use are included here, but teachers are encouraged to vary them and use others to meet their own recording needs. Current word-processing programs make it easy to develop forms tailored to a specific need. Include the date, the child's (or children's) name(s), the observer's name or initials, and any other pertinent information—such as the time of day, setting, or activity—on each record.

her journal, "My Friend Jana."

3/12/15 Speaks with confidence

Enjoys reading
1 (3) 5

Description and Examples of Recording Procedures

This section describes, gives examples, and lists the strengths and limitations of selected recording tools useful in early childhood settings. They are grouped according to type: those that describe, those that count, and those that rate or rank. Other procedures—combinations and variations—conclude the section.

Procedures That Describe

Procedures that describe preserve raw data in a form that is closest to what actually happened. These narrative records include descriptive narratives, anecdotal records, and jottings; diagrams, sketches, and photographs; and audio and video records.

Narrative Records: Descriptive Narratives, Anecdotal Records, and Jottings. Narrative records are detailed, storylike descriptions of what occurred. The amount of detail and the length of the entry are the primary differences among descriptive narratives, anecdotal records, and jottings. Descriptive narratives, sometimes called *specimen descriptions* or *specimen records,* are the most detailed. They are like video recordings—continuous records of everything said or done during an assessment, written as the behavior is observed. They may include many types of behavior and activities, as well as several children and adults (Figure 5.3). Descriptive narratives

Figure 5.3 Descriptive Narrative Record

Item(s) Sociodramatic Play
Child M. Pierce & D. Smits **Date** 5/12/15 **Time** 10:00 am
Observer Franklin **Setting** Dramatic play area

Marcia and Dolores are standing next to the sink. Dolores hands Marcia an apron. They both tie the aprons around their necks like capes. Dolores grabs the yellow mop and Marcia takes a purse. Dolores begins to march around the room. "Follow me everybody," she says, pushing the broom up and down like a majorette. Marcia, still in the dramatic play area, starts addressing an empty chair. "You have been soooooooo bad. I'm going to make you eat mushy mushy mush mush. Here." She walks back to the sink, turns several pots over, and rummages around. Dolores returns—holding Kathy's hand—and says to Kathy, "You come play with us, OK? We need a baby. Want to be it?" Kathy looks away toward the sink, lets go of Dolores's hand, and says, "What is this?" . . .

Notes/Interpretation
Few roles. Talk is primarily statements. Beginning to assign roles.

ing problem solving. Dates and children's names are noted on the actual record.

Jottings are short notes about significant aspects or characteristics of a behavior or event. They take less time to write than descriptive narratives and anecdotal records but preserve important details by using phrases and abbreviations, leaving out words, and taking other shortcuts. Because they take little space and are quickly recorded, jottings can be used in the "Comments" or "Notes" sections of checklists, participation charts, and other forms, or they can be recorded in a group-record format such as that shown in Figure 5.5. Jottings are often added to children's work products as an explanatory annotation. Examples of jottings include "Runs around obj. easily, arms balanced, jumps rope, attempts jumping jacks" and "Responds correctly and without hesitation."

Figure 5.4 Example of Anecdotal Records

Date: 12/4/14

Olivia, Makki, and Jamal are rolling cars down a ramp. Olivia and Makki start their cars at the same time and they arrive at the bottom of the ramp at the same time. Jamal starts at a different ramp a bit farther back and lets his car go at the same time, but it takes longer to reach the bottom. He scoots his ramp even farther back and waits until Olivia and Makki put their cars on the top of their ramp and all three children let their cars go together. Jamal's car takes longer. He takes a block away from his ramp and then when they let the cars go, his goes even slower. Next, Jamal puts the block back and adds another block, making the slope greater than the girls' ramp. His car goes the fastest. The children talk about this and then Olivia and Makki add a block to their ramp and they try again.

Figure 5.5 A Record Using Jottings

Item(s) Counting Skills
Group PM Kindergarten **Date** 1/5/15 **to** 4/10/15
Observer Wong

Name	Rote	Meaningful	Notes
Beck, A.	1/22/15__ To 5 no errors 5–10 w/prompt	3/25/15__ To 3 Prompts not used	
Benny, D.	1/22/15__ To 20 no errors To 50 w/prompts	2/22/15__ To 20 no errors To 50 w/prompts	Has number conservation for 3, 4, & 5

Written accounts preserve the context and sequence of events.

LIMITATIONS

- Written accounts take more time and attention than other methods.
- Writing can detract from ongoing interaction with children.
- Recording done after the event may be unreliable.

Guides for Making Narrative Records

Record exactly what you see or hear in the order in which it happens. Use words that convey distinctions in behavior. For example, children not only "say" something but they may also shout, whisper, scream, speak loudly, or speak softly. Do not interpret or summarize while recording.

When possible, record as the event is happening. If it must be recorded later, note a few words to help remember what happened, and accurately reconstruct the event as soon as possible.

Include all the information necessary to understand the description. This will vary with what is being recorded and may include context, time of day, what happened before the event, who was involved, what happened afterward, and other details, depending on the focus of the observation and what transpired.

Try to capture what children actually say rather than paraphrase. The "mistakes" children make as they are learning language reveal their progress as well as their needs. Sometimes this requires the teacher to invent spelling for sounds such as "suspusketti" (spaghetti) or "wainbow" (rainbow). Capturing the way dual-language/English-language learners express themselves may give clues to ways teachers can help these youngsters learn.

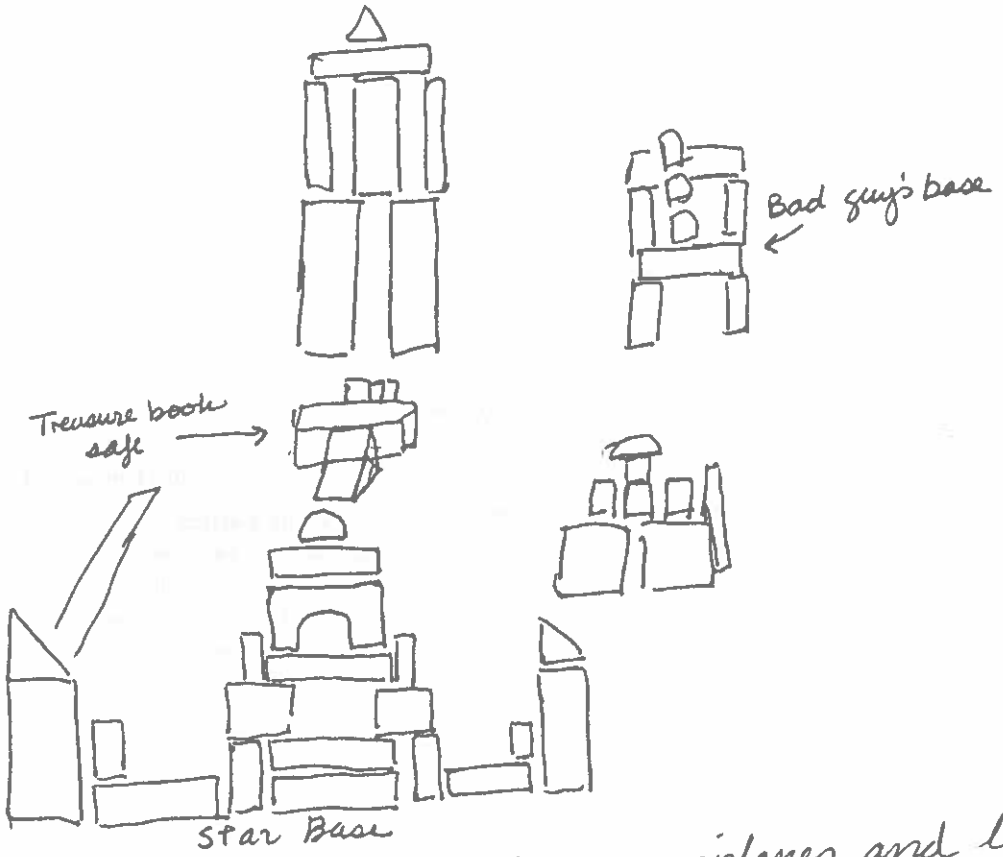
In initial recording, avoid words that convey emotional tone, feelings, motives, or thinking processes. A few examples: *shy, timid, aggressive, selfish, worried, stressed, angry, silly, afraid, enjoys, embarrassed, happy, interested, teased*—our language is full of these types of words! Record the actual behavior without judging it.

Record any inferences so they can be identified and distinguished from the factual recounting. Write the inference at the bottom or on the right side of the page, with a line separating it from the record. Write it with a different-color pen, or on a separate sheet of paper or card. Clearly label it "interpretation." Inferences should be separated from the record of behavior for several reasons. Isolating what was seen or heard from inferences decreases recording errors (Cronbach, 1990). It allows for reconsideration after a period of time and more observations. A teacher may have a different interpretation of "Selena offers to share the blocks with Zack" after one incident than after several observations of Selena working with other children over a period of time. Keeping inferences separate allows a teacher to go back and examine the pattern of behavior with

Figure 5.6 Diagram/Sketch Made by the Teacher of a Child's Block Construction

Item(s) Small Block Construction
Child Morgan, T.
Observer Schulhammer

Date 5/14/15 **Time** 9:00
Setting Manipulatives

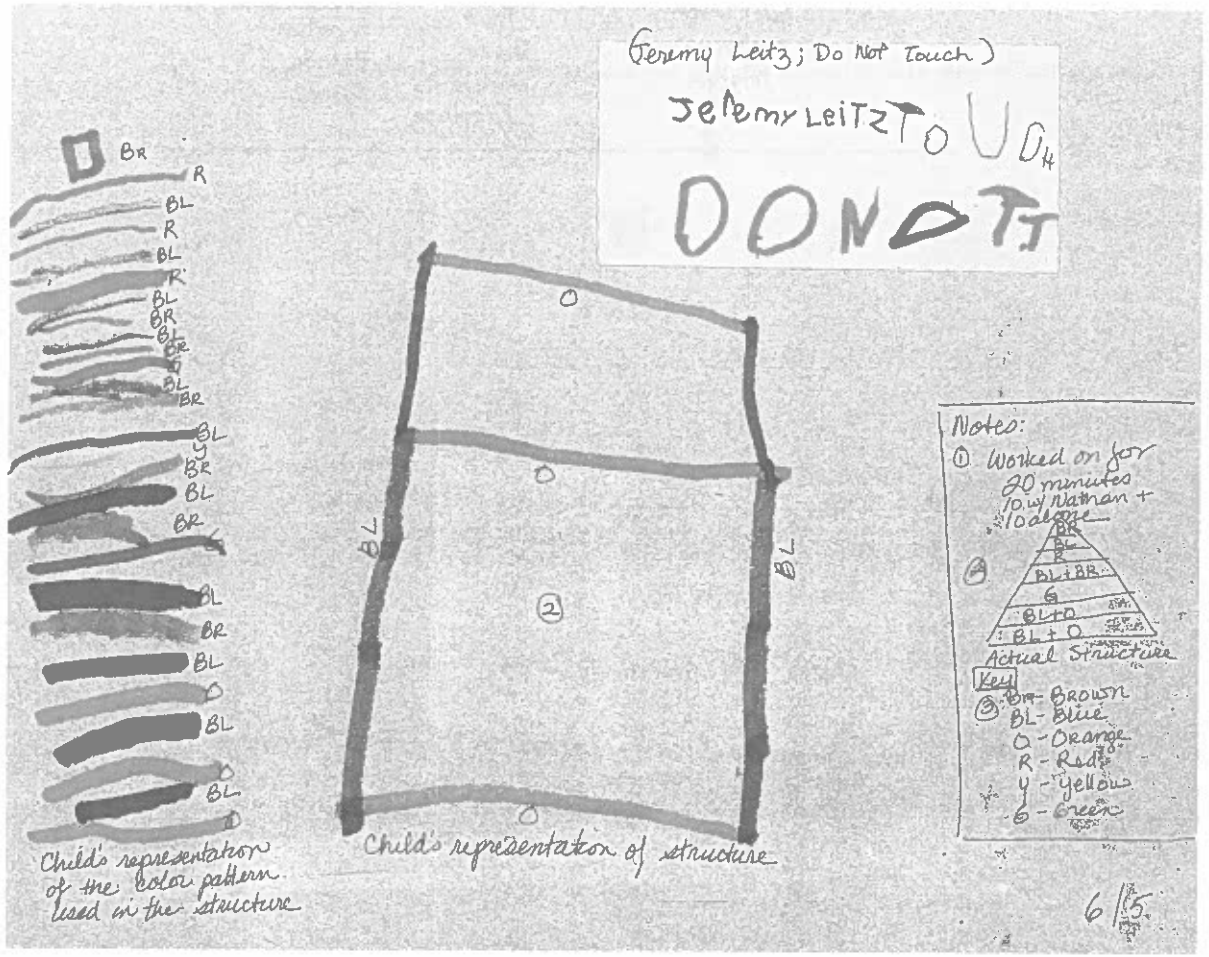


- Incorporated horses and cars, airplanes and Lego™ men in star base.
- Took 10 minutes to build-much discussion and negotiation
- Played 10 minutes with Danny F. added. (No new building)

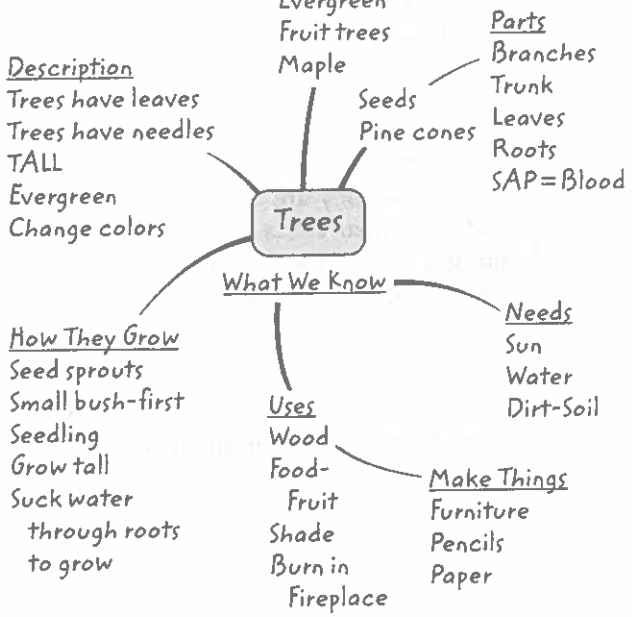
Discussed play in detail. "Star base to save the great treasure book." All three boys played both "good" and "bad" guys. In the end, the good guys saved the treasure book and punished the bad guys who went to prison.

ing about concepts or processes are called *webs, concept maps,* or *idea maps.* Webs and semantic maps document one child's thinking or the ideas of a group. Children are asked to state what they know about a specific topic or idea. As ideas emerge, the teacher asks questions to find out what a child means by an idea and to find out the relationship between ideas. For example, when a child says, "Insects are alive," the teacher might ask, "What does alive mean?" or "How do you know they are alive?" Correct information and misconceptions are both recorded. Similar ideas are placed in relationship to each other in a diagram, forming a web of ideas (Figure 5.8). Webs can be used to document knowledge or processes, and they can be recorded by teachers or children.

Figure 5.7 Diagram/Sketch Made by a Kindergarten Child of His Own Block Construction



Used with permission of Jeremy Thomas Sheng Leitz.



PHOTOGRAPHS, DIAGRAMS, AND SKETCHES

STRENGTHS

- Graphic records (diagrams, sketches, photographs) capture evidence about a product that can't be saved, such as a model, display, or construction.
- Graphic records preserve details of a process, such as changes made to a design or revisions in thinking.
- Graphic records can be used to record individual or group work in almost any developmental or curriculum domain.
- Photographs and sketches are quick and easy and require little advance preparation.
- Concept maps or webs record a child's or a group's current knowledge and the relationships among elements in it.

LIMITATIONS

- Graphic records require a written annotation to provide context and detail.
- Children need time to get used to cameras.

to preserve both speech and action and to serve as a backup and supplement to other methods of recording. These methods allow teachers to be included and are a useful, sometimes jolting, record for teacher self-evaluation. Audio records are useful for recording parent comments, especially if parents are not comfortable writing information.

Children, teachers, aides, parents, or other adults can record activities during individual or small-group activities, or with the entire class. In fact, at many school exhibits or class demonstrations, the number of video cameras may almost equal the number of families present.

Guides for Making Audio and Video Records

Focus on specific assessment situations. It is tempting to record "everything" but time consuming to review all.

Place recorders so they are unobtrusive. If children know they are being recorded, they tend to show off, or be shy, or avoid talking altogether.

See Chapter 9 for more suggestions for the use of audio and video recorders for assessment.

AUDIO AND VIDEO RECORDS

STRENGTHS

- Audio and video recordings retain exactly what occurred, including the setting, interactions, and other variables.
- They can be listened to or viewed repeatedly by different people.
- They record events that occur too quickly or are too complex to write down.
- They provide backup evidence for other records.
- They are an easy way to involve children and parents.

LIMITATIONS

- The amount of data preserved can be overwhelming.
- Audio and video equipment and the process of recording may disrupt classroom activities until children get accustomed to them.

Procedures That Count

Counts or tallies preserve information about the presence or absence, frequency or number of occurrences, or duration of a behavior. Appropriate behaviors to tally have an identifiable beginning and end (Cartwright & Cartwright, 1984),

Behaviors must be mutually exclusive or nonoverlapping. For example, aggression and shoving overlap because shoving could be counted both as aggression and as shoving. It would be better to use shoving and hitting, two mutually exclusive behaviors.

Behavior tallies use either sign systems or category systems (Boehm & Weinberg, 1997; Irwin & Bushnell, 1980). Sign systems are representative of a larger set; a few behaviors that are indicators or *signs* of a skill are appraised instead of every behavior. Being able to hold a pencil is a sign that a child is probably able to hold a crayon, marker, or a watercolor paintbrush.

A category system is exhaustive—all possible behaviors are categorized and recorded. Parten's breakdown of play (Parten, 1932) is a category system that records play behaviors in four categories: solitary, parallel, associative, and cooperative. Time samples and duration samples are used primarily in research or when a specialist is assessing a child. The recording tools most useful in the classroom are checklists, participation charts, and frequency counts. Chapter 9 provides additional information on the use of these tools.

Watch the video "Assessment Checklists" to see Dr. Andy Johnson talk about the use of different kinds of checklists to document children's learning in an elementary classroom. Of these checklists, which ones would you use to document children's learning in a preschool classroom? (www.youtube.com/watch?v=kVs9DduZBjQ)

Checklists. Checklists are a practical, versatile way to document many behaviors, skills, attitudes and dispositions, and even products. They can record inferences or teacher judgments, such as a child's confidence when speaking in front of a group. They preserve information from any area of development—physical, cognitive, and social—or curriculum, such as social studies, science, or art. Checklists can be developed, compiled, and stored on a computer using standard word-processing software. Because they are so adaptable, they are widely used, especially to record literacy and mathematics skills.

Checklists can originate from standards, instructional objectives, or developmental sequences. Items may record specific skills or different levels of performance. For example, a checklist might record a child's ability to recognize, point to, say, or use a concept.

A teacher may modify checklists to fit specific classroom needs and to collect information from an individual or group. Checklists can be filled out gradually; not all children have to be assessed at the same time. Also, checklists can document appraisals made at different times and thus create a progress record. Figure 5.9 is an example of a checklist using a grid system.

Participation Charts. Participation charts can record both the quantity and quality of participation. They can document that a child joins in, the number of times and activities in which the child is involved, and the quality of the child's contributions. Participation charts can be recorded by the teacher, other adults, or the children.

A participation chart highlights different participation rates and provides insight into children's preferences, dispositions, and patterns of participation. A chart filled in over several days will show a child's preferred activity pattern. For example, over one week, Leigh worked exclusively in the manipulatives or science areas during free-choice time and did not engage in any art

Key:
U in upper left of cell = understands ("Point to," "Pick up...")
S in lower right = says ("What's this?")

	Big	Little	Large	Small	Tall	Short	Long	Short	Wide	Narrow	Broad			
Askamit, Jay														
Bianco, Angie														
Bonilla, Carly														
Chang, Kanji														
Cison, Paige														
Closa, Cory														
Ferem, David														
Ganse, Amber														
Govene, Kelley														
Jaramillo, Jo														
Juel, Noah														
King, Taylor														
Kostiuk, B.J.														
Larson, Megan														
Lee, Jana														
Martinez, Carlos														
Medina, Juan														
Yamashita, Steve														

longer.
- Checklists can track a child's progress as well as achievement at a specific time.
- Other adults can be trained to use checklists.

LIMITATIONS

- Checklists may oversimplify complex behavior and learning.
- Checklists that contain too few representative items must be interpreted cautiously.

activities. Another use of participation charts is to document the degree and quality of engagement in group discussions or cooperative learning activities, such as whether a child's contributions are relevant, irrelevant, disruptive, or nonexistent. Participation charts also identify activities or areas of the room that are overused or underused. They clearly document the teacher's pattern of communication, such as a tendency to solicit or favor comments and contributions from a few children rather than all. Additionally, participation charts called *room scans* record which areas of the classroom children are involved in at different times of the day (Figure 5.10). Figure 5.11 shows a child-recorded participation chart, and Figure 5.12 shows a chart recorded by a teacher.

PARTICIPATION CHARTS

STRENGTHS

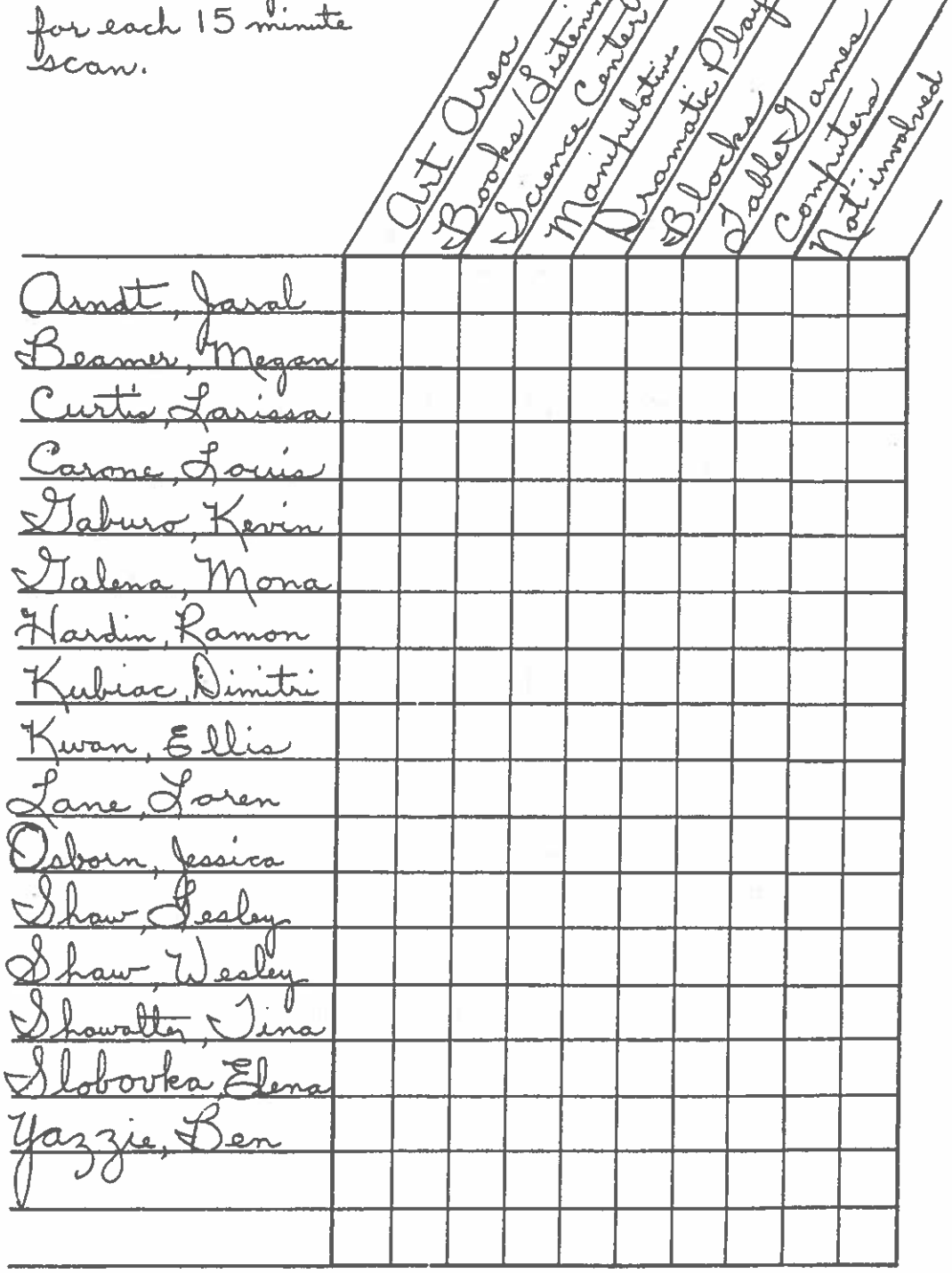
- Participation charts are a simple, quick way of recording quantity and quality of participation.
- Children can report on their own participation. Other adults in the classroom can record children's participation.

LIMITATIONS

- The rate of participation may not reflect how much a child is learning. A child who is observing and listening may be absorbing as much as children who are talking or doing.
- Participation charts may give the impression that participation is the child's responsibility, when it is a complex performance influenced by many factors.

Frequency Counts. A frequency count or event sample tallies *each* time a behavior occurs and documents the number of times or rate of occurrence. Frequency counts are practical ways to record behaviors such as social initiations and responses to others, aggressive and disruptive behavior, and a child's

for each 15 minute scan.



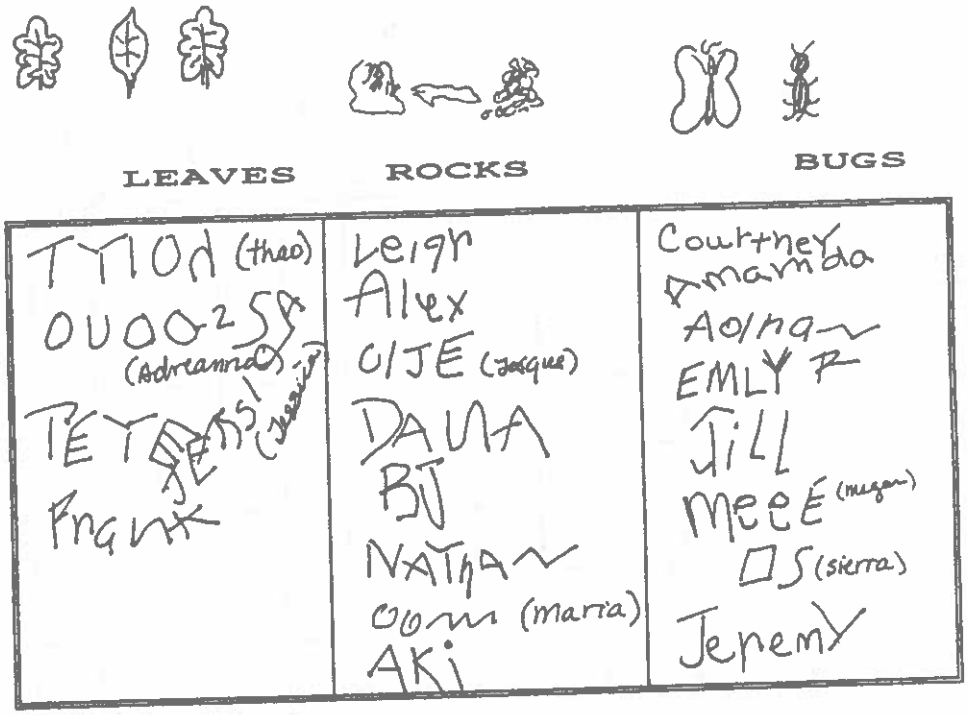


Figure 5.12 Participation Chart Recorded by a Teacher

Item(s) Participation in Cooperative Learning Task
Group Albie, Baker, Thomas, Zucher **Date** 3/23/15 **Time** 10:25
Observer Wickelgren **Setting** Science project

Name	Collects and Contributes Materials	Participates in Discussion	Participates in Final Project
Albie, T.	IIOOIII	IIIIOI	I
Baker, J.	IIIO	OOIIII	I
Thomas, F.	OOIIOI	OOOIOO	I
Zucher, A.	OIIIOI	OIOO	I

Code: I relevant contribution
O irrelevant contribution
Blank no contribution

the dates of the assessment in the left column, and record a tick mark for each occurrence in the center column. A column for totaling each tally is on the right.

Figure 5.13 Frequency Count

Item(s) Aggressive Behavior **Date** 3/5/15 **to** 3/8/15
Child Munja, K. **Time** 12:45 **to** 1:00 pm
Observer Delos **Setting** Outdoor play
Frequency count: Number of times child deliberately hurt another child, including: hitting, biting, pushing, shoving, kicking, slapping.

Date	Frequency	Day Total
3/5	𝍸	5
3/6	II	2
3/7	𝍸 III	8
3/8	𝍸	5
	4-DAY TOTAL:	20

Procedures That Rate or Rank

Rating scales and rubrics record judgments and summaries by assigning a rank or standing on a continuum relative to other individuals or a predetermined standard. They attempt to capture complex performances and thinking, such as writing, oral presentations, problem solving, and scientific investigations. Rating scales and rubrics can document "global" or "holistic" evaluations of children's

FREQUENCY COUNTS

STRENGTHS

- Frequency counts are useful for documenting the rate or changes in the rate of frequently occurring behaviors.
- Recording can be done unobtrusively during classroom activities.

LIMITATIONS

- Frequency counts do not document the sequence of events or antecedent and consequent events.
- Infrequent behaviors cannot be adequately documented.
- Frequency counts are usually limited to one child and no more than three behaviors at a time.

vidual on the characteristics under consideration, then rank the individual along a predetermined continuum from low to high frequency or quality. Words or numbers define levels of the scale. Some typical scales include:

- Advanced, Proficient, Partially Proficient, Needs Development
- Exceeds Standard, Meets Standard, Progressing toward Standard
- Independent, Needs Some Support, Needs Significant Support, Not Yet Within Child's Ability Level
- Never, Sometimes, Usually, Always
- Satisfactory, Unsatisfactory
- Grading—A, B, C, D, F—is the most familiar rating scale and is used to "grade" politicians, products, and services in addition to students' performances in school.

Rubrics or Descriptive Rating Scales. A *rubric* presents clear criteria—rules or guidelines—by which a complex performance can be judged. Such rules are typically used in judging diving, figure skating, and gymnastic competitions. A *scoring rubric* "consists of a fixed scale and a list of characteristics describing performance for each of the points of the scale" (Marzano, Pickering, & McTighe, 1993, p. 29). The scale often specifies what is acceptable performance. You will learn more about constructing a good rubric in Chapter 7 when you watch Sue Bredekamp talking about assessment tools.

Specifying important aspects of a complex performance presents many challenges. What is acceptable performance at a given age or developmental level, or even in relation to a standard? As with any rating scale, the intervals between points on the scale may not be equal. Attaching numerical values to children's work is difficult, at best. The items on the rubric often represent only one of many possible indicators of progress toward the standard, often the most obvious one. For example, efforts to specify various levels of classification may entirely overlook the fact that children need to learn to classify on bases they select and specify, as well as those specified by someone else.

Other Procedures

Some recording processes can be used to keep track of almost anything. These include narrative writing by teachers and children, computer record systems, and children's work products. Chapter 6 details ways of preserving work products in portfolios.

Narrative Writing. Teachers and children record inferences, conclusions, judgments, and reflections in their own words in journals, logs, reports, summaries, reviews, and other work products. Children dictate or write their reflections and judgments.

Some teachers keep daily or weekly chronological journals of their reflections about their teaching practices, concerns, and impressions. They record

meaning of the descriptive terms, fostering greater consistency among raters.
- They are a quick way to record the opinion of others.
- Well-constructed rubrics are easy to translate into curriculum.

LIMITATIONS

- Good rating scales and rubrics are difficult to construct.
- People may differ in their understanding of a scale, or tend to rate toward the center of the scale.
- Rater biases may affect responses.
- Even the best rubrics cannot include all relevant characteristics.

notes about children, plans for the future, and achievements, or they reflect on past and present experiences. Journals may help teachers improve their own teaching by encouraging self-reflection (Lay-Dopyera & Dopyera, 1993). Reflection on events may result in insights that would never occur in a busy classroom (Hannon, 2000).

Computer Record-Keeping Systems. Three types of computer systems are currently in use: those that track children's performance on a specific computer teaching program; those that organize and store information about children and help teachers develop and print summary reports; and those that assess and analyze children's behavior, then make suggestions for instruction.

Available programs teach early reading or math skills, record student responses, and create student profiles ready to be printed. Their focus is primarily on limited aspects of reading and math that lend themselves to a gamelike format.

Several commercial assessment systems have computer-based recording and information management systems that correspond to manual systems. Teachers enter data they have collected and recorded in other ways into the computer, where it is stored, ready to be summarized or analyzed. This can be a time-consuming step, however. In some cases, teachers enter information directly using tablets or laptop computers. Because the unique contribution of most systems is in summarizing and managing information that teachers have already collected and recorded, we discuss them in Chapter 6.

Selecting a Recording Procedure

The appropriateness of a recording procedure depends on the purpose of the assessment, what is being assessed, the amount of detail needed, as well as practical considerations.

What Is Being Assessed

Certain behaviors and products are best captured by a description; others might require counts or ratings. The most appropriate way to preserve what a child says is to record the actual words. A count is a good way to keep track of the number of times a child participates in group discussion or the presence or absence of skills and subskills. Attitudes and dispositions may be documented on a ratings scale or rubric or can be inferred from descriptions and tallies.

Amount of Detail Needed

Records capture varying levels of detail or amounts of raw information. Writing down exactly "who said what" and "who did what" preserves more detail than "had an argument." Tallying discrete units of behavior, such as appropriate and inappropriate initiations and responses to other children, preserves more detail than a tally of "social interaction" as one broad category.

The amount and type of detail needed depends on how a record will be used and the area of development or curriculum being assessed. Records that document problems and concerns, or are used for determining program placement, should contain pertinent details. Detail may be less significant for everyday planning. Focus description on those aspects of performance that are relevant. For example, knowing a child pronounced "Robert" as "Wobert" is significant when appraising language development but less so when examining motor development.

More detail is not always better. Unnecessary detail is distracting. In documenting if a child understands how to measure time, the way she is standing and with whom she is talking are not important. However, too little detail makes a record inaccurate, so noting only the child's understanding of minutes, for example, leaves out important information about hours and other time concepts.

Teachers can adjust recording procedures to fit the level of detail needed. Descriptive records are easiest to adjust—write or draw more or fewer details or take more or fewer pictures. Because they require little preparation, adjustments can be made during recording. Because tallied behaviors are identified before assessment starts, adjustments to procedures will be difficult to make while recording. Before assessing, increase the detail of tallies by counting smaller subcategories, components of skills, or units of behavior. Instead of counting "prosocial" behavior, count the number of appropriate and inappropriate initiations to others, the number of responses to other children, and the number of social conflicts resolved successfully.

Practical Considerations

Teachers must weigh practical considerations when selecting a recording procedure. These include preparation time, amount of attention needed to record data, and whether to use group or individual records.

counts, and tallies is quick—a circle, a check, or a tick mark.

Procedures that require little preparation, such as anecdotal records and narrative descriptions, take more time to record. The recorder must have enough time to write the information, not simply check or circle an item.

There are trade-offs either way. Think through the time available for recording during class. If there is sufficient time to make detailed recordings in the classroom, then those procedures may be best. However, when classroom time is limited, invest the time in preparation to keep recording during class at a minimum.

Amount of Attention Needed to Record Data. Procedures that require a teacher's total focus for recording information are difficult, if not impossible, without the presence of other adults helping in the classroom. For example, to write an accurate, descriptive narrative of group interaction in a complicated project, one person must do nothing but record. Procedures requiring moderate amounts of teacher attention can be done without the aid of other adults if teachers are interacting intermittently with children. During an art activity, for example, the teacher interacts with children, steps back to make short notes describing fine motor coordination, and then returns. Making a record becomes part of the flow of interaction. Because some procedures require only making a mark or pushing a clicker, a teacher can record while talking and working with the children. For instance, as a teacher leads a group discussion, she or he can check names of children who participate.

Procedures recorded outside of classroom time do not take time away from teaching but rely on teacher memory, which may or may not be accurate. An example is an anecdotal record written at the end of the day about an incident that happened just before lunch. The many events between lunch and three o'clock will make remembering the details of that incident difficult. Do not depend on these procedures to record important classroom information, but use them as a supplement to routine recording procedures.

Consider classroom resources when choosing a procedure. If an aide or another adult is present, attention-intensive techniques may be feasible. Teachers who don't have extra help may opt for procedures that can be used while teaching or interacting intermittently (Figure 5.14).

Group versus Individual Records. Information for all the children in a group can be recorded so that the whole group's achievements can be seen quickly; one sheet of paper may suffice, or each child can have a separate record. Although both types are used in most classrooms, practical considerations limit the number of separate individual records a teacher can make.

Concisely recorded and displayed information about each child in the class is called a *group matrix record* (Figure 5.9). Group matrices are the most efficient way to document appraisals of all the children in a classroom. One group record can display data collected during one or several appraisals, done at one time, or spread over a period of time. It can also serve several purposes: primary data record, a list of who has and has not been assessed on a particular item, and a group profile or summary (Chapter 6).

	Rating scales Duration counts Time samples
Procedures Easy to Use When Interacting	Checklists Participation charts Frequency counts Audio recordings Video recordings Collecting work products
Procedures Recorded Outside of Classroom Time	Anecdotes recorded after behavior has occurred Teacher journals and logs Computer tracking systems

Figure 5.15 Individual Record

Item(s) Cognitive Development
Child M. Harvey **Date** 1/27/15 - 8/2/15
Memory

Said "I put it in my memory bank," as he touched his forehead. 2/2/15

Observed M repeating the words of the song to himself after the song was over. 2/25/15 (Good example of practice)

During classification activity, M repeats the "big and small" in a sing-song voice over and over as he puts the objects in the groups. Was able to group 15 objects into big and small red circles and big and small green circles. 2/26/15

Individual records document one child's performance or behavior. They usually are used for unique or in-depth information about a child or small group (Figure 5.15, as well as Figures 5.3 and 5.6). To get a picture of the group as a whole, the information has to be transferred to a group profile or summary, which requires another step.

Practical considerations suggest that when the knowledge or behavior under consideration lends itself to a group record, that might be a wise choice.

Summary

Accurate and complete primary data records ensure the trustworthiness of authentic assessment. Records preserve information for future use, serve as the basis for communicating with other people, and help teachers remember what

cussed more fully in Chapter 6.

Recording procedures can be grouped into (1) those that describe; (2) those that count, time, or tally; and (3) those that rate or rank the item being assessed. To select a recording procedure, teachers consider the purpose of the assessment, what is being assessed, the amount of detail needed, and practical classroom considerations—such as the amount of preparation time, attention required to record, and whether information is recorded by groups or individuals.

Check Your Understanding 5.1: Click here to gauge your understanding of chapter concepts.

Media Connections 5.1: Click here to apply your understanding of chapter concepts.

For Personal Reflection

1. Much current writing on assessment suggests that teachers keep a journal or log documenting their own experiences with child assessment, and then evaluate and reflect on those experiences. Thoughtfully consider that suggestion, weigh its advantages and disadvantages, and then write your opinion concerning it.
2. One way for teachers to learn to use the many recording procedures is to start using them one or two at a time, practice and learn these, then go on to others. Reflect on your own knowledge and experience. Which procedures have you already mastered (if any), and which do you have yet to learn? Decide which one you will learn next and explain why.

For Further Study and Discussion

1. You are planning an assessment of social interaction during a cooperative learning activity. You are particularly interested in whether children can organize themselves into a group, follow directions, help each other, and resolve disputes. What two recording procedures would be appropriate for the situation? Justify your choices.
2. You are planning an assessment of math skills—understanding "more than/fewer than." Give two alternative recording procedures appropriate for this situation. Explain why you chose these two procedures. Identify the disadvantages and advantages of one of the procedures.
3. Watch a videotape of several children interacting. The first time you watch, write a descriptive narrative of what you see. The second time you watch, count the social initiations that children make to each other, such as invitations to play or bids for attention. Compare the two methods. Which would be most useful to a teacher interested in social development? Why? Which was easier to record?

Boehm, A. E., & Weinberg, R. A. (1997). *The classroom observer: Developing observation skills in early childhood settings* (3rd ed.). New York: Teachers College.

Cohen, D. H., Stern, V., Balaban, N. & Gropper, N. (2008). *Observing and recording the behavior of young children* (5th ed.). New York: Teachers College Press.

Ferguson, C. J., Green, S. K., & Marchel, C. A. (2013). Teacher-made assessments show children's growth. *Young Children, 68*(3), 28–37.

Helm, J., Beneke, S., & Steinheimer, K. (2007). *Windows on learning: Documenting young children's work.* New York: Teachers College Press.

Irwin, D. M., & Bushnell, M. M. (1980). *Observational strategies for child study.* New York: Holt, Rinehart and Winston.

Nicholson, S., & Shipstead, S. G. (2002). *Through the looking glass: Observations in the early childhood classroom* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

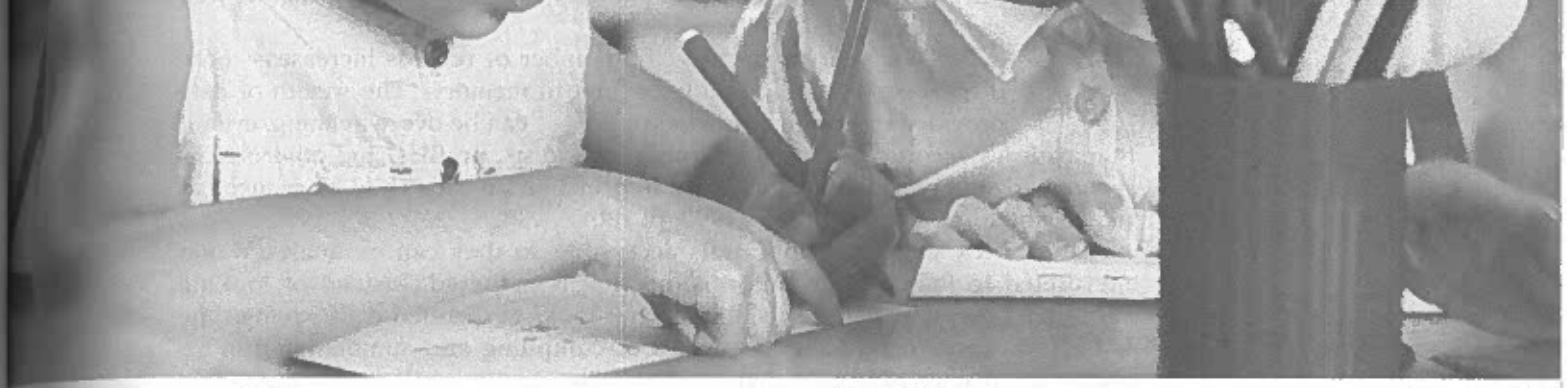


Photo: Olesya Feketa/Shutterstock

CHAPTER 6

Compiling and Summarizing Information

Learning Outcomes

1. Describe four major types of portfolios and the steps involved in creating a student portfolio.
2. Compare the ways assessment information is summarized in individual and group profiles and relate the content of the profiles to their respective purposes.

as each individual children.

As the year progresses, the number of records increases—more than anyone could possibly commit to memory. "The wealth of data provided by continuous assessment . . . can be overwhelming, even if systematically recorded . . . Only through [checklists, profiles, and other means of summarizing] can the vast amount of information on each child be reduced to manageable proportions" (Athey, 1990, p. 180).

Summaries keep past appraisals accessible so they can be analyzed and interpreted in light of new information that is gathered. Instead of looking through all previous appraisals, the teacher looks at distilled data, saving time and effort. Three complementary ways of compiling and summarizing information are discussed in this chapter: portfolios, group profiles, and individual profiles.

Portfolios

Description and Definition

Portfolios are part of almost every authentic assessment system and are popular with teachers, children, and parents at all levels of education. A *portfolio* is an organized, purposeful compilation of evidence documenting a child's development and learning over time. It is not a "method" of appraisal or assessment; rather, it is a way of keeping together and compiling information from many methods. It exhibits to the child and others the experiences, efforts, progress, and accomplishments of that child, showing a person's unique capabilities as well as accomplishments shared with others. In the process, portfolios provide a basis for evaluation and a guide for further learning and development.

Physically, a portfolio is a folder, file, box, computer disk, or other container that stores evidence of a pupil's learning (Chapter 9). Conceptually, a portfolio is an evolving concept rather than a term with an agreed-on, precise definition. There are four major types of portfolios:

- The showcase portfolio shows a pupil's best or favorite work.
- The evaluation portfolio contains mostly specified and scored material.
- The documentation portfolio holds evidence of children's work and progress, which is selected to build a comprehensive description of each child.
- The process portfolio contains ongoing work for a larger project, usually chronicled and commented on by the pupil (Valencia & Place, 2014).

People select different types of portfolios depending on their purposes and what will best serve a particular group of teachers and children (Murphy & Smith, 1990).

Portfolios are well suited to organizing, storing, and preserving informal, authentic data about all aspects of young children's development.

ing portfolios.

- Portfolios lend themselves to sampling over time from a variety of assessment windows.
- Portfolios involve children in selection of and reflection on items as appropriate to their development and the item under consideration.
- Portfolios may contain information that is common to every child in the group, as well as that which is unique to each child.
- Rather than static reports, grades, or scores, portfolios provide for ongoing assessment.
- Portfolios are a rich source of information for communicating with and about children and their learning.

Purposes

Most of the basic purposes of assessment can be fulfilled by portfolios: determining children's status and progress, informing instruction, providing information for reporting and communication, and making preliminary identifications of children who might benefit from special help. Portfolios often serve additional purposes, which influence what is included and how the portfolio is organized (Arter, 1990; Arter & Spandel, 1992). If the purpose is to show growth over time, representative or best work is included at several points throughout the year. If the portfolio is meant to show how children plan and carry out a project, a record of all activities, assignments, field trips, meetings, drafts and revisions, displays, and reflections on the processes and products might be kept. Other purposes include motivating children and promoting learning through reflection and self-assessment (Murphy & Smith, 1990). "Composite" portfolios tell the story of a group's efforts, progress, or achievements, such as those of a kindergarten or second-grade class (Arter & Paulson, 1991).

Portfolios serve teachers as well as children. The reflection, discussion, and interaction generated among teachers as they examine, compare, and interpret children's portfolios are as important as the content (Hebert, 1998; Murphy & Smith, 1990). Portfolios remind teachers that assessment is ongoing and can enhance children's learning (Valencia, 1990; Wolf, 1989). Additionally, portfolio development and conferencing can increase communication among child, teacher, and parent. Many teachers develop their own portfolios, complete with reflection and self-assessment, to guide and document their personal and professional growth.

Basic Approaches to Portfolio Building

There are four basic approaches to portfolio building: requiring specific items; requiring evidence in given developmental or curriculum areas but not specifying the items; collecting individual, often spontaneous, samples from ongoing classroom activities; and combinations of the preceding three.

Required Items. Required or "core" items (Meisels & Steele, 1991) specify certain things to be collected for all children in a given class or at a given level.

identify word-reading strategies. The first-grade Integrated Language Arts Portfolio in Juneau, Alaska, for example, requires a teacher checklist on reading and oral language development, a student reading attitude survey, one sample per quarter of text that a child could read, two writing samples per quarter, open-ended tests of reading comprehension, the number of books read, a checklist of language arts skills, and scores on a year-end standardized test (Arter, 1990). Specific requirements such as these ensure appropriate documentation for all children on important goals, and guide teachers as they learn portfolio development.

Required Evidence. Required evidence portfolios specify certain types of items, such as a sample of creative art; a sample of the child's ability to represent events, objects, or actions; a language sample; or evidence of fine motor development. The teacher and child decide exactly which items to include to fulfill those requirements (Valencia, 1989).

Individualized Sampling. Individualized sampling relies on selection from ongoing classroom work or activities. These systems are more open, allowing the teacher, child, or both to select work and other documentation (interviews, observations, children's interactions, participation in given activities) that exemplify how children feel, act, or think. They show each child's unique approach, progress, and understandings (Chittenden & Courtney, 1998). They may show a child's "favorite," "best," or "most-improved" work. There is no requirement to collect similar items for each child so long as each item reflects progress toward important goals. Some schools using this approach include only items selected by children.

These portfolios identify and document an individual child's unique interests, knowledge, skills, and "style" of development and learning—their "personal signature" (Eisner, 1991, p. 17) or "approach to learning" (Kagan, Moore, & Bredekamp, 1995). Such insight can be extracted from other documentation but is more likely to be identified, recognized, and valued in a portfolio.

Combinations. Required core items or indicators plus optional individualized items selected by the teacher and child seem most appropriate for young children. They combine systematic documentation pertaining to important goals with the opportunity to capture evidence that occurs spontaneously and may be unique to that child or that situation. Teachers experienced in portfolio development say the right combination evolves (Hebert, 1998).

Selection of Content

A portfolio is not simply a folder of student work or a catch-all file of checklists, notes, test results, and other information and records. It must be thoughtfully planned and organized.

Appropriate Types of Items. Portfolio items vary with the age and development of children, goals of the program, the curriculum or developmental

Dictations by nonwriters.
- "Journals"—math, science, writing; children's drawings, scribbles, collages reflecting their experiences and growth.
- Records of data collection and presentation in math, science, social studies, health.
- Sketches of a child's work, made by the child or an adult (block structure, pattern blocks, sand, any 3-D work). Sketches of the plan for that work.
- Photographs of a child engaged in significant work or play.
- Photographs of exhibits and displays prepared by child or group.
- Audio and video records.
- Printouts of work done on computer—draw/paint, math, writing programs, games.
- Participation chart—what a child did on a given day or during a given period. Include qualitative information.
- Logs of activities and results (books read to or by child; parents can help).
- Time sample or count of what a child did on a given day or period.
- Interviews—audio/video/written. Elicit reports or descriptions of a process—how to make a favorite food, getting to school, making friends, playing a game, or "favorite" activities, books, things to do. Child can draw it and then dictate explanation to an adult.
- Structured observation, performance assessment, or dynamic assessment results. Do one or two children a day.
- Anecdotal records or jottings grouped according to the portfolio categories, and/or affixed in chronological order. Use Post-its, gummed labels, or quarter sheets of recycled office paper (tape them on).
- Awards, certificates, citations.
- Parents' comments and goals, notes from parent–teacher and child–teacher conferences; drawings and dictated or written messages to parents from children.

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domain under consideration, the type and purpose of the portfolio, and teacher preferences. Figure 6.1 suggests some possibilities. No school or center would use all of those listed but would select a combination to provide "multiple windows"—different sources, methods, and contexts—on a child's accomplishments.

Item Selection. Teachers in a given school or center usually have much latitude in identifying portfolio items. After discussing and agreeing on what they are going to put in a portfolio, teachers are more likely to know what to collect and to actually follow through with the collection. Indiscriminate additions to a portfolio quickly become overwhelming, but a too-scanty portfolio will not have enough information to be useful and certainly will not provide multidimensional evidence of a child's progress over time.

Items should be *informative, easy to collect,* and representative of *meaningful* classroom activities (Meisels, Dichtelmiller, Jablon, Dorfman, & Marsden, 2001). *Informative* items reveal several aspects of a child's learning and development. Work included in the portfolio should occur regularly in the classroom, so

want to include, and the portfolio could be full or empty at the end of a month; second-graders may be able to make many choices. Teachers must judge how much choice and access young children have, and monitor them to ensure that important information is not missing (Hebert, 1998; Maeroff, 1991).

Age and Developmental Level of the Children. The portfolio content must be adapted to the developmental level and prior experience of each group and, in some cases, each child. Children who read and write proficiently will have portfolio items different from those who are emergent readers and writers. They will be able to record more self-assessment and reflection, and with assistance they can take more responsibility for maintaining their portfolios.

Organization of Content

There is no best way to select and organize portfolio content, so long as content relating to major developmental domains and the expected outcomes of the program are included.

Categories or Domains for Portfolio Content. Divisions might be the traditional developmental domains of physical, cognitive, language, and social/emotional development; subjects such as health and safety, social studies, science, mathematics, and language and literacy; or report card categories. Teachers who are just beginning to use portfolios may focus on only one domain, such as language and literacy, or one aspect of literacy, such as emergent writing, where there is much information on appropriate items to collect, guides for evaluating processes and products, and excellent information to help teachers (Appendix A, Figure A.7). The Work Sampling System®, which spans preschool through fifth grade, uses seven categories or domains: personal and social development; language and literacy; mathematical thinking; scientific thinking; social studies; the arts; and physical development (Meisels et al., 2001).

Some items will be difficult to categorize: They may not fit any of the categories, or they may fit several. For example, the ability to plan and regulate one's own thinking and behavior, such as focusing one's attention or inhibiting action through self-talk, does not fit neatly into either a curriculum or developmental area. A primary student's written report of an interview with the school cooks might fit into many. It reveals much about the reporter's fine motor coordination, thinking processes, task persistence, and understanding of social roles and interdependence in the school community, as well as listening and writing competence. If the report is a result of a cooperative group effort, each child's contribution will need to be recognized. If an item is selected for a primary purpose, with other aspects being secondary, file it in the primary category. For example, if the primary purpose of the report was to check on listening and writing competence, it would be filed under language and literacy development. If the primary purpose was to document children's developing understanding of the way we organize ourselves as social groups, it might be filed under concept development or social studies.

be collected. An example is shown in Figure 6.2. Before duplicating such a form, write in any required items, so that each child's portfolio has the same requirements. As items are inserted, note the date in the appropriate cell. As optional or individual items are collected, note what they are and the date they were added.

If a portfolio has an excess of creative art and journal samples, with few entries about physical or social development, determine why, and begin to build a more balanced portfolio. The imbalance may be caused by the fact that some important school goals, such as motor and social development, do not result in an "easy-to-collect" product, but must be documented in other ways. Or the imbalance may reflect an imbalanced curriculum and schedule.

Because portfolios lend themselves to the collection and storage of work products, make sure that children's thinking and learning processes are also documented. Even though performance samples and work products may make up the bulk of the portfolio, any classroom assessment procedures are appropriate to include and will probably be necessary in order to obtain adequate information about children's progress.

Self-Reflection and Self-Assessment. Developing children's abilities to reflect on and assess their own actions and work is an integral part of portfolio development. Preschool 3- and 4-year-olds will be limited in their ability to reflect on what they have done, but older children will be more capable, particularly if they have been coached and encouraged for several years. If not, they can learn. Don't ask children to reflect on everything; they soon tire of overanalysis. When 5-year-old Monique was asked to tell why certain books were her favorites, she said of the first, "Basically, it's just a very funny book"; of the second, "It has a sad ending and then it comes out nice"; of another, "It's just nice—it's like a lullaby to me"; and then, "Can I go now?"

Self-reflection and assessment start children on the long path to assuming responsibility for their own actions and learning. Appropriate prompts help children think about what they have learned or practiced during a particular activity (Figure 6.3). Either the teacher or the child may record the responses and attach them to the item.

Teachers should model, discuss, and practice developmentally appropriate reflection and self-assessment just as they would any other thinking process. Don't be dismayed at early responses that miss the mark. An entering kindergartner may say that what he likes about the picture he has drawn is "It's pretty 'n' stuff." A year later he may be able to spot letters that are formed incorrectly, explain why, and work toward conventional forms; another year later he may revise his own writing and justify the revisions.

Children's reflections contain insights, understandings, and delights that don't reveal themselves in other ways. One second-grade teacher had worked all year to teach children the criteria for good writing and was now having children choose a piece to go in their portfolios. Anna had chosen one that met all the criteria. Delighted, the teacher asked her why she had chosen that one. Anna's response: "It reminds me of my dog." It was not the expected response but nonetheless one that captured the essence of good writing.

Physical and Motor			
Social and Emotional			
Language and Literacy			
Cognition and General Knowledge			
Approaches to Learning			

"What do you like about this picture (structure, painting, writing)?"
"What would you do differently if you were doing this again?"
"Why do you want this to go in your portfolio?"
"What did you learn while you were doing this?"
"What problems did you have while doing this? How did you solve them?"

Relationship of Portfolios to Other Types of Assessment

A portfolio's relationship to other types of assessment and documentation varies from setting to setting, as do the contents of the portfolio. Some schools accept portfolios in place of tests for children with learning disabilities or limited English proficiency. In some schools, portfolios may be the only systematic documentation and compilation of children's work. In others, portfolios are just one part of a comprehensive system. The Work Sampling System®, for example, consists of three complementary elements: observations by teachers using developmental guidelines and checklists, collections of children's work in portfolios, and summaries of this information in summary reports. Developmental checklists document the broad scope of children's learning in relationship to state and national standards (Meisels et al., 2001); portfolios contain in-depth information about how a child works, and the nature and quality of that work; summary reports integrate, summarize, and evaluate information about each child from the checklists and portfolios.

We recommend that portfolios complement and supplement other documentation, such as individual and group records. It is difficult to incorporate into a portfolio everything you need to know about a child, and it is even more difficult to determine how to plan for a group when documentation is based solely on individual portfolios.

Increasing the Information in Each Portfolio Item

Make each item that goes in the portfolio as informative as possible. Identify and annotate work products, photographs, or sketches; if the items are required, develop procedures and instructions that maximize information; and select spontaneously generated items for what they reveal about the child and his or her unique qualities.

Identify and Annotate Each Item. Identify each work product with the child's name and the date. Whenever possible and pertinent, include the teacher's name, setting (outdoors, writing center, enrichment math), time of day, grade or group, and any other relevant information. Date items with a rubber stamp, or let children copy or generate their names and the date as functional practice in letter and numeral formation.

An annotation is a reflection, comment, or explanation that makes the significance of a portfolio item clear and adds relevant information not otherwise

- Written or dictated reflections, descriptions, remarks, and assessments
- Responses to questions or prompts (Figure 6.3)
- Analysis of what the work shows about the child's learning and comparisons with previous work
- Explanation of why the item is significant as an example of the child's work
- Child's personal responses or observations, such as making a connection to prior knowledge and experience, pride, interest, or preference

Annotations should clarify the situation in which the item was developed and its significance. For instance, did Ben compose the simple but beautiful lines handwritten in his portfolio, or did he copy them from a bulletin board or book? Did Alexis plan, research, and write her report on porcupines in class or at home, where she had guidance from her parents and computer technology for research, composition, and revision? Was the topic assigned or chosen? Children change schools, teachers change, and people other than classroom staff will have no way of knowing the situational elements that give meaning to a portfolio item unless it is recorded. Annotations may also include observations by teachers. For example, in assessing fine motor skills and use of tools, teachers make observations about children's grasp, strength, and coordination. This information is not evident from the product itself but is important in understanding the product and should be noted.

Identify and annotate or "caption" (Kingore, 1993) the portfolio item by writing on the item itself (Figures 6.4 and 6.5), on all-purpose record forms (Chapter 9), or on a separate portfolio entry slip (Figure 6.6). Fix the item and the entry slip together, and they are ready to file. The entry slip has several advantages. It reminds everyone to caption portfolio items; children's work is not intruded on by analytical remarks; there is adequate space; and observers can note significant process variables (pencil grasp, use of a model, concentration, time spent) while children are working, thus saving time. Children who write can fill out some or all of the entry slip. One school calls these "reflection tags" and has plenty of them available for children and teachers (Hebert, 1998).

"Electronic portfolios" help create, preserve, and store children's work using digital technology. Software is available from several commercial companies. With a digital camera or color scanner, teachers or children can enter graphics, illustrations, photographs, and pictures directly into portfolios stored and managed by the computer. Text can be created or imported, including reflections and comments by the teacher and children. Sound and movement features are available for narration or for saving speeches, music, drama, and other movement performances. Selected items or entire portfolios can be stored for viewing by parents or next year's teachers. The long-term storage and tracking possibilities could be useful for following children's progress from one grade or school to the next. Still shots and video clips from a digital camera can be combined with explanatory text to make a presentation for parent meetings or conferences.

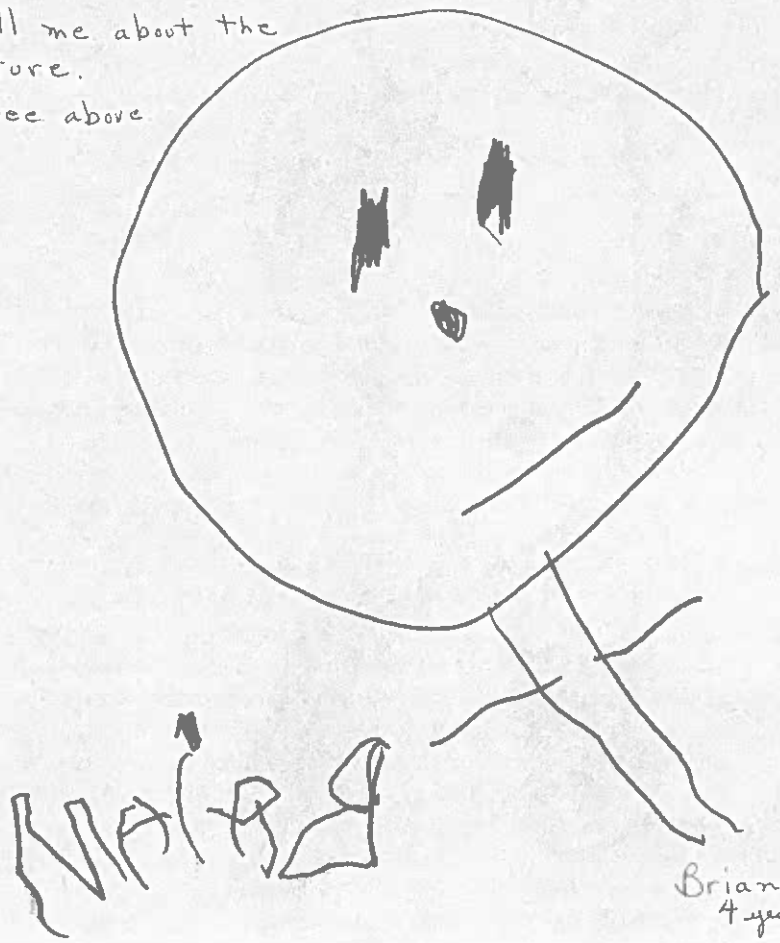
Dad. And I drawed my name on the picture.

Directions: Draw a picture of a person.

Had choice of Tool. (familiar with drawing instruments)
Would not start until he located a permanent marker (rejected crayons, pencils, other markers). Three point grasp. Drew smoothly, with control, briskly. Did not volunteer anything.

Dir. Print your name on the picture.
"I can do that."

Dir. Tell me about the picture.
See above



10/24
Brian Jordan
4 years, 11 months

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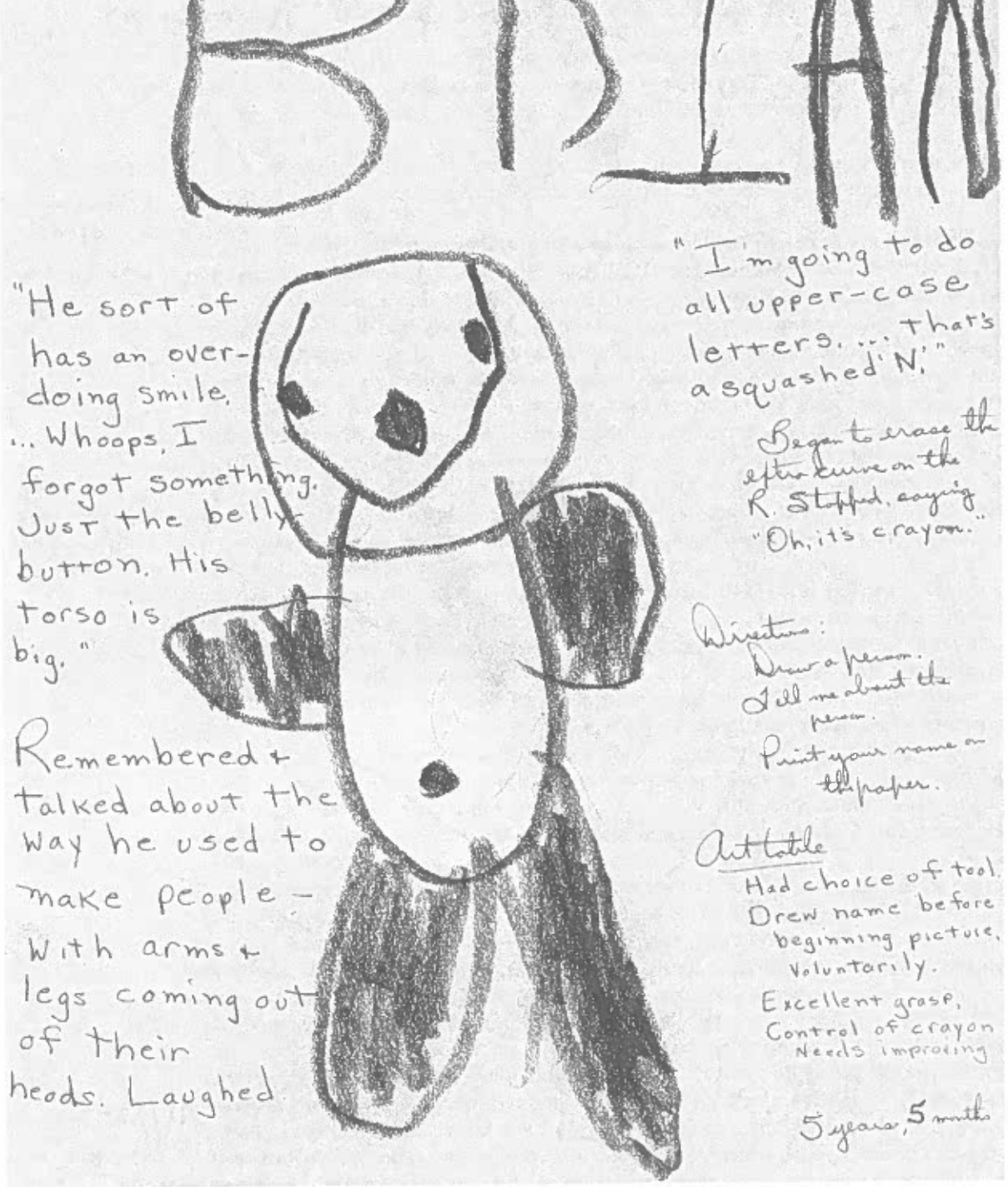

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Doing so identifies and annotates—"captions"—items so their meaning is not lost. Half sheets work well for artwork and writing, but you need a full sheet for photographs. You may also want heavier paper for photographs.

Photographs can be of work a child has done—modeling with clay, wood sculpture, block buildings or arrangements, sand modeling, outdoor play, patterns, and other products. Or they can be of a child working on something of significance. The trick is to photograph something "of significance"—something that displays important learning or accomplishment on the part of the child, captures a characteristic approach to learning, shows achievement of a goal or standard, or demonstrates an aspect of development that you are trying to nurture.

Comments or reflections on portfolio items can be made by the child, teacher, or both. They should explain or highlight what is significant about the item—why it is included in the portfolio. Comments might include

- Dictated or written remarks by the child
- Child self-assessment or reflection
- Reasons the item was chosen
- Observations by the teacher (directions given, process used, approach to work, use of tools, length of time worked)
- Analysis of what the work shows about the child's learning
- Comparisons with previous work
- Personal responses or observations

Low-tech approaches may not be flashy but they can still capture children's work. Affix photographs of children engaged in significant work to 8½ × 11-inch portfolio entry slips (Figure 6.6) with a glue stick, rubber cement, or another appropriate adhesive. Identify, annotate, and file. If there is a delay between picture taking and printing, fill out the form when the picture is taken, so you won't forget the reason you took it. For additional insight, let the child pictured study it, and dictate or write the significance to her or him of what is shown.

Develop Instructions and Procedures to Maximize the Information Gained from Each Item. Portfolio items can be made more informative by having children demonstrate several things in one item. For example, the teacher may ask a child to draw a picture of a person, tell the teacher about the picture, and then print his or her name on the paper. Instead of only the picture, the teacher will have a writing sample and a language sample; an observation regarding the child's coordination and ability to follow instructions; as well as opportunities for many other insights.

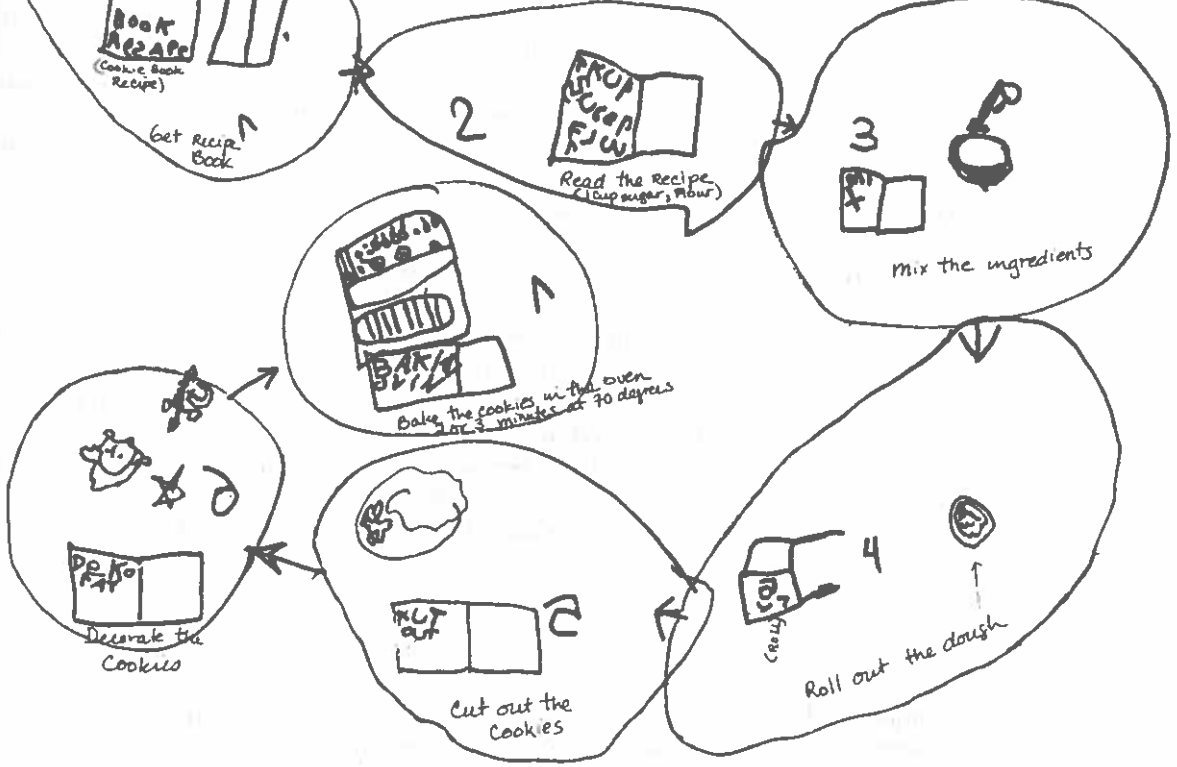
Develop consistent instructions and procedures for performance tasks. In the "draw a person" task, are the children allowed to choose whatever drawing instrument they want, or are they assigned one? Think through these seemingly small details, and make decisions; the details affect performance and reliability. Duplicate and attach the instructions to the portfolio entry slip, or duplicate

Brian remembered the way he used to draw people and realized that he had progressed. These figures also reveal how duplicated instructions and conditions would have lessened the teacher's task, allowing the teacher to record observations and comments as the events occurred.

Select Spontaneously Generated Items for Information as Well as Uniqueness. Rich and informative items for portfolios result from children's spontaneous work and play—often revealing capabilities far beyond what teachers anticipate, because they are not constrained by adult direction and expectations. Look for these as priceless portfolio additions, add any needed explanations, and study them for what they reveal.

Jeremy is in kindergarten and has diagrammed the process of making cookies, which he recently did (Figure 6.7). The task was a self-appointed one, done at the writing center. His work shows the following attributes:

- The sequence of steps is clear, distinct, accurate, and in order.
- Because the cookie making was done the week before, Jeremy had stored the steps in memory and was able to retrieve them.
- Left-to-right progression on the top row gives way to a flow-type representation that retains horizontal orientation.
- The product combines several types of representation into one schematic diagram—including drawing, writing, dictation, circles demarcating the discrete steps, and arrows showing the flow of the process—a more complex task than any one or two combined.
- Conceptualization of the representation was the child's; he had no model.
- Pictures and print are linked in meaning.
- Some steps are represented by print only, such as "Kut out," revealing understanding that print alone will carry the meaning.
- Clear concepts of a "word" are demonstrated. No words are run together.
- Abstract concepts of time, temperature, and measurement are incorporated in the correct places and linked with the correct units of measurement (cups, degrees, time). Estimation of numbers of units (2 to 3 minutes, 70 degrees) are not correct so far as a real recipe is concerned, but they indicate that Jeremy understands that there are numbers associated with the units.
- Invented spelling shows almost perfect sound–symbol correspondence. Conventional spelling is used in several words.
- Formation and placement of letters are still being learned. Uppercase and lowercase letters are intermingled. Uppercase *L*s are backward.
- Control of small hand and arm muscles and coordination skills show in the size of drawing and lettering, the control over placement of arrows, and the small illustrations. Such control is beyond normal expectations for kindergarten.
- Language is used to explain and inform another person; understanding that language can direct and control actions is demonstrated—the "resape" book tells the reader what to do.



Used with permission of Jeremy Thomas Sheng Leitz.

- The entire diagram demonstrates knowledge of function of print and ability to communicate and explain intent. Trying to determine the significance of what appeared to be a book in each circle, the adult inquired about it. Jeremy answered, "We use the recipe book each time," pointing to each step in the process. Other explanations of intent were dictated to and written by the adult.

Analysis of even one work product such as this—demonstrating print literacy, representational and sequencing processes, cognitive development, and use of fine motor skills—tells far more about this youngster than a test would, especially when coupled with answers to adult requests for explanation. If comparison is needed, compare the product and its interpretation to developmental expectations in cognitive development, literacy, and fine motor skills; to school and center objectives; or to similar work the child has done previously, such as earlier drawings captioned with his own printing. By any measure, the work is high quality for kindergarten. Not every work product will offer this much insight into a child's capabilities, but usually there is more information available than some teachers take time to understand.

going on in the classroom, what he or she hopes to achieve, and what may need to be modified. There is little time for this in day-to-day classroom activities. Summarizing data ensures that no child is neglected and no important dimension of development is overlooked. Summarizing helps the teacher focus on the group as well as each individual child. Patterns of strengths and needs emerge that may not be apparent in a busy classroom. Insights into ways to change curriculum and instruction to build on strengths and meet needs may also emerge.

There is no set time for compiling summaries. If the children are learning measurement—linear, weight, volume, and perhaps other units—and the teacher has assessed each child, then it makes sense to get that information summarized to generate some idea of the group's understanding. Individual profiles are usually done as progress reports for parents and school records or when an individual child must be considered in depth.

Because summarizing is the first step in, and a part of, interpreting and using assessment information, keep two references nearby: the standards, goals, or other outcomes the teacher is aiming for; and the developmental and learning progressions shown in Appendix A.

Published Summary Forms

Schools and centers using a published curriculum (such as HighScope or The Creative Curriculum, a specific reading or mathematics approach) or a published assessment system (such as The Work Sampling System®) usually use the summary forms that align with that curriculum. School district or state curriculum frameworks often include forms for summarizing children's progress. You will see examples of these forms as you watch the videos included in the Media Connections at the end of this chapter.

To use electronic data management, teachers enter information they have collected about children, usually in the form of a rating scale. The information management program then summarizes the data for each child and for the class. Some software links a child's profile to suggested classroom activities and provides key formats, words, and phrases teachers can use to generate progress reports for each child or for the class. Other software generates reports that can be used for accountability reporting. There is also software that scores and stores data online. HighScope's Child Observation Record (COR) (HighScope Educational Research Foundation, 2003) and Teaching Strategies GOLD Assessment System (Lambert, Kim, Taylor, & McGee, 2010) are examples of curriculum approaches that align with an assessment system using computer technology to summarize and manage information about children. The Marazon® System and the Galileo® Preschool provide profiles that can be used for planning suggested activities. The Work Sampling System® (Meisels et al., 2001) provides a more general classroom-based summary and analysis aligned with a state's standards or a specific program's expected outcomes. The Dynamic Indicators of Basic Early Literacy Skills (DIBELS®) (Moats, Good, & Kaminski, 2003) is an example of a

For example, in mathematics, science, and language development, children are expected to compare and contrast objects, people, events, and ideas in increasingly complex and accurate terms. Teachers have to determine which terms of contrast and comparison are appropriate, which terms individual children understand, which terms they use, and which terms they need to learn to be proficient. The guides that follow help teachers develop their own methods to summarize such specific information in instructionally meaningful ways.

Description and Definition of Group Profiles

Group profiles show class performance on one or more items. They focus on the range of class behavior and identify clusters or subgroups of children with similar strengths and needs. They also condense information about the entire class's performance in one area of development or on one assessment for the entire group.

Group profiles summarize the qualitative and quantitative variations found in the behavior of individuals in a group. *Qualitative variations* include the following: one child throwing a ball accurately and another simply throwing; one child telling a story with little sequence and another telling a detailed, sequential story; one child drawing a human figure with only a circle for a head and another drawing a body with arms, legs, fingers, and even eyelashes. There may be different levels of complexity, as in the case of a child who sorts by one attribute and one who produces a complex matrix when sorting. *Quantitative variations* refer to the number of behaviors performed. In dramatic play, one child uses two themes and plays three roles, whereas another child uses only one theme and one role. One child volunteers many ideas in a cooperative learning activity, whereas another volunteers only a few.

Purposes of Group Profiles

Group profiles are primarily planning tools used to identify children's needs and strengths so that differentiated instruction can be planned. Instead of guessing at what children know and can do, a teacher uses a group profile to identify clusters of children with similar interests, strengths, needs, or levels of performance. Knowing this, the teacher can plan for and respond to the group's needs.

Group profiles evaluate the growth and achievement of the entire class. By comparing a group profile made before a concentrated emphasis with a profile made after, a teacher can gauge both *what* the children learned from the experience as well as *which* children learned. Mr. Gonzales assessed children prior to a project on the solar system and compared this assessment to the profile made after the project. He found that only a subgroup of children who already knew the most about the solar system learned from the unit. The group profile helps him discover which children did not benefit and to analyze why. Group profiles help teachers evaluate their own teaching techniques and improve their effectiveness.

Guides for Selecting and Organizing Content of Group Profiles. To construct a group profile specific to a given classroom, select or make an appropriate

from assessment has been recorded, it can be used to display, or "profile," the group's strengths and needs, identifying children who need help in learning certain things.

When possible, convert existing group records into profiles. Use a different-colored marker for each cluster or subgroup, and circle or highlight performances falling within the same cluster.

If necessary, create a separate form for the group profile. Sometimes information is on individual records, one record per child, but the teacher also needs a group profile. This often occurs when making a group summary using work products, portfolios, or anecdotal records. Place the identified divisions or clusters in columns, and write the names of children in that cluster in the appropriate column.

Place a key on each profile, identifying clusters or subgroups. For color coding, write the color used for each cluster at the top of the page.

Divide the range of behaviors. Make divisions that have significance for teaching—in other words, what and how the teacher is going to teach. Following are some examples:

- Use children's needs as the basis for categories, such as "needs introduction," "needs practice," and "needs more challenge."
- Use groupings that describe different levels of mastery, such as "no evidence," "developing this," and "controls this"; or "beginning to," "does this," or "has mastered this."
- Use subskills to divide the range of behavior. Examples are "can snip," "cut one whole cut," "cut on a straight line," and "cut on a curve."
- Base clusters on levels of performance, such as "expressive" or "receptive language," "recognition," and "recall."
- Use content as a basis for clusters, such as "addends" in mathematics.
- Use the steps identified in skill acquisition; for example, use the skill levels described in literacy development: "emergent reader," "early reader," "independent reader," "fluent reader."
- Use levels of performance identified in appropriate rubrics.

Compile and use group profiles as soon as possible. Because group profiles are used for classroom planning, they are of little use when they are several weeks old.

Use group profiles when you plan. Use the profile to determine activities for specific children or groups of children. Compare group profiles over time to determine needed changes in instruction. If children are not learning, instruction may need to be modified.

														Name
														Has a pretend scenario
														Plays with realistic props
														Uses props symbolically
														Identifies role (Mommy, baby, etc.)
														Plays more than one role
														Plays with objects as acto
														Incorporates multiple ther
														Incorporates new themes field trips, literature, etc.
														Incorporates literacy in theme (reads books in cer writes, etc.)
														Solves social problems tha emerge in play
														Plays with all children. Do not exclude others
														Resumes play after interruption (next day or within same period)
														Incorporates teacher suggestions and support

cards. Checklists have the strengths and limitations of all such instruments. In particular, they allow for little information other than what is on the list. See Figure 11.4 for an example.

Written, ongoing summaries can be noted on columnar record forms such as those used in many programs for recording anecdotal records. The headings would be the development and learning domains emphasized in a particular program (shown in Figure 9.14). In each column, a summary statement about a child's status and progress is written and dated. To support the entry, the teacher makes notes about where to find the evidence on which that statement is based. Teacher concerns, reflections, and things to monitor can also be included. As development occurs, new summaries are added. When the time comes to synthesize information into a progress report, historical and current data across the areas emphasized by the school are readily available. Indeed, in a pinch the recording form can serve as a cumulative summary.

Purposes of Individual Profiles

Individual profiles help teachers know and understand each child, as well as provide a broad view of where the child is and where the teacher hopes the child will be. They document a child's capabilities and behavior patterns, provide information for planning, and show when information is missing. They also chronicle an individual child's progress as information emerges about interests, development, and learning. Individual profiles help teachers study patterns that are difficult to see when looking at one assessment.

Additionally, individual profiles help teachers plan to meet individual strengths and needs. When compiling Jabar's profile, for example, Miss Sims notices that Jabar never participates in art activities, but he does like numbers, counting, and manipulatives. She can use this identified interest to entice Jabar into the art area. A teacher can identify and plan activities for a child who is having trouble making friends or doesn't participate in conversations. Individual profiles also help teachers check for missing documentation.

Teachers use this compiled information to prepare narrative summaries, report cards, and cumulative files, as well as for collaboration with specialists. Reports based on evidence gathered throughout the year are more accurate than those based on the teacher's memory. See Figure 11.2 for an example of a progress report for parents.

Guides for Selecting and Organizing Content of Individual Profiles. To maximize the information summarized on an individual profile, using a notation system that tells a teacher at a glance what the information means is helpful. That way, when she or he refers to the profile, the teacher can get a sense of the information without reading every notation. Examples are to use different marks to indicate progress, as opposed to meeting a standard, by using a half–filled-in circle for partial completion and a full circle for completion. In addition, think of the following suggested tips:

reports. The teacher should plan the profile so it helps with report cards and year-end summaries. By keying information to the portfolio, the profile summarizes the data in the portfolio. If state or district standards are used, reference them.

Use a consistent referencing system for supporting evidence. Write the date of the primary data record followed by its type and location in the teacher's files. Use the same abbreviations throughout. Keep the primary data records organized and coordinated with the profile. For example, if the primary data record is stored in the child's portfolio, note it by writing "portfolio." The reference note allows anyone to go back to the original record.

Use all available information. Include relevant work samples, group assessments, anecdotal records, performance samples, any elicited information, group and individual projects, participation charts, frequency counts, and any information contained in children's portfolios.

Compile information one area at a time, one child at a time. Review all of Maria's assessments and products relating to cognitive development, then her assessments for language development, continuing until her profile is complete. After finishing Maria's profile, move on to Davon's. By compiling profiles one child at a time, the teacher gains an understanding of that child as an individual. The teacher will not get such results, however, if she or he works on several children's profiles simultaneously.

Summarize trends that demonstrate growth or a breakthrough in learning. Compare assessments collected at different times. Look for convergence of indicators showing a trend in development. Entries can summarize progress or movement from one place on the developmental sequence to another. Entries might also show that a child has moved from one cluster to another in a group profile or how a pattern of behavior has changed. For example, at the beginning of the semester, Luis showed great distress when his mother left him in the classroom, but by the third week in school, he no longer cried.

Summarize distinctive child characteristics. Describe approaches to learning, such as persistence and motivation levels, that cut across different assessments. Faiza's persistence and motivation are obvious when you look at the times she tries to build a large city with blocks during one assessment. Only after the structure collapses 11 times does she settle for a smaller structure. Look for similar behaviors in different contexts. Is Faiza as persistent in other tasks?

Include items to monitor. By flagging items for follow-up, the profile can serve as a reminder or "tickler" file. For instance, Mr. Zatus is concerned because Mia is quiet and doesn't participate in class. He notes this on the profile to remind him to check her progress in class interaction.

As patterns of behavior change, note those changes in the appropriate column. The teacher should also note his or her inferences and reflections. If new information indicates that an inference or behavioral trend was incorrect, cross it out and note the new interpretation.

Make entries in chronological order. To determine changes in patterns of behavior, compile information in chronological order.

Summary

Teachers compile and summarize information to integrate and distill information from different sources, methods, and contexts; reduce it to a manageable size; and keep past assessments accessible for continued analysis and interpretation. Three complementary ways of compiling and summarizing are portfolios, group profiles, and individual profiles.

Portfolios present a thoughtful, organized compilation of evidence documenting a child's development and learning over time. There are four basic types of portfolios: the showcase portfolio, which shows a pupil's best or favorite work; the evaluation portfolio, in which most of the content is specified and scored; the documentation portfolio, which holds evidence of a child's work and progress selected to build a comprehensive description of the child; and the process portfolio, which contains ongoing work for a larger project. Portfolios fulfill most of the basic purposes of classroom assessment.

There are four basic approaches to portfolio building: requiring specific items; requiring evidence in given developmental or curriculum areas but not specifying the items; collecting individual, often spontaneous, samples from ongoing classroom activities; and combinations of the preceding three. Appropriate portfolio items vary with the age and development of the children and the goals of the school. Good portfolio entries are informative and easy to collect. Items should be identified and annotated so their significance is clear. Helping children learn to select, assess, and reflect on portfolio items is central to the process. The information available from portfolios can be increased by identifying and annotating each item, developing procedures and instructions to maximize information, and selecting spontaneously generated items for information as well as uniqueness.

Forms and charts to help teachers compile and summarize assessment information are available from publishers, or teachers can construct their own. Group profiles summarize the range of behavior within a classroom and identify groups of children with similar strengths, needs, or interests. They are most useful for planning activities for the class as a whole.

Individual profiles keep track of a child's growth relative to classroom goals and objectives. They summarize basic child capabilities in terms of broad educational and developmental outcomes and are not merely a catalog of isolated

For Personal Reflection

1. We suggest several ways that teachers who are beginning to develop portfolios for children can gradually learn the process: Start with one developmental or curriculum area, one specific subject, one learning process, or some other aspect of development and learning that can be assessed. Assess your own interests, experience, and skills. What approach would best suit you at this point in time?
2. Suppose you were to begin now to construct a portfolio to showcase and document your own development and learning. What categories would it have? What would you want to include? Explain your reasoning.

For Further Study and Discussion

1. Identify the advantages and disadvantages of the four approaches to portfolio building: required items; required evidence; individualized, unique samples; and combinations. In what ways might the advantages and disadvantages be different for a beginning teacher and an experienced teacher?
2. Identify three pieces of evidence you would gather to build a portfolio for a preprimary classroom in the domains of small muscle development, mathematics, and language and literacy. Explain why you chose these. Use the assessment and analysis guides in Appendix A.
3. Identify three broad aspects of development and learning that you would include on an individual profile for first grade. Identify three appraisals you would use to document growth for each of these. Explain why you chose these.

Suggested Readings

Clemmons, J., Laase, L., & Cooper, D. L. (1993). *Portfolios in the classroom: A teacher's sourcebook.* Jefferson City, MO: Scholastic.

Ferguson, C. J., Green, S. K., & Marchel, C. A. (2013). Teacher-made assessments show children's growth. *Young Children, 68*(3), 28–37.

Harris, M. E. (2009). Implementing portfolio assessment. *Young Children, 64*(3), 82–85.

Helm, J., Beneke, S., & Steinheimer, K. (2007). *Windows on learning: Documenting young children's work* (2nd ed.). New York: Teachers College Press.

Laski, E. V. (2013). Portfolio picks: An approach for developing children's metacognition. *Young Children, 68*(3), 38–43.

Wortham, S. C., Barbour, A., & Desjean-Perrotta, B. (1998). *Project work: A handbook for preschool and elementary educators.* Olney, MD: Association for Childhood Education International.

Photo: AntonioDiaz/Shutterstock

CHAPTER 7

Interpreting Assessment Information

Learning Outcomes

1. Describe the ways to ensure the authenticity and trustworthiness of assessment data.
2. Analyze the factors that might interfere with an accurate interpretation of assessment findings and explain how to account for these factors in the assessment process.

and interactions to the immediate needs of children. In other cases, it may be difficult to make sense of the information and even more difficult to decide what actions to take based on the interpretation. Both processes call for professional knowledge and judgment, because it is in these steps that a crucial blending takes place. Teachers take information that has been systematically collected, recorded, and summarized, then combine it with understandings, insights, and intuitions that come from day-to-day interactions with children. It is in this blending of objective information and sensitive judgment that assessment of children in its truest sense takes place (Barnett & Zucker, 1990).

It is also during this process that *formative assessment* takes place. As the teacher tries to determine what the information means in terms of children's development and learning, she or he gains insights regarding ways to modify experience and instruction to help them learn.

There are two major steps in analyzing and interpreting assessment information: (1) ensuring the authenticity and trustworthiness of the data and then (2) understanding what it means.

Ensure the Authenticity and Trustworthiness of the Data

Teachers work to make assessment reliable, valid, fair, and adequate (Chapters 2, 4, and 5). Before interpreting information, teachers double-check to make sure of the following:

- There are *enough* samples.
- Samples are *representative* of what is being assessed.
- Samples are *balanced*, employing different sources, methods, and contexts.
- Evidence obtained in different ways *converges*.
- Information is *consistent* over time, sources, contexts, and methods (sometimes, however, a significant inconsistency can emerge).
- Evidence corresponds to *reality*—it is generally compatible with other aspects of the child's development and learning, and makes sense in comparison with other children of about the same age and developmental level.

When moving from documenting children's actions to interpreting what they mean, the following additional safeguards will maintain quality and trustworthiness.

To Monitor Progress, Compare Performance Two or More Times

The time periods should be far enough apart to reveal development and learning. The interval depends on what is being taught and assessed. Make sure opportunities to learn have been provided in the interval. Measurements should

for interpretation and further use. Use recorded information, and do not rely on memory alone (Barnett & Zucker, 1990).

Look for Patterns, Including Patterns of Errors, Rather Than Isolated Instances

When compiling information on any behavior, stable patterns will usually emerge. Attendance and tardiness, for instance, are simple examples of the way patterns offer insights about children, families, and schools (Almy & Genishi, 1979; National Forum on Education Statistics, 2009). Absences on the first or last days of the week may signal a situation at home, such as weekend visitations to a noncustodial parent. Some families may not have developed the habit of getting children to school regularly and on time; there may be transportation or economic difficulties. If this is the child's first year in a group, the youngster may catch every sickness that that every classmate has. There may be problems with resistance, stamina, or lack of medical care. Because children who are sick a lot will miss a lot, the pattern will reveal clues that need to be further pursued. Such consistent patterns of behavior can alert teachers to children who need help.

Consider a Child's Pattern of Development, Temperament, Interests, and Approaches to Learning

Dylan's mom told the teacher that Dylan was "deliberate" in his development—in no hurry to sit up, teethe, walk, talk, or do anything else. His kindergarten teacher remarked, "He does things in his own good time." This type of information can help Dylan's current teacher understand the data that she has collected. Carita's tendency to be a perfectionist is evident, because she avoids activities she is not good at and struggles for perfection—even to the point of tears—in things that are important to her. Children's unique interests and prior knowledge may become evident as the teacher attempts to understand what certain information means.

Identify Areas of Concern

Is a child's current functioning and progress of concern to the child, parents, teacher, or other school staff? If so, the teacher should take an in-depth look at the developmental or curriculum area of concern, take a broader look at all developmental areas, assess the skill or behavior in a different context, or recheck for indicators of the need for special help. Remember that specialists are available for consultation.

Suppose a youngster has difficulty following directions; is inattentive during story time; seldom plays with other children, either indoors or out; and responds inappropriately in conversations and discussions. Classroom staff and other children have difficulty understanding her speech. The youngster is frequently absent. Clearly, available information identifies a concern. More and different information is needed to determine the sources of the problem and develop a

Interpret and Understand the Meaning of Assessment Findings

Understanding the meaning of assessment information requires teachers to examine evidence from a number of different perspectives. The first one is cautionary: A teacher should generate several hypotheses about possible meanings, but hold them tentatively so that alternative explanations are an option. The other three perspectives are basic guidelines or approaches for analyzing the information about children. The examples highlight each guideline separately, but as the teacher works with summary and primary information, he or she will use them simultaneously. Think of children's understanding and performance as falling within a band or interval, rather than at a specific point on a scale; compare their understanding and performance to developmental or curriculum expectations (goals, objectives, standards); and analyze information for evidence of the learning processes and strategies they are using. All these approaches will yield information relevant to promoting children's learning.

Generate Multiple Hypotheses about Possible Meanings, But Hold Them Tentatively

Avoid thinking in terms of certainties and absolutes. There is no simplistic formula for interpretation—if a child does *X* then it means *Y* and only *Y*. Information may have several meanings, depending on which direction the teacher chooses to take. Human development is complex and not always easy to understand. All aspects that are relevant to classroom decisions must be considered. Documentation of a child's efforts to solve a real-life arithmetic problem may have one interpretation if the teacher is analyzing error patterns, another if the teacher is judging attitude about arithmetic, and still another if the teacher is concerned with developmental level. Consulting with colleagues may provide additional insights and help maintain focus on children's progress and needs rather than blaming a child, the child's home life, or last year's teachers for any problems (Johnston, 2003).

Interpretations should reflect only what the teacher actually knows. For example, if a child does not do what is expected in an assessment, the teacher knows only that. He or she does not know that the child could not do it at all. Positive results can be trusted more than negative results. If a child does something—reads aloud, throws a ball overhand, helps a classmate, contributes to a class discussion—we know the child has that capacity. We do *not* know the child's capacity to perform tasks that are *not performed* or are *performed poorly* (Lidz, 2003).

Children change rapidly. One's knowledge and understanding of child development changes as well, affording new insights into the meaning of things children do and new ways of looking at their behavior and one's responses to it. Even under the best of circumstances, the assessment information teachers have is only a small sample of what any child can actually do—a sample based

guage and literacy in most early childhood programs may conceal children's strengths in mathematics, science, the arts, or social relationships.

Analyze Performance as an Interval within Which a Child Is Functioning

Development is best thought of as a continuum, moving toward more complex and mature behavior (Bodrova & Leong, 2007; Vygotsky, 1978). Whatever a child has done or is doing indicates where that child is within a larger band or interval that reflects the upper and lower limits of her or his capability at this time (Russell & Airasian, 2011; Woolfolk, 2012). There are several reasons why an interval describes children's performance better than a specific point or score: error in measurement, normal variation in development and learning, the nature of developmental processes, and the influence of the amount and nature of assistance.

Error in Measurement. Teachers should expect some error in the information they have. For example, performance or situational tasks often require children to give an oral or motor response. If children do not respond, one cannot conclude that the children *can't* respond—only that they *do* not. Accurate estimates of a child's oral language ability in any language are difficult to obtain. If the child is not fluent in the language used in school, the possibility of error is even greater. For any skill or concept measured, there is always a possibility that in a different context a child may demonstrate the level of mastery that is higher than the one demonstrated on a particular assessment. Children are quite sensitive to external influences such as hunger, illness, distractions, or problems at home, which can lead to measurement error.

Measurement errors may occur for one population of children more than another. In other words, an assessment may discriminate well between an "average" child and the outliers (both on the high and lower ends of the continuum), but it won't do such a good job when it comes to finer distinctions for children who are in "the middle." In addition, errors of measurement may simply be caused by a mistake made when an adult documented children's behavior.

Variation in Development and Learning. There is wide variation in what is considered "typical" in development and learning—variation in when accomplishments are made and in the rate or speed of acquisition (Berk, 2013). Child development norms and sequences are usually drawn from large numbers of children, and no individual child is expected to "fit" exactly. For that reason, published guides to children's development usually indicate a range or interval, rather than a fixed point. Children have unique and individual patterns of development. "Normal" children begin walking at anywhere from 9 to 18 months—a tremendous variation in a short life span. If such differences exist in a universal, biologically linked developmental milestone, teachers can expect at least as much variation in other aspects of development and in children's performance relative to expected child outcomes.

ing quite normally in other areas may lag in social skills.

The Influence of the Amount and Nature of Assistance. Consider the amount and nature of assistance a child receives. Both are important in interpreting the meaning of a child's response. For each new skill or concept a child is mastering, her or his learning can be described as a continuum between two levels. The lower level or limit is a child's independent performance—what the child can do alone. The higher level or limit is the best the child can do with maximum assistance (Bodrova & Leong, 2007). Within this *Zone of Proximal Development* are different levels of partially assisted performance (Vygotsky, 1978).

A child's ability to make use of suggestions and prompts gives clues to the child's thinking processes as well as the child's experience engaging in social interactions, level of functioning, and the range of tasks he or she is ready to learn (Bodrova & Leong, 2007; Campione & Brown, 1985; Vygotsky, 1978). Dynamic assessment techniques (described in Chapter 4) help teachers explore a youngster's ability to profit from assistance in doing a task (Campione, Brown, Reeve, Ferrara, & Palincsar, 1991; Feuerstein, 1979;). Look for development and learning that are in a formative stage and give prompts, suggestions, and hints to see what a youngster does with such help.

As an example of how a teacher gives and interprets children's use of assistance, Mr. Harrison brings in a variety of seashells for children to examine, sort, and group in whatever way they want. Some children may immediately grasp the possibilities, and then group and regroup in imaginative and perceptive ways. They don't need hints; in fact, suggestions might stifle their creative approach to the task. Some children may perceive nothing but a bunch of shells. They are oblivious to hints and suggestions, either verbal or nonverbal. But another group may initially see nothing or only the most obvious groupings, and then quickly pick up on the slightest hint. Subtly shaded construction paper placed beside the shells will lead children into sorting and ordering by fine differentiations in color. A row of shells ordered by size will set them to grouping by size. Audrey's remark, "Look how deep the ridges are on this shell" will lead to examination and grouping by definition of the ridges. It is these children who can benefit the most from adult assistance to lead their development (Bodrova & Leong, 2007; Rogoff, 1990). The assistance of the colored paper and Mr. Harrison's suggestions are within the students' ZPD.

It's a good idea to document and interpret the meaning of how children use prompts, hints, and suggestions. Those who do not pick up on the prompts may need experiences at a simpler level, more assistance, or a different type of assistance. Those who are beyond the hints may need amplification of ideas within their Zone of Proximal Development, or tasks and assistance that will provide more challenge. Teachers cannot understand the meaning of what a child does unless they know something of the amount and nature of assistance received.

Consider the Influence of the Context on Children's Actions

Educators cannot interpret children's behavior apart from their sociocultural context (Goodenow, 1992). The context encompasses the who, what, when, and

encourages children to visit with each other instead of finishing tasks, or to run wildly around the gym or playground instead of using equipment. It may involve choice of materials: books, games, activities, and songs that children are no longer interested in; materials that are too difficult or too easy; or materials that promote aggressive behavior. Adults may expect children to be accomplished in doing things that they are just beginning to learn.

General supports include clear guidance concerning what children are supposed to do, setting up the environment to promote desired behavior, having enough appropriate materials ready, and providing specific supports that enable a youngster to do whatever she or he is supposed to do. Examples are making sure children can see and hear their teacher and classmates, reducing distractions, coaching and practicing expected behavior, and providing effective tools to help youngsters learn. Study the context as well as the child so that hindrances may be identified and decreased, and support may be identified and increased or modified as needed. It is important to remember that what starts out as a tool and a support—if used too long—may become a crutch. Be diligent in checking to see if the children still need the support or if they can now perform without it.

Compare Evidence to Developmental or Curriculum Expectations

Expected developmental and curriculum outcomes help determine what to assess (Chapter 3). At this point, look back to those expected outcomes as a basis for interpreting assessment information.

Compare Evidence to a General Sequence of Development. Developmental guides or continua may be used to establish what we know about a child, given the current state of knowledge and understanding in basic child development domains: physical, social/emotional, cognitive, and language. The assessment and analysis guides in Appendix A summarize that knowledge for easy reference. Compare a child's or children's performance to the guidelines in the appropriate domain. Determine the child's approximate place in the continuum, which prior developments have been mastered, and which later developments are emerging or evident. A caution: Use the developmental continua as guides, not as strict milestones. Remember that these continua are not exact, nor do they cover every aspect of development. In addition, there are gaps in one's understanding of how children develop in some domains.

Determine whether the progress the child is making is appropriate, or if opportunities to learn and develop need to be modified. Many development and curriculum goals take a long time to achieve. Don't panic if a November check reveals that a youngster (or a classroom of youngsters) is a long way from year-end goals. Determine where children are on the continuum of progress to help decide if current curriculum approaches are sufficient or need modification.

Look at how checking for developmental and curriculum status and progress works, using simplified examples. Figure 7.1 shows two observations of Shana's

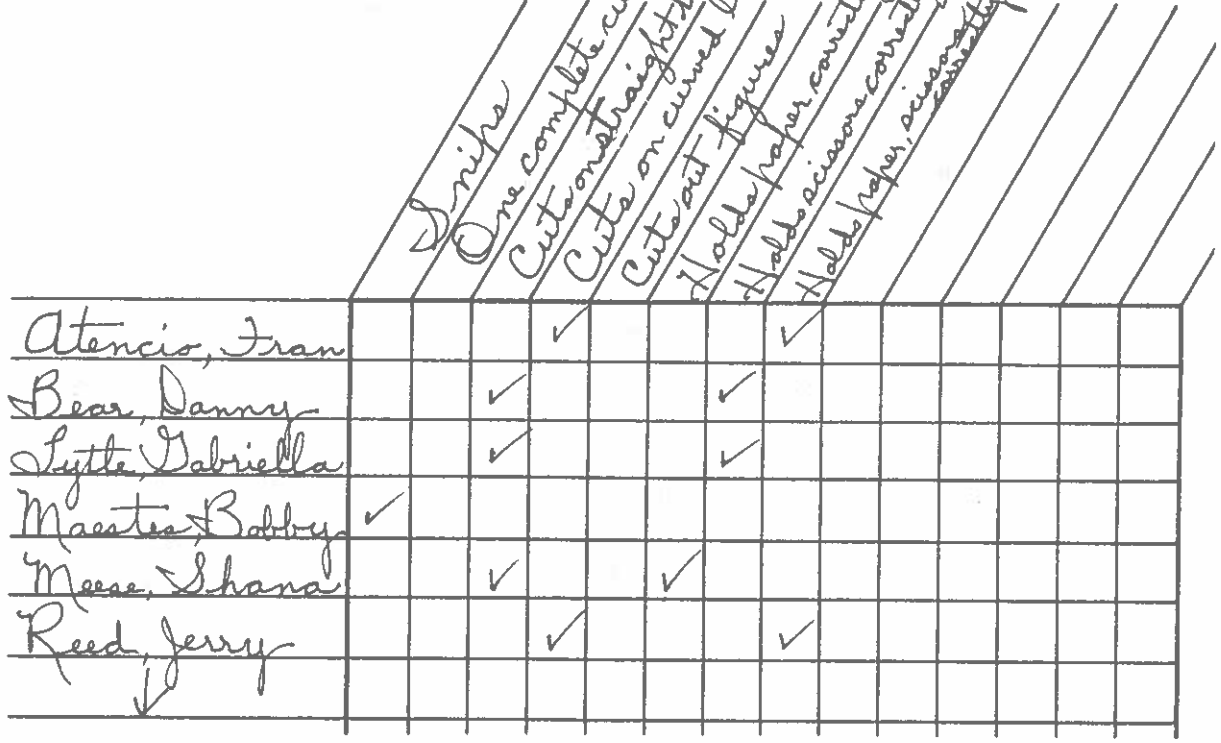
9/23—Dramatic Play Dresses as Mom. Announces "I'm going to wash dishes. I'm making dinner." Washes plate, pot, silverware and puts in drainer. Looks at child next to her, who picks up towel. S. picks up a towel, too. They don't interact. 12/27—Dramatic Play Dressed up w/heels and purse. Chairs lined up for playing bus. S. takes first chair. "This is my bus. I'm gonna drive. Gabriella, give me your money. Go sit down." G. says "Can I drive?" S. does not respond, but starts bus, making driving noises.	*Level 1: Simple Parallel Play* Close proximity but doesn't engage in eye contact or any social behavior. *Level 2: Parallel Play Mutual Regard* Engage in similar activities and occasionally look at each other. May involve imitation. *Level 3: Simple Social Play* Direct social behavior to one another. Activities not coordinated. *Level 4: Complementary/Mutual Awareness Play* Take turns with objects. No verbal exchange. *Level 5: Complementary/Reciprocal Social Play* Engage in complementary conversation. Back and forth turn-taking with social interaction.

dramatic play made approximately 3 months apart. Next to it is the developmental sequence for that type of play. Comparing the first observation, made on September 23, with the developmental chart, the teacher concludes that Shana's behavior seems closest to parallel play. Consulting other evidence, her teacher finds one or two examples of social play, and some turn-taking, but not much.

To determine progress over time, compare the child's performance on samples of the same type of behavior taken at two or more time intervals. Look at both the entries for Shana, the first made on September 23 and the second on December 27 (Figure 7.1). Shana talks directly to other children and interacts more in the second sample than in the first. The sample taken in September resembles parallel play. The sample from December closely matches simple social play. Shana is not yet exchanging toys, nor is she involved in complementary roles involving back-and-forth interactions. Other evidence about Shana's play and interactions on the play yard, in the block area, and with manipulatives reveals similar behavior. Shana has progressed one level on the developmental continuum, is developing at a rate comparable to her peers, and is in line with the developmental sequence.

When interpreting a group profile, determine the range of development and learning—the most mature or advanced behavior and the least mature or advanced behavior. Compare these two extremes with development or learning charts to see if they are in the expected age ranges. Compare clusters of behavior in the profile to the typical expectations as shown in the charts.

Figure 7.2 shows two examples of classroom appraisal of a group's status and progress in fine motor development. Evidence on cutting with scissors was



Date 12/18/15

Atencio, Fran				✓				✓							
Bear, Danny				✓				✓							
Lytle, Gabriella			✓					✓							
Maestes, Bobby			✓				✓								
Meese, Shana				✓			✓								
Reed, Jerry				✓				✓							

on a curved line. In addition, the children cluster differently. In the first sample there were three clusters: Bobby snips; Shana, Danny, and Gabriella cut on a straight line; Jerry and Fran cut on a curved line. In the second sample this has changed: Bobby and Gabriella cut on a straight line; Shana, Jerry, Fran, and Danny cut on a curved line. Work products in the children's portfolios and jottings made during observations of art and center activities provide further evidence of their progress. A third sample, taken near the end of the year, should reveal even more.

Is that progress enough, or do the children need additional fine motor experiences? Several had never used scissors before coming to school. This is where interpretation comes in. The expected developmental sequence for cutting, shown in Figure 7.3, offers one piece of information for gauging progress. Another is the program goals. Should the children be able to cut out figures and move paper and scissors accurately by the end of the year? Interpreting the meaning calls for integrating all these considerations, collecting more information as needed, and making a judgment about its meaning.

Figure 7.3 The Developmental Sequence for Cutting with Scissors

Level 1: Snips. May hold paper and scissors incorrectly.

Level 2: Makes one complete cut with the scissors. May hold paper and scissors incorrectly.

Level 3: Cuts on a straight line. May hold paper correctly, scissors incorrectly.

Level 4: Cuts on a curved line. Holds scissors and paper correctly.

Level 5: Cuts out figures.

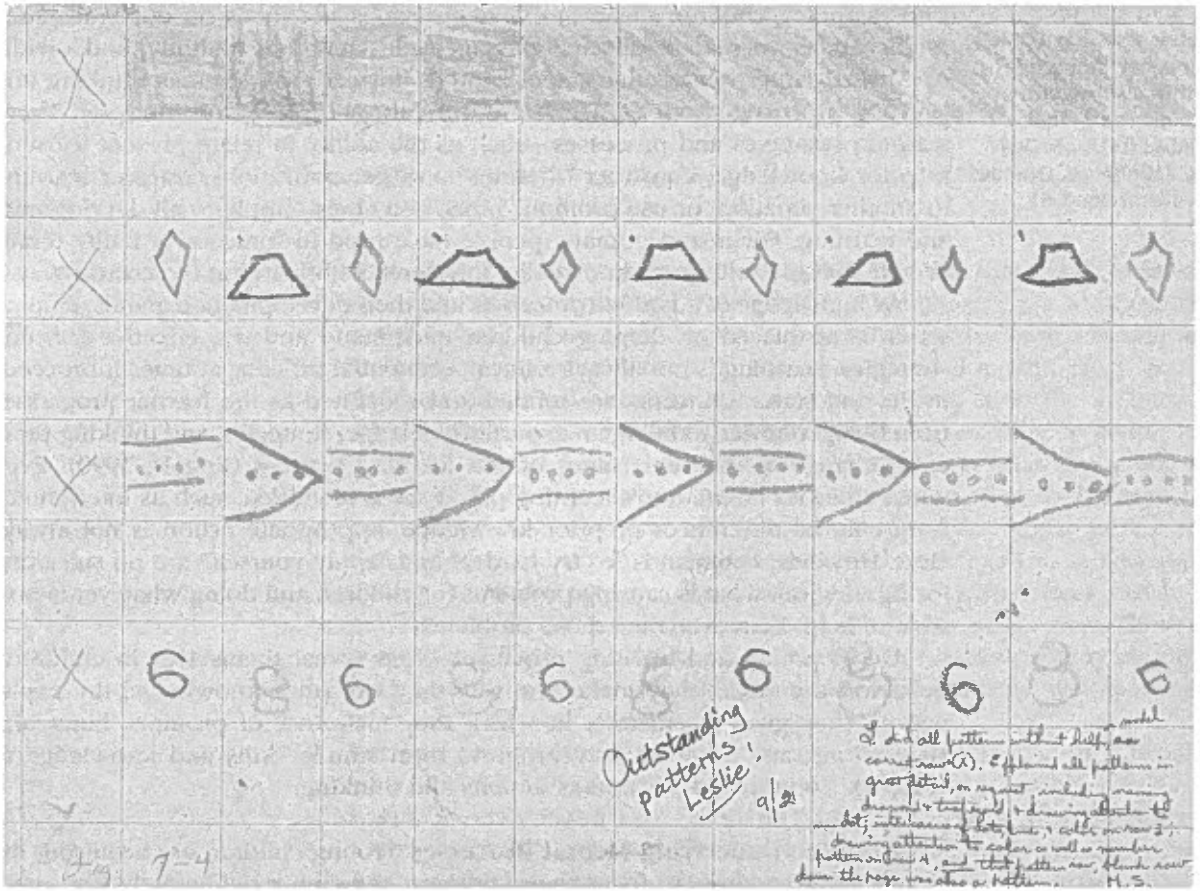
Compare Outcomes to Curriculum Goals, Objectives, and Standards. To understand assessment results, compare them to expected outcomes, in whatever they are stated. Some goals, objectives, and standards are quite broad and require further specification before assessment or interpretation of assessment results can occur. Some are stated so that direct rather than general comparisons are possible, especially if they identify specific objectives, knowledge, or skills.

Suppose that a goal states "Children should be able to compare objects, events, and experiences in the physical and social world." This goal is a comprehensive one, encompassing language and the major subject matter areas, as well as basic learning strategies (Marzano, Pickering, & McTighe, 1993). It is relevant for learners of all ages. The specific expectations will change depending on the age and development of the children. If expectations for early childhood are that children will understand and use terms of contrast and comparison—such as *same as*, *different from*, *like*, *alike*, *unlike*, *not the same*, *similar*, and *dissimilar*—linked with appropriate descriptive terms (*shape*, *size*, *color*, *number*, *location*, *function*, *direction*, and so forth), then the teacher knows what to do to help them learn, what to assess, and to what to compare their performances.

grade the focus shifts to recognizing, describing, and extending various patterns. Because preschool and primary children experiment, construct, repeat, and identify patterns of all types, it is fairly easy to collect evidence to compare children's work with the standard.

Let's look at an example. Leslie and the other children in her first-grade class were to create ABAB (every other one) patterns on lines marked with an *X*. Leslie's paper (Figure 7.4) indicates she has made and extended a simple ABAB pattern in two dimensions. The next step is to ask Leslie to reflect on and explain what she has done. The recorder notes her explanation. It is clear that Leslie can also *recognize* and *describe* the AB pattern, including pointing out that the rows of patterns alternating with a blank row make an ABAB pattern vertically down the page. A structured performance assessment with manipulatives indicates that she can *extend* the pattern as well. Comparison with the

Figure 7.4 Leslie's ABAB Patterns



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and extend patterns) provide a basis for comparison and a guide for planning further experiences.

Rubrics. Because most standards are usually broad and include a number of complex behaviors, educators develop rubrics to help them judge children's progress toward the standard and related benchmarks.

If the teacher has gathered evidence related to the behavior described in the rubrics, it is not difficult to identify a youngster's level of functioning, and thus where she or he may need help. For analysis and instructional purposes, the numbers are not important. The descriptions of behavior identify what a child does and does not do. Older children can use rubrics for the self-assessment of their learning (Jacobs & Crowley, 2014). Chapter 5 contains additional examples and more information on rubrics.

Watch "Sue Bredekamp on Formative Assessment, Part 4" to learn about assessment tools that help teachers structure their observations. Following the suggestions given in the video on how to construct a rubric, how would you define the lowest and the highest points on a 5-point scale for a rubric assessing a child's alphabet knowledge? (https://www.youtube.com/watch?v=qul_vxGTIR0&list=UUp5vOsvjvrdybDGnislmW2Q&index=4&spfreload=1)

Analyze Information for Clues to Learning Processes and Strategies

Understanding children's learning strategies does not focus on outcomes such as the ability to read a selected passage; add, subtract, multiply, and divide; or correctly interpret another's social intent. Instead, it addresses thinking and learning processes, both of which are difficult to capture and interpret. These learning strategies and processes—such as the ability to relate present learning to prior knowledge; construct "theories" and generalizations; transfer learning to another situation; or use prompts, hints, and clues—apply to all development and learning. For instance, many people have tried to "unlearn" a faulty tennis or golf swing. Faulty prior knowledge interferes with learning the correct way.

As knowledge of cognitive processes and their development expands, emphasis is being placed on helping children understand and use effective learning strategies. Learning is not always a linear, sequential process; at times it proceeds in fits and starts. Concepts are refined and redefined as the learner progresses from being a novice to being an expert. Knowledge, strategies, and thinking processes change at different stages of the learning process (Rogoff, 1990). Even when a barrier in children's learning processes is identified, such as interference from cultural differences or prior knowledge, appropriate action is not always clear. However, commands to "try harder" and "apply yourself" are no substitute for figuring out what is causing problems for children and doing whatever is possible to help them overcome those problems.

Development and learning processes often reveal themselves in children's behavior: the errors they make; the way they use prior knowledge; the explanations they give; the manner in which they make use of prompts, hints, and suggestions; and the way they progress from simple skills and knowledge to complex, coordinated patterns of actions and thinking.

Examine Underlying Mental Processes. Young children are acquiring the skills that allow them to focus their attention, remember deliberately, and regulate their own cognitive and social behavior (Bodrova & Leong, 2007). They

deliberateness, considering the consequences of his actions before he acts. Although a teacher may work on this behavior when it appears as an isolated action in group time, play, or other activities, the underlying reactiveness is the root problem.

To determine whether children need help and practice in developing underlying cognitive skills, observe them in different contexts. Compare the various observations. Which situations tend to produce more mature behavior, and which ones produce the least mature behavior? Children with reactive behavior often do well when they become engrossed in an activity of their own choosing and have trouble breaking away. When they are not engrossed, they may flit from one activity to the next. They have trouble ignoring distractions and sticking to the task at hand, and may perform better in a one-to-one relationship with objects, peers, or the teacher.

Analyze Error Patterns. Errors should not be thought of as "random, careless, or lazy behavior of a student but . . . as rooted in a complex and logical process of thought" that is amenable to correction (Glaser, 1987, p. 333). Children make errors because they have misconceptions or partial understandings. Error analysis is regularly used in teaching reading and is helpful in any content or performance area. For example, children who are having difficulty regrouping in mathematics may make errors that show teachers the source of their difficulty.

Check the number, type, and pattern of errors to see if they fit any of the following categories (Gage & Berliner, 1992):

1. Systematic errors have a consistent pattern, meaning that the child makes the same mistake over and over. Usually systematic errors indicate that a child does not understand a rule or fact and consistently misapplies it. Interpretation may vary with the level of development. Very young children may simply require time and experience, as in the systematic overregularizations that young children make in learning to write. For example, Andrei learned that his name has a letter that has a dot on top of it. He then proceeded to place a dot on top of every letter in his name. After doing this for a few times, he stopped doing it as he learned that the so-called dot is only for the letter *i*. In other cases, skilled questioning, explanations, or appropriate material or experiences can help break a pattern that more time and experience may not correct. Think of the social skill of entering and becoming part of a group. Many children (and adults) make the same mistakes over and over and would benefit from coaching and modeling.
2. Random error patterns do not have a predictable pattern. They usually mean the child is guessing because she or he has no facts or rules to apply. To understand random error patterns, teachers must sensitively probe the child's thinking. The cause of the errors may vary depending on the child. For example, children may not have the prior experience or knowledge to enable them to respond reasonably. Some urban children

on something he or she usually gets correct. An example of a skip error is when Mattie forgets to capitalize the first letter of her name when she usually does remember to do that. In general, hurrying, disinterest, loss of concentration, or anxiety cause these errors.

Determine Prior Knowledge and Its Relationship to Current Understanding and Performance. Children's beliefs, knowledge, and past experiences provide the base for current learning (Glaser, 1987). For instance, Renata's experience with pets was limited to cats, dogs, rabbits, guinea pigs, and other furry creatures. When the teacher introduced a pet turtle, Renata described it as having "bumpy fur"—a logical extension of her prior experiences. Because of the wide diversity in young children's backgrounds and experiences, teachers cannot assume shared knowledge about anything. Probably no other aspect of a child's development and learning is as subject to influence as his or her family, community, previous schooling, and other experiences. This prior knowledge can help or interfere with new learning (Winne & Marx, 1987). If a child approaches new information or skills without prerequisite skills or background, lack of knowledge will interfere.

To assess the children's familiarity with the knowledge or skills the teacher will be teaching, compare it to what the children already know. Analyze a "map" or "web" constructed from children's responses to identify misconceptions or preconceptions that need to be considered. Reviewing records of skill development is also a good idea. For instance, children who learned one type of letter formation (e.g., "a" rather than "A") at home or in a previous school may make errors as they learn to use capital letters. Study children's answers or explanations for indications of prior knowledge and understanding and determine whether they have linked that knowledge to present learning. Disinterest may mean either lack of knowledge or mastery. For example, children's difficulty with arithmetic story problems is usually related to their inability to transfer computation skills to a different situation. "Children need to learn skills in finding or creating similarity across contexts" (Rogoff & Gardner, 1984, p. 961). Adults may need to guide children to help them create links between what they already know and what they are trying to learn, such as: "Remember when we learned how to measure and graph your growth? Today we are going to start learning how to measure and graph the growth of plants."

In analyzing learning processes, the educator might detect problems of facility in different types of application and transfer. *Negative transfer* occurs when prior learning impedes new learning. The child uses a familiar response in a situation that calls for a different one or uses intuitive understandings that are counter to what should be learned. For example, social behavior that is accepted in the home or community may interfere with learning a different type of social behavior at school. *Positive transfer* occurs when prior knowledge and skills help children learn new skills. The links between old and new learning help children remember and perform better. The teacher will likely see both positive and negative transfer as children try to apply to new situations what they know and can do.

11 13 16
+1 +1 +1

As Omar entered his answers—3, 5, and 8—he became increasingly upset. The computer wouldn't accept them. Only when the teacher examined the pattern of error did Omar's "theory" about addition become clear. The teacher was able to address it directly and help the child learn how addition worked. Looking only at the number of right and wrong answers does not reveal the kind of help Omar needs, but an analysis of errors does.

In another example of the importance of understanding error patterns, children may develop their own theories about the meaning of other people's actions—often misreading social cues or transferring the understanding of one set of social cues to a situation where that understanding does not apply. Boys who exhibit aggressive behavior may be misinterpreting friendly social cues as being aggressive (Dodge, Pettit, McClaskey, & Brown, 1986; Dodge & Somberg, 1987).

Analyze Explanations and Descriptions. Learning involves active construction of knowledge by the learner (Bredekamp & Rosegrant, 1992, 1995; Mayer, 1992). Teachers gain insight into how children select, organize, and integrate information by listening to children's explanations to each other or from teacher–child interaction.

Children's responses to "How did you get that answer?" "Explain how you did that," "Why do you think that?" and other similar questions give clues to many aspects of development and learning. Some children may be able to do something but unable to describe or explain how or why. Other children may give explanations that seem perfectly logical to them but indicate a level of development dominated by perception and an inability to think about several variables at once. Such a situation is revealed in the following interview with a child who is experimenting with things that sink and float:

Teacher: Why do you think some things float?

Child: Just 'cause they have to float. A puppet would float because it's light. A fat person can float.

Teacher: Can a skinny person float?

Child: Yes, 'cause it's light.

Teacher: But is a fat person light?

Child: No, the fat person can float if it holds still. The wooden cabinet can't float 'cause it's too heavy.

Analysis of responses reveals the quality and level of children's thinking and serves as a reminder of how much children have to learn and how incomplete their knowledge and understanding are. Analysis of interview responses may also reveal children's current thinking processes and problem-solving strategies (Ginsburg, 1997).

Cognitive research suggests that the difference between many poor and good problem-solvers lies in the activation of appropriate strategies and the ability to monitor the thinking process (metacognition) (Gardner, 1991; Mayer, 1992). Poor students may have the requisite knowledge and skills but fail to use them correctly or at the appropriate time. These students lack flexibility and may stick to one strategy even when it does not lead to successful solutions. Children's descriptions and explanations in response to questions such as "Tell me the ways you tried before you got this answer" often reveal aspects of their metacognition.

Look for Qualitative and Quantitative Differences. Assessment information can help teachers understand changes in what youngsters know and can do and how they express that in the journey from beginning learner to proficient learner. Beginning learners may be inconsistent. There are qualitative as well as quantitative differences (Glaser, 1987). For example, Lucy, a beginning learner, may have only a vague and incomplete understanding of the term *mammal*. Her fragmented knowledge, incomplete understanding, and thought process are better described as a "complex" of ideas, rather than a true concept (Hanfman & Kasanin, 1937; Sakharov, 1994; Vygotsky, 1986). As Lucy organizes her scattered ideas into a true concept, she can define *mammal* in her own words, apply the very specific and narrow concept correctly to novel instances, and explain the relationship of a mammal to other members of the animal kingdom.

To analyze a child's level of performance, compare the documented behavior to a breakdown of the important components of the learning. For instance, patterning requires that learners be able to match one to one, perceive similarities and differences among items, and identify the significant features of the pattern. When Steven tries to repeat an alternating pattern of two red circles and three blue squares, he gets the first two circles correct, then places a blue square, red square, and yellow square in the row. Steven has some of the essential skills. He identifies the repeating nature of a certain number of circles and squares and matches one to one, but he omits the element of color in the squares. By comparing his performance with the essential components, the teacher identifies the components Steven can and can't do.

Teachers ask children to do tasks that require integrating several subskills into a complex behavior. Analysis of children's performance on the various components will aid understanding. In some cases, a child may have trouble performing one of the subskills. A child who can't catch a ball while she is standing, for example, can hardly be expected to catch a ball while she is running. Similarly, if she can't hop, she can't skip. In other cases, a child may have the subskills but be unable to combine them. He may read isolated words and identify word meanings but he can't read a passage and explain its meaning. Sometimes the number of steps required simply inundates the learner, and she or he cannot proceed. An incomplete performance may mean that the number of things the child must attend to is overwhelming. The teacher must identify the component subskills, their relationship, and the child's performance on each. Analyze where the child is having problems and why.

help children develop and learn.

To ensure trustworthiness of the information, check for fairness, validity, and reliability. Make sure there are enough representative and balanced samples; that evidence obtained in different ways converges; that samples are consistent over time (unless the inconsistency itself is of significance); and that the assessment corresponds to reality. To maintain quality during analysis and interpretation, follow these steps: To determine progress, (1) compare performance on two or more occasions; (2) work from written documentation, compilations, and summaries, not memory; and (3) look for patterns rather than isolated instances. Consider a child's or a group's unique and individual patterns of development, temperament, and interests. For areas of concern or where more information is needed, look in depth, look more broadly, look in different contexts, or recheck.

The teacher should use the following guidelines as he or she analyzes and tries to understand information:

- Generate multiple hypotheses about possible meanings, but hold all interpretations and hypotheses tentatively.
- Think of performance as a band or interval within which a child is functioning, not as a specific point on a scale.
- Compare outcomes to developmental or curriculum expectations.
- Analyze information for clues to learning processes.

Check Your Understanding 7.1: Click here to gauge your understanding of chapter concepts.

Media Connections 7.1: Click here to apply your understanding of chapter concepts.

For Personal Reflection

1. This chapter suggests that the sociocultural context of the classroom can either support or hinder children's performance. Reflect on classrooms you have observed and worked in. What evidence of this principle have you seen? What are its implications for you as you document and interpret children's performance in your own classroom?
2. Think of a time when your prior knowledge of a subject was not recognized by someone teaching you. Looking back, what are some ways your knowledge could have been determined, then recognized and put to good use?

For Further Study and Discussion

1. Look at the example of the range of performance and clustering of cutting skills shown in Figure 7.2. What are possible interpretations of this information (a) if the children are 3 years old and in their first year of

attributes of objects; and performance samples on tasks that required following oral directions given by an adult. What other information might be needed before you have enough representative samples to interpret children's progress in language? Outline a strategy to obtain that information.

3. Secure one or more work products from a child in preschool or a primary grade. Analyze the work products for information about that child. Explain and justify your interpretation. If you cannot get work products, do an in-depth analysis of Figure 4.4 and Figure 4.5, and then compare and contrast the two products.
4. Interview both a beginning teacher and an experienced teacher, both of whom are using classroom assessment to see how they interpret the information they collect. Compare and contrast their responses. What are some implications for you at this point in your teaching career?

Suggested Readings

Bodrova, E., & Leong, D. J. (2007). *Tools of the mind: The Vygotskian approach to early childhood education*. Englewood Cliffs, NJ: Merrill.

Bredekamp, S., & Rosegrant, T. (Eds.). (1992). *Reaching potentials: Appropriate curriculum and assessment for young children* (Vol. 1). Washington, DC: National Association for the Education of Young Children.

Bredekamp, S., & Rosegrant, T. (Eds.). (1995). *Reaching potentials: Appropriate curriculum and assessment for young children* (Vol. 2). Washington, DC: National Association for the Education of Young Children.

Ginsburg, H. P. (1997). *Entering the child's mind: The clinical interview in psychological research and practice*. Cambridge: Cambridge University Press.

Levine, K. (1995). *Development of prewriting and scissor skills: A visual analysis*. Boston: Communication Skill Builders.

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context*. New York: Oxford University Press.

Tharp, R. G., & Gallimore, R. (1988). *Rousing minds to life: Teaching, learning, and schooling in social context*. New York: Cambridge University Press.

Wortham, S. C. (1995). *The integrated classroom: Assessment–curriculum link in early childhood education*. New York: Macmillan.

Yates, T., Ostrosky, M. M., Cheatham, G. A., Fettig, A., Shaffer, L., & Santos, R. M. (2008). *Research synthesis on screening and assessing social-emotional competence*. The Center on the Social and Emotional Foundations for Early Learning. Retrieved from vanderbilt.edu/csefel.

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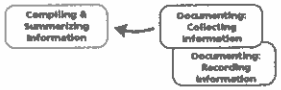
CHAPTER 8

Using Assessment Information

Learning Outcomes

1. Explain how teachers can use assessment results in their planning.
2. Identify strategies that allow teachers to use assessment information to differentiate instruction.
3. Describe modifications teachers can make in classroom materials and in curriculum to differentiate instruction as they use assessment data.
4. Analyze classroom examples for teachers' use of assessment information.



ties if Zack can't do this problem" or "Repeat Unit 8." Solutions are more complex than that. Knowing a child's strengths, needs, and interests does not always tell the teacher what to do next. Thoughtful, sensitive, artistic planning is the best process teachers have for using assessment information to directly benefit children and weave the many threads involved in teaching into whole cloth.

Watch "Sue Bredekamp on Formative Assessment, Part 2" to see Dr. Bredekamp discuss the connections between instruction and assessment. What do you think is the most common mistake teachers make as they attempt to connect their assessment to instruction? (https://www.youtube.com/watch?v=mTVKNbpDsN4)

Activities, content, grouping, instructional interactions, and the other elements that make up classroom learning and teaching must be grounded in children's current abilities and potential, as determined by assessment, and designed to lead them on (Stiggins, 1997). Unless teachers intentionally plan to use assessment results, the insights and information are likely to be lost in the rush of classroom events.

Teachers can link assessment with developmentally appropriate curriculum and differentiated instruction, no matter what planning process they use. The basic principles that follow apply to almost all developmental areas or curriculum goals, are drawn from the broad age span of early childhood (3 to 8 years old), and reflect the differing classroom organizations and emphases of the various levels. Suggestions and examples are representative and are neither prescriptive nor exhaustive. Our intent is to show teachers ways in which information from assessment can inform and improve classroom practice through planning strategies, individual and group strategies, and curriculum and classroom modification strategies. Specific examples of how assessment information can be linked to planning appropriate experiences for children conclude the chapter.

The terms *curriculum* and *instruction* include all the experiences teachers provide to enhance children's learning. A teacher "instructs" when he prepares a learning center to introduce a new idea, introduces different accessories for the block center, or provides new costumes for dramatic play. A teacher "instructs" when she prepares flannel-board props to help children bridge the gap between hearing a story and retelling it, plans transitions to help active children regulate their behavior, provides parquetry blocks and appropriate adult–child verbal interaction for children struggling with geometry concepts, or thoughtfully selects and reads a book that will engage the whole group.

Planning Strategies

Planning allows for reflection on what to do with assessment results and gives an opportunity to outline a course of action that may involve changes in the environment and in teaching processes and procedures.

Plan and Organize the Intended Changes

Although much planning is never written (Clark & Yinger, 1987), translation of assessment results into differentiated instruction and activities to help all children learn probably requires more planning than teachers can carry in their

Teachers should do whatever is necessary to guide and remind themselves and other adults in the classroom of any modifications that are likely to be made.

Refer to Expected Outcomes and Assessment Information When Planning

It is easy to lose sight of the expected outcomes (standards, core content) of the activities. Refer to outcome statements regularly. For example, study the assessment summary sheets and class profiles for logical, flexible groupings and subgroupings. Reviewing notes and children's work will remind the teacher where the children need help and where they are progressing satisfactorily. Assessment may identify a specific fact or skill that a child has not mastered, which may be an indicator of other missing knowledge or skills in related areas. Consider the broader expected outcomes that knowledge or skill may represent (Appendix A). Also, checking the assessment plan will determine if the teacher needs to collect one of the core items for the portfolio, plan a performance check on the children's abilities to estimate and measure as a part of their ongoing work in science and mathematics, or follow-up on missing information.

Allow Time for Reflection

Allow enough time for thoughtful consideration of and reflection on assessment results. Don't try to plan everything at one time. Make preliminary notes to provide a framework, then gradually fill in details, incorporating insights from periodic and ongoing assessment and from other people working in the classroom.

Plan Ways to Meet Children's Assessed Needs

When a particular need is identified, it is unlikely to be met through incidental learning or the passage of time alone. For instance, youngsters whose backgrounds have not provided them with the self-regulation, experience, and language to tackle academic tasks will need specific help to fill in the gaps.

Deliberately Incorporate the Wealth of Information, Resources, and Strategies Available to Support Young Children's Learning

Knowledge about young children's development and learning is expanding rapidly, but unless teachers plan to use that knowledge, they will continue to do things the same old way. An educator who is unfamiliar with a particular area of development or learning should read professional journals such as *The Reading Teacher* and *Young Children* that summarize current research and suggest practical applications. Appendix A provides examples of development and learning progressions to guide teachers. Books such as those found in the Suggested Readings section at the end of the chapter will also serve as valuable resources.

Witt, & Atwood, 1990; Sanders, 2002).

Assessment often reveals children who are having difficulty discriminating symbols important in mathematics, as well as having problems in reading, maintaining attention, remembering, or problem solving. One then has to ask, What can I do to help? For example, what might help the child in first grade who is having difficulty discriminating mirror-image letters, such as *b* and *d*? Research suggests that experiences with print in actual reading situations rather than as isolated letters may make a youngster more sensitive to these and other reading-specific perceptual cues (Casey, 1986). Because this suggestion is compatible with current language and literacy research, plan for it.

Plan for and with Other People in the Classroom

Many early childhood classrooms have classroom assistants, parent and grandparent volunteers, older children, and specialists at given times. Extra people make more learning opportunities possible, but these must be planned. Involve regular classroom personnel—co-teachers, assistants, and specialists—in planning. They may offer different perspectives on ways to meet assessed needs.

Using assessment results to help children learn almost always requires greater specificity in planning for other people than most teachers do. Plan where adults will be placed in the classroom and what they will say and do to support children's learning. An example: As the teacher assesses, it is clear that several children need a lot of help with social interaction. Classroom disruptions affirm that conclusion almost daily. You work out a plan of action designed to prevent some of the disruptions and simultaneously teach children appropriate behavior. Because all classroom adults need to be consistent if the plan is to work, coach other adults.

Demonstrate and explain to other people what they are to do. Teachers may use index cards to jot reminders and prompts to themselves and assistants about how to word requests, directions, and explanations to align with a child's level of learning. Small posters placed in learning centers will remind adult volunteers of the purpose of the activities and to prompt appropriate language. One particularly good idea is to paste directions for a game in the box, with a script that shows how to play the game using academic vocabulary at different levels. For example, it is often difficult to get children to *use* new vocabulary words. Set up situations that allow adults to talk with children, helping them use language such as "same shape as," "not the same shape as," "different sound than," "same texture as," "not the same size," "different length," and so on. Teachers do not need to form language groups to do this; rather, they must change the way they interact with children, to ***intentionally*** converse with them in ways that support and extend their language. Most teachers need reminders of how to do this—so do other people.

Children who are learning the social and organizational skills to dramatize a story or to retell it using flannel-board figures can benefit from adult assistance. To expand children's opportunities, teach a volunteer or assistant how to do this with a small group. Planning ensures that props, space, time, and a coach

as, "Tell your partner your favorite parts of the story," "Describe what happened to the hungry caterpillar at the end of the story," or "What are some other ways the children could have solved their problems?" Each child then partners with the child sitting next to him or her to discuss the topic, taking turns talking for a brief time. The teacher ends the discussion by summarizing what some of the children have said, such as, "I heard several children say they really liked Rosie" or "I heard some interesting descriptions of the way the caterpillar became a butterfly." All of the children get a chance to talk, not just the few who volunteer or are called on by the teacher. Planning is essential for this to work. Children have to learn what is expected, whereas the teacher has to select a book appropriate for discussion, develop good discussion prompts, give the children just enough time to share their thoughts, and know how to draw the discussion to a close.

Balance What You Might Like to Do with What Is Possible

Set priorities for individual children and the class. Make easy changes first. Changing time schedules in a self-contained classroom to be more compatible with children's individual development and ways of learning is relatively easy. Changing the teaching of reading from one long-established approach to another method may take longer.

Start with obvious and critical needs. If assessment reveals to the teacher that a youngster thought he or she was comprehending English is not, an obvious and critical need exists. Likewise, if assessment reveals that a youngster frequently disrupts or is rejected in classroom activities, an obvious and critical need exists.

Individual and Group Strategies

Assessment usually reveals many strengths and many things "yet to learn." There will be developmental or curriculum areas in which only individual children need challenge or assistance, areas in which several children could benefit, as well as areas in which all children will profit from additional opportunities to learn and develop but at different levels. Balancing the needs of individual children with those of the total group is one of a teacher's most challenging tasks. Current instructional practices and research on differentiated instruction offer many guidelines and clues but no definitive answers. We consider situations in which one or two children may need specific attention, when several children would benefit, and when the entire group will profit, as well as mixed-age classes.

For One or Two Children

Sometimes one or two children require specific help, either because they are still learning or because they need to be challenged. Usually their needs can be met by providing opportunities for learning with the entire group or in a small

few opportunities for individual attention will often work wonders with a child who is on the verge of grasping an idea.

Sometimes opportunities must be closely tailored to needs and interests. If a child is having difficulty, analyze assessment results for clues to the problem. For example, if a second-grader is having difficulty alphabetizing words because he does not fully understand *before* and *after* as they apply to position in a sequence, help the child learn those terms, going back to experiences with concrete materials if necessary. If the difficulty stems from confusing whether *h* comes before *k*, then provide an alphabet chart so the child can practice the correct order.

Children who need challenges deserve the same thoughtful consideration. Multilevel activities, project work, and cooperative groups enable them to enjoy the benefits of group interaction. Individual activities can challenge, extend, broaden, and elaborate their development and learning into areas they might not otherwise explore: creative problem solving, scientific investigation, composing music or poetry, and mastering games of strategy and skill. Amplification (Zaporozhets & Elkonin, 1971) of children's knowledge can bring depth and breadth of understanding at their own level of development. *Challenge* need not be synonymous with *acceleration*.

Sometimes individual children are reluctant to participate in activities such as vigorous outdoor play, art, dramatic play, focused skill development, or oral presentations. Look first for obvious reasons: Is the play too boisterous and competitive? Are the skills beyond the child's developmental level? Are there gender signals that keep a boy or girl away? Is the reluctance simply this youngster's initial reserve about entering into a new activity? Are sociocultural differences operating? Evaluate the child's current level of functioning and skill for possible clues as to the cause of the reluctance. Plan activities the child likes and in which she is successful, and relate or extend them into other areas, such as gradually combining the block area and dramatic play area or setting up attractive, versatile art, science, or writing materials that engage the child's interest.

Perhaps observation of participation confirms what others have found—that children may not be engaged in large muscle activities, even though they are outside (Poest et al., 1990). Rearrange active, physical play apparatus and put it in a prominent place on the playground. Plan noncompetitive games and activities to discourage inappropriate competitiveness, which is often disheartening to the children who need the most encouragement. Select or alter activities so children do not have a long wait for a turn. Join in to guide and provide a model.

In all situations, provide support, guidance, informal instruction, and encouragement, but also help the youngster improve skills that will make participation easier (Bodrova & Leong, 2007; Rogoff, 1990). Provide one-on-one instruction to children who cannot throw and catch so that they can participate in playground games. Teach oral presentation skills gradually, and let children practice with one other person or a small group until they are comfortable. They will gradually assume more responsibility for their own performance (Rogoff & Gardner, 1984). Adapt classroom interaction processes to recognize community and cultural practices, such as allowing more time for responses or time for pauses in speech (Gage & Berliner, 1992).

self-selected groups, informal skill groups, formally assigned skill groups, random groups, groups of one or two, and others. For instance, groups of two can form author/editor pairs in which each child learns important writing, reading, editing, and discourse skills. Two children can "think, pair, share" to give an opportunity to discuss, report, or share without the deadly routine of round-robin "show and tell" or reporting. Children who write can be paired with children who are still dictating. If children are having difficulty entering a peer group, let them play and work with some younger children. Aggressive children may be less aggressive with older or larger children. Pair a shy child with a friendly, outgoing one, and form small groups in which less outgoing children feel welcome (Wittmer & Honig, 1994).

Avoid unchanging or even semi-permanent ability or skill groups; research shows these may stigmatize and track children, narrowing their opportunities to learn (Manning & Lucking, 1990; Oakes, 1991; Slavin, 1987). Group children on functional competence and need related to specific developmental or learning areas, not on overall perception of ability or achievement. With skillful planning, subgroups can be formed, accomplish their purposes, and then disband. Intentionally alternate groupings so there is planned variety in the way children interact with each other and with the adults in the room. Interdependent cooperative learning groups mix children with differing skills and knowledge so children learn from each other; the group itself becomes a way to learn both social and academic skills (Newman, Griffin, & Cole, 1989).

Activities can be geared to the needs of one group, while others participate if they wish. Children who have mastered a certain development or learning often enjoy and benefit from repetition, just as they reread favorite books. For example, in a game designed to help a specific group of children learn the concepts "more," "less," and "equal," some children may be learning these concepts, others might be hearing and repeating the terms, and still others would be using the terms spontaneously, in conversational interchanges, or in giving directions as the game leader.

Watch "Sue Bredekamp on Formative Assessment, Part 3" to see Dr. Bredekamp talk about using the results of formative assessment to individualize instruction. Based on this video, what would you say to a teacher who believes that it is not feasible to individualize instruction in a preschool classroom? (https://www.youtube.com/watch?v=3pfYuPP4PKI&list=UUp5vOsvjvrdybDGnisImW2Q&index=3&spfreload=1--individualized)

Mixed-Age Classes

Typical early childhood groups are categorized by age. Mixed-age classes open up new possibilities for meeting children's assessed needs. There are indications that social development, particularly leadership and prosocial behavior, is enhanced. Interaction between less able ("novices") and more able ("experts") children may have academic and social benefits for both. Children who are slightly older and more proficient may be operating in another child's Zone of Proximal Development (see Chapter 7) and thus be able to provide the appropriate amount of modeling and guidance to help the learner (Katz, Evangelou, & Hartman, 1990). Children will need some specific guidance if the benefits of this approach are to be realized. Katz and associates (1990) suggest that children be helped to ask for and give assistance; that teachers guard against exploiting older children as helpers and discourage stereotyping by age; that children be sensitized to their peers' emotional needs and help them know how to respond; and that children be helped to know their peers' interests, needs, and capabilities. The opportunity to help another student can increase the "expert's" motivation as well as the actual

bic exercise, group discussion and problem solving, listening to books being read aloud, and many other activities. Even activities traditionally thought of as self-selected or individual may have components that involve the whole group. For example, some physical development experts suggest that outdoor playtimes begin with a group "warm-up," with everyone walking and then walking briskly, before children proceed to their chosen activities. Everyone should also participate in a "cool-down" as a transition from outdoor play to the next activity. An "individually appropriate" activity does not mean that children do everything as individuals.

Attractive, interesting learning centers are another way to make learning experiences available to every child. Children work in these at their own level and pace according to their interest and available time. For instance, children who are learning to express themselves in writing might be expected to write in their journals or work in the writing center sometime during the day. The choice of when to write is theirs. Children involved in project work can be expected to solve certain mathematical problems related to the project. They may not all do it at one time or in the same way, but everyone will have the experience. Monitor participation. If some children don't participate, try modifications in placement, materials, competing activities, time, and adult involvement before deciding the approach doesn't work. Participation doesn't have to be daily but can be over a period of time.

Child-selected or free-choice activities can also reach all the children in the group, provided the activities are interesting enough and children have an extended period of time to work through their choices. Monitor participation to make sure children who need the experience get it.

Children can also be assigned to groups that rotate to appropriate activities at set intervals, although it is difficult to make such groups flexible enough to accommodate young children's varying interest levels, task orientations, and pace. Another option is to have children participate in "everyone needs to do this" as individuals. Choose interesting and intrinsically rewarding activities, and offer them often. Computers, tricycles, reading or looking at books, writing, puzzles, art, scientific observations, and many problems based on manipulatives can serve as individual activities.

Curriculum and Classroom Modification Strategies

Differentiating curriculum to make it responsive to children's strengths and needs as determined by assessment requires modification of classroom activities.

Allocate Time and Space in Different Ways to Achieve Different Results

Teachers make most of the decisions about how much time to spend on a goal, subject, or activity. They also decide on the space arrangement in the room. These easily manipulated variables can help make the classroom more supportive of

- Children have to walk through the middle of the block area to get to the bathroom.
- Children have to stand up or lean into other children to see the pictures during story time.
- Children finish their work early and have nothing to do except visit with the other children who are supposed to be working.

Changing the allocation of time and space is also a way to give more or less emphasis to a particular activity or curriculum area. However, the effect of time and space on children's involvement and learning has to be carefully monitored so that more does not become "too much." Here are some issues to consider:

- Too many children in a dramatic play center might mean that positive social interactions and good dramatic play never occur because children are fighting over scarce props or are constantly bumping into each other. Too few children might mean that play never gets started.
- Crowding during the opening class meeting seems to cause many social problems, but spreading the children out too much means the children are so scattered the teacher cannot maintain their attention, they can't see visuals—even "big books"—and the feeling of being a group is lost.
- Suppose assessment indicates that most of the children would benefit from extensive work and play with math manipulatives. The teacher decides to leave 1-inch interlocking cubes out for children to use whenever they want. Monitoring reveals that use increases immediately, then falls off as the cubes blend into the shelves. Replanning, the teacher tries another approach. Interlocking cubes, attribute and pattern blocks, and other math manipulatives will be rotated, with the time for rotation guided by the level of use.

A related problem is having too little time to help children master the large number of expected outcomes. Integrate expected learning so children learn several things simultaneously. Children do not distinguish one area of development or one subject matter from another. Key academic concepts and vocabulary—such as the words used to contrast and compare, express relationships, and describe objects and events—should be used across the curriculum.

Reading, writing, listening, speaking, and literature can be learned simultaneously. Science, mathematics, problem solving, symbolic representation, physical development, and other learnings are merged as children work, play, and experiment with manipulative equipment, water and sand, weighing and measuring, cooking, music, movement, and art. Such integration—combined with the use of learning centers, individual activities, and small flexible groups—allows teachers to do away with rigid time periods and creates a classroom that allows children to work at their own pace and enjoy "in-depth" exploration of topics, both within a day and over longer periods of time. Children who need plenty of time and practice for mastery of key concepts and skills are not left behind.

first letters of their names. Four children can construct and read their own maps; three don't know what maps are. The other children are at all points in between.

Fortunately, almost any activity, content, or process in which young children are involved can be made either simpler or more complex (Hendrick & Weisman, 2013). Multilevel activities and materials enable each child to achieve success and continued learning. Some of the very best material for children's learning is open ended: counting cubes, blocks, pattern and attribute blocks, modeling clay, books, drawing and writing materials, movement, music, art materials, and many others. Plan to adapt the same basic material and activities to meet the assessed needs of particular children. Teachers often have to open up different possibilities for children, such as supplying accessories, signs, and suggestions for extended block play.

Any classroom with children who need language and literacy development should have a prominent, changing, and varied display of books, functional signs, posters, and other written material keyed to children's interests and backgrounds. Youngsters who are learning to sort and classify need many opportunities to explore a wide variety of structured and natural materials on their own and to solve specific classification problems. Emerging literacy—at whatever age—calls for writing instruments and paper of all kinds to be placed strategically around the room. Materials and activities should be gender-neutral or clearly include both boys and girls. Plan procedures that ensure equal access to computers, science and math apparatus, dolls, blocks, and challenging physical games. Avoid activities that may be gender-stereotyped.

Use Any Apparent Sequence

Although not everything can be sequenced, it makes sense to use known learning progressions. Give children experiences to help them understand a concept before they are expected to say and comprehend the words that stand for that concept. Make sure children understand directions before they are expected to follow them. Show children how to share and take turns before admonishing them to do so. Use Appendix A to identify sequences from child development and learning research.

Some sequences are fairly evident from the way children develop. Larger manipulatives (beads, pegs, interlocking blocks, parquetry) are usually easier to use than small ones; mixing, pounding, squeezing, and rolling modeling clay directly with the hands is easier than with tools. Tracing inside a cut-out template is easier than tracing around the outside. Printing large letters without regard for lines is easier than printing on lines. Cutting out a circle is easier than cutting out an angled figure. Whole-hand fingerplays are easier than ones calling for individual finger movement, which in turn are easier than complicated, two-hand coordinated ones. Many adults have difficulty alternating index finger and thumb to make the eensy weensy spider climb!

Use Results to Plan Scaffolding

The term *scaffolding* (Wood, Bruner, & Ross, 1976) refers to the support that teachers, materials, other children, or interactions between the child and others

(Chapter 4).

Plan ways to scaffold children's performances on important tasks, based on their needs. Thinking through various ways to provide different levels of assistance gives the teacher the flexibility to provide more or less support or a different type of scaffold. As an example, let's look at some ways to provide scaffolding for a child learning to sort squares (or other objects) by size: verbal clues, modeling, doing a portion of the task, and providing hand-over-hand support. (There are other ways, too.) The examples go from the least amount of assistance (verbal clues) to the maximum amount of assistance (physical assistance).

- *Provide a verbal clue.* Point out something the child might have missed or a critical feature of the task. For example, if Jason is sorting objects by size but keeps changing to color, the teacher (Mrs. Morgan) might say, "The color doesn't matter" and wait to see if the prompt helped. Vary the amount of verbal coaching. For example, Mrs. Morgan might give one clue or might have to talk Jason all the way through the task.
- *Provide verbal support and model what to do.* Mrs. Morgan might say, "Put the big squares here and the small squares here," as she demonstrates where to put each piece. She then might ask the child to say it with her or to repeat after her. Also, perhaps Mrs. Morgan might ask, "Where should I put this square?" and have Jason answer.
- *Do only a portion of the task.* For example, the initial task might be to sort by size squares (objects) of only one color, or only enough squares to establish the basis for sorting. The teacher will state the process ("Put the big squares here . . .") and have the child repeat those words.
- *Provide hand-over-hand support.* Mrs. Morgan may provide physical support by placing her hand over Jason's hand and actually put the squares in the correct piles. After a few repeats, she should try releasing her hand to see if Jason can continue the action or needs help all the way through, as she and the child say what is being done.

Just as the scaffolding is removed from the building when its walls are able to stand alone, so the teacher must plan ways of making the child gradually responsible for performance of the task. Scaffolding has another implication—the teacher knows what the end skill is going to look like and how to get to it. Thus, the support is given in such a way that it fosters the child's ability to eventually perform independently. Both the support and its removal are provided in a conscious manner (Bodrova & Leong, 2007).

As another example, a teacher provides a scaffold for a child's counting by holding the child's hand and showing her how to move it as they point and count together. As they work, the teacher begins to omit a number to see if the child can say it on her own. When the child seems able to say the numbers by herself, the teacher only points with the child. In the next step the teacher doesn't point but simply watches the child point and count aloud, progressing from assisted, or scaffolded, counting to independent counting.

Look at the Need for Possible Change in Procedures

Suppose participation charts show that more than half the children seldom talk during class meetings, group discussions, circle time, or any teacher-led activity—not an uncommon finding. Before wondering what is wrong with the children, the teacher should examine her or his own patterns of interaction. For instance, does he call on the children who readily respond? Does he answer his own questions? Does he allow so little wait time that thoughtful children are still thinking about an answer when the next question comes? Plan interaction techniques to stimulate more children to participate, such as calling on all the children and valuing their responses.

Rethink and Restructure to Meet Children "Where They Are"

Many children don't match the curriculum guide, activities handbook, or expected sequence of goals and objectives. There are differences in each and every child—personalities, cognitive development, learning aptitude, social skills, and much more. Professional teachers must know child development and the expected outcomes of education well enough to simplify, delete, extend, elaborate, and embellish curriculum content and processes so they are developmentally and individually appropriate for the children. Teachers have to know how to construct curriculum when no guides exist.

Examples of Using Assessment Information to Guide Instruction

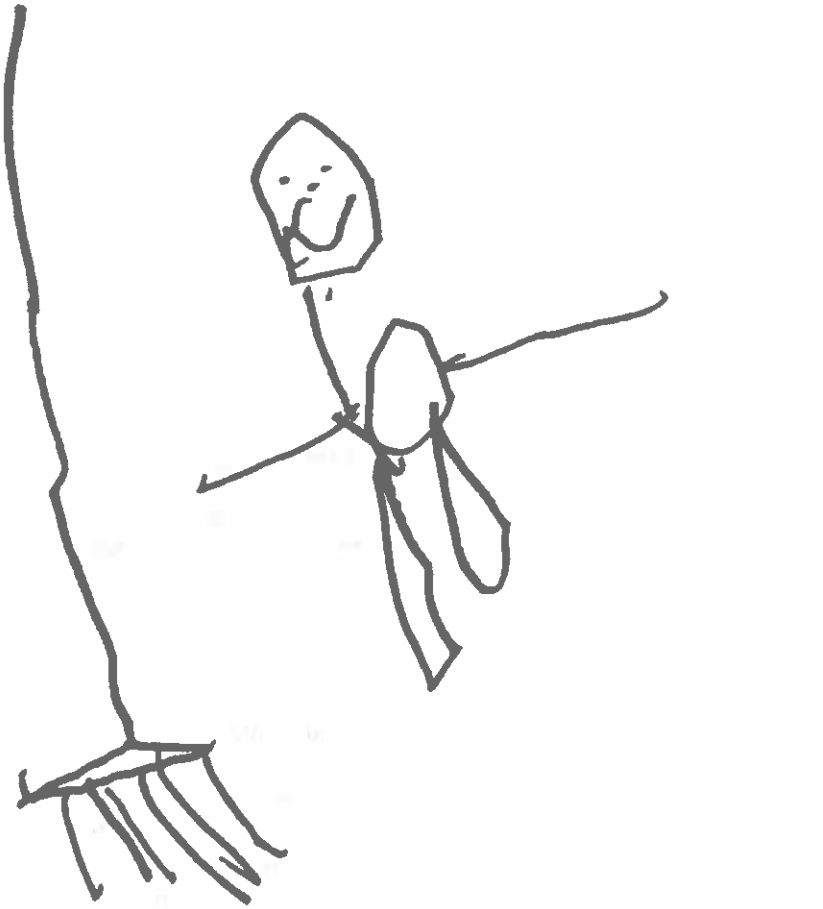
Examples of ways teachers use assessment information to inform and guide instruction are given throughout the previous chapters. The intent is to show possibilities, not to prescribe a single approach. The simple examples that follow are chosen from typical curriculum areas in early childhood education. For other examples, see the Suggested Readings at the end of the chapter.

Play Planning

Mr. Frankel's assessment during dramatic play revealed that Tony, LaTessa, and Jerry sometimes engaged in play that became angry and occasionally physically violent. His attempts to let the three of them work it out usually led to crying and disintegration of the play. If Mr. Frankel were to remove all the props they argued about, the playhouse would be bereft of any props at all. When asked what they could do next time to avoid an argument, all three children seem to be able to state reasonable alternatives: "We should use our words"; "I shouldn't hit him"; "We should take turns." But once they are at play, bickering stops only when Mr. Frankel enters the dramatic play area and directly intervenes. These

in detail, but simply as a reminder) what they plan to do, as shown in Figure 8.1 and Figure 8.2. Have the children who plan to go to the same dramatic play center decide what they will play together and what props they need. Assist the planning if children need coaching on how to choose an appropriate theme or divide roles without arguing. If they can plan independently, have them show

Figure 8.1 Child's Plan for Play—Dictated



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and explain the plan after it is done. We have yet to see children plan to fight! They always plan to work together and to have fun.

Planning their play prevents many of the arguments that children have over objects or roles. If there is only one ballerina costume, children can work out a solution. When children enter the play area with a solution to the "one costume" problem ahead of time, they usually do not fight or argue when they get there. Planning avoids conflict over roles, such as who will be the doctor. Appealing related roles can be suggested (receptionist, technician, nurse), or different types of doctors can be proposed (surgeon, heart doctor, X-ray reader). And don't forget: Doctors need patients!

Planning play allows the teacher to stay out of disputes. Asking "Was this part of your plan?" is often sufficient to stop the altercation and get everyone back on track. More important in the long run, such planning helps children learn to think ahead, interact, solve potential problems, and make their own play more productive. They begin to imitate and practice the advanced social

Small Muscle/Fine Motor Development

Assessment of kindergarten children's fine motor development identifies several who are having difficulty cutting. They can't hold either paper or scissors to make them work. One parent explained that crayons, pencils, markers, and scissors were off limits to the children in their house because they marked on the walls and messed up the house. Other parents had difficulty providing food, let alone scissors and paper.

The teacher should plan opportunities for all types of fine motor development. Incidental learning, such as that in unplanned manipulative play or art, probably will not be enough. Provide a center or area that focuses on needs, or incorporate skill development into appropriate existing functional areas or centers. Develop an office area with discarded cell phones, paper and pencils, scissors, a keyboard, a mouse, sticky notes, and other office tools. Create a center with writing, drawing, and cutting tools. Vary the manipulatives area to provide needed skill building. Incorporate "real-life" materials to add interest, variety, choice, and practice with a variety of fine motor motions—paper punches and fasteners, paperclips, nuts and bolts, wrenches, screwdrivers, hand drills, egg beaters, all types of fasteners and closures—any appropriate tools to help develop strength, dexterity, coordination, and control.

Plan specific assistance for those youngsters who are still learning to use scissors. Use a developmental sequence for cutting to sequence the assistance. Show children how to hold both scissors and paper "thumbs up" and to say "thumbs up" as a reminder. Put a dot on the paper in the place where the thumb is supposed to go. The dot and the "thumbs up" serve as prompts or "mediators." Start with strips of paper, gradually making them wider as children learn. When children need practice to advance from snipping to a smooth single cut, have them cut pretend "straw" for the horses and cows, or imaginary pretzels, carrots, and celery sticks for a pretend snack. Let children snip strips or punch confetti for a collage. The teacher's job is not to withhold assistance, but to support those children who need help in learning certain skills and then to let the children take over. There is quite enough for children to learn on their own. By observing the awkward and laborious ways many older children and adults write with pen and pencil, the teacher will better appreciate the importance of guiding and providing young children with practice in fine motor skills.

Early Literacy Development

Assessment of a typical state standard for preschool, "name writing"—the child's ability to write his or her own name—reveals a wide range of ability in the classroom. Mrs. Eagan has assessed students individually during center time by asking each child to write his or her name on a sheet of paper so that she can determine who is in each learning center. It has taken two days to watch each child's attempt at name writing. One group of children includes students such as Megan and Estefan, who can already write their first names easily. Another group of children includes students such as Martin, who writes his name backward,

to work with some children individually.

As part of the name writing scaffold, the teacher provides a model of each child's name. As she works with the children individually, Mrs. Eagan will modify the model in order to provide different levels of support. The model is a "name tag"—a 6-inch strip of laminated tagboard with the child's first name written in capital and lowercase letters. The child's last name is on the back. Each name tag has the scaffold that particular child needs and no more. The name tags are placed in a different spot at the sign-in table each day, so children have to identify their names. The examples that follow illustrate ways to provide scaffolds for children at varying levels of ability. Each example begins with a description of the child's independent level of performance.

- Awan cannot recognize his name or write any of the letters. On Awan's name tag, Mrs. Eagan pastes his picture temporarily next to the first letter of his name and then draws a line under the *A* with a wipe-off marker (Figure 8.3). When Awan walks in the classroom, the teacher helps him find his name tag. When he finds his picture, Mrs. Eagan points out that another way to find his name is to look for the letter *A* that she has underlined. She helps him write that letter. The next day, Awan is encouraged to look for the letter and not just his picture. Mrs. Eagan has folded the picture under to see if Awan can find his name using the first letter only. If he cannot, the teacher tells him to see if his picture is attached to the name tag. That way he will know if it is his name—without the teacher's help. (If there are two children whose names begin with *A*, underline the first two or more letters instead of just the first.) Mrs. Eagan encourages Awan to write the *A* and to try writing the other letters. She adds supports similar to those on Chris's tag as Awan progresses.

Figure 8.3 Sample of Children's Name Writing

- Chris writes some letters of his name. Mrs. Eagan places Chris's name tag with the first name showing. When Chris signs in, she points out that he knows how to write *C* and *i* and she'll have him try to write the letters *h*, *r*, and *s*, as she points to the name tag. If he cannot write the *h*, the teacher shows him how and underlines it with the marker to help him remember (Figure 8.4). When Chris can write *Ch*, Mrs. Eagan erases the line under the *h* and moves onto the next letter, *r*. Children like Chris might learn two and even three letters at a time. The teacher continues to underline each of the letters she wants Chris to remember. On following days, she gives verbal prompts and demonstrates writing as needed.

- Martin knows the letters of his name but writes them in order backward: "nitraM." On Martin's name tag (first name showing) Mrs. Eagan uses a wipe-off marker to draw a dot under the first letter of Martin's name and an arrow extending from the dot to the last letter of his name to indicate the direction he is to write (Figure 8.5). When Martin signs in, the teacher puts a dot and arrow on his sign-in sheet so that it matches his name tag. She encourages Martin to start at the dot with the letter *M* and then write the *a* next, then the *r* next, and so on, indicating the direction of the arrow. The next day, Mrs. Eagan gives a verbal prompt. As soon as she thinks Martin understands the direction he is to write, she removes the arrow. When he can write his name without support, the dot is erased. Martin will then be ready to write his last name.

Figure 8.5 Sample of Children's Name Writing

- For children such as Megan Johnson and Estefan Ramirez, who can write their first names correctly from memory, the teacher starts the activity with the last name displayed on their name tags (Figure 8.6 and Figure 8.7). When they sign in, she tells them to write their first and last names. When the children can write their first and last names, Mrs. Eagan puts the name tags away, as she will now want them to write their names from memory.

Figure 8.6 Sample of Children's Name Writing

Figure 8.7 Sample of Children's Name Writing

or her name. That child is next in line. Also, the teacher might place the name tags in different locations at the lunch table and the children will sit where they see their names. Functional practice in different contexts will also help. Children can sign in to be the next in line for playing at a center. They can sign their names on participation charts, as well as on charts that show what food they like or their favorite color. Children can write their names on artwork and other papers. The teacher's assessment of the level of the child's ability to write her or his own name is the first step in planning and implementing effective support for learning.

Summary

Teachers can use assessment information to help children develop and learn by employing a combination of thoughtful planning, meeting individual and group needs in a variety of ways, and modifying the classroom and curriculum to be more responsive to assessed needs. Thoughtful planning consists of planning intended changes and adjustments; referring to assessment files and summaries during planning; allowing time for reflection; planning strategies and activities to meet children's assessed needs; incorporating current knowledge and resources; planning for and with other people in the classroom; and balancing what they might like to do with what is possible.

Meeting the needs of individual children within the context of a classroom is a challenge. Varied approaches help differentiate instruction when one or two children need specific attention, when several children would benefit, when an entire group would benefit, and in a mixed-age classroom.

To successfully modify and adjust the curriculum and classroom to meet children's needs, teachers must select and arrange equipment, materials, and supplies in response to assessment results; use appropriate sequences for simplifying or increasing complexity; consider the need for possible changes in classroom procedures; and rethink and restructure curriculum if needed. By using the concept of scaffolding, teachers may plan what they will do with a specific child or group of children, provide necessary supports, and then remove the supports as the child is able to perform independently.

Within the context of a developmentally appropriate curriculum, plan specific activities and intentional teaching to help meet children's development and learning needs. Such needs are unlikely to be met by incidental learning alone. Several examples showed how this can be accomplished.

Check Your Understanding 8.1: Click here to gauge your understanding of chapter concepts.

Media Connections 8.1: Click here to apply your understanding of chapter concepts.

time; others spread it out, entering plans as insights occur to them; and still others use different approaches. We recommend that you allow time for reflection on assessment results and classroom processes as you are planning. Examine your own planning style. When will that reflection take place?

For Further Study and Discussion

1. Interview one or more teachers to learn how they plan to meet the assessed needs of children in their classrooms. Within your adult learning group (college class or staff development group), interview representatives from both preschool and primary levels. As a group, or as individuals, analyze their responses. What conclusions can you draw?
2. Assessment has revealed several needs within a kindergarten group: three children are having difficulty entering a play or work group, either indoors or out; four youngsters are obviously lost when discussion turns to comparisons of likenesses and differences (specifically, they neither comprehend nor use the terms *the same as* and *different from*); and two children are having difficulty classifying objects or pictures of objects on any basis except observable attributes (color, shape, size). Select one of these needs, and plan a course of action to help children within the context of a developmentally appropriate curriculum.
3. After conducting several assessments, you find three clusters of children with similar skills. Cluster 1 needs practice hopping, cluster 2 has already mastered the skill, and cluster 3 cannot hop at all. Discuss how you might develop multilevel activities that will benefit all the children. Describe several ways you could work with the children.

Suggested Readings

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