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Assessment and Planning

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Shawna

Shawnna is an elementary school student with multiple, severe disabilities who received preschool services. She has cerebral palsy and a severe intellectual disability. She is receiving an updated multidisciplinary assessment and new IEP. She is in the fourth grade and will be participating in alternate assessment based on alternate achievement standards for the first time. Shawnna is being raised by a grandmother and her aunt. She communicates by gazing at pictures, using her eyes to request basic needs. Shawnna has a strong preference for socializing with people and will make loud noises if ignored for too long.

Jose is enrolling in a middle school and recently moved from Mexico to a small town in the USA. His father has been working in the US for several years and recently relocated the family

so Jose can receive a better education. The school psychologist's initial interactions with Jose and his family revealed that an older sister is the most fluent in English. Jose has some behaviors that suggest both the need for screening for autism spectrum disorder (ASD) and a functional behavioral assessment (FBA). Jose will repeat expressions in English or Spanish (immediate echolalia), but he initiates almost no language. Jose has prolonged tantrums if there is any change in his daily routine. He is also obsessed with string and prefers to spend most of his time twirling string or wrapping his hands in it. He becomes aggressive toward anyone who tries to take his string. He has no formal communication system in English at this time. His level of understanding or use of Spanish is not yet fully understood.

Larry

Larry is 16 years old and attends his neighborhood high school. He has Down syndrome and has been classified as moderately intellectually disabled. Larry talks and can engage in simple conversations. Over the years, he has learned to read simple passages and can do some basic computation with a calculator. In recent years, he began expanding his academic skills by doing modified academics in his general education classes. Larry really likes school and doing academic work. He often asks his teachers for homework. Larry's parents worry that he likes school too much and want him to consider what he will do after high school.

ASSUMPTIONS OF ASSESSMENT

Educational assessment involves a process of inquiry about students to discover what they know and can do for purposes of planning educational services. It requires gathering information to make decisions. Perhaps most important, assessment reflects underlying assumptions about students. If these underlying assumptions are flawed, then the entire process of gathering information will be skewed and of questionable benefit to the student. Some years ago, Donnellan (1984) proposed a criterion of "the least dangerous assumption" that educational decisions should be based on assumptions that will have the least dangerous effect on a student's likelihood of functioning as an adult. She also advocated that all students can learn and proposed that when learning does not take place the fault probably lies with the instructional strategies. When assessment applies the least dangerous assumption, educators focus on gathering information on the supports and skills students need to acquire to have as optimal a life as possible. Also, the assumption that all students can learn motivates educators to conduct assessments to discover what students have learned and how they might best be taught. Assuming that all students can learn focuses the entire assessment process on promoting the student's competence rather than emphasizing deficits.

Jorgensen (2005) built on Donnellan's assumptions to propose that all students can learn general education content. Sometimes in the past, an assumption was made that an IQ score or mental age could be used to plan educational placement and content. For example, students with IQ scores below 55 were labeled "trainable" assuming they should be "trained" to learn basic skills, rather than being labeled "educable" for academics. As Jorgensen notes, IQ and mental age scores often are not indicative of the abilities of students who have complex and multiple disabilities. It is far less dangerous to assume students can learn academic content appropriate to their grade and age than to deny them this educational opportunity. Jorgensen proposes that educators assume that all people have different talents and skills, all children can learn when supported and provided with high expectations, and that intelligence is multidimensional. No single test, score, or educational label can provide a prediction of what a student can achieve.

If educators assume that all students can learn, assessment becomes a capacity-building pursuit. That is, the evaluator seeks to identify a foundation of strengths the student can use to gain additional competence. A clear picture of the student's challenges also is needed to guide consideration of the types of support that will be needed. This is much different than a deficit-finding approach to assessment in which

scores or skill deficits are used to set low expectations. In a capacity-building approach, educators seek to understand how to individualize educational services for the student's specific needs. When the assumption is that all students can learn, educators exercise care in avoiding assessment strategies that are biased against students' individual characteristics. For example, an assessment that requires speech to indicate current reading ability would be biased against a student who uses a picture communication system or manual signing. An assessment that uses a printed text format would be biased against a student who is blind. An assessment given in English would not likely capture the achievement of a student who is new to this language.

Because students with severe disabilities often present unique challenges, educators will need to be creative in discovering strengths and achievements. One of the first and most important goals of an assessment should be to determine how the student communicates. All behavior communicates (see Chapter 7). For example, Jose in the case study at the beginning of this chapter does not have a formal system of symbolic communication. He does not yet use speech, pictures, signs, or other means to express communication in English or Spanish. In contrast, all of Jose's behavior is communicative. For example, he may pull away or scream to refuse unwanted attention. He may grab for items he wants but does not know how to request. His echolalia may be his way of saying he does not understand or it may be his attempt to begin using English, or to elicit social interaction. Whether he uses spoken Spanish at home is not yet known. What also is not yet understood is what Jose understands receptively in either English or his native Spanish. Obviously, there is much Jose's teaching team will need to learn about his communication before beginning to assess other areas like reading, math, and daily living skills.

Shawnna is considered social because she has learned to use her non-verbal behaviors in ways that procure and sustain attention from others. She will roll her eyes to joke, vocalize a high-pitched sound to gain attention, and drop her head and close her eyes when angry or upset. Because she also can use her eyes to make a selection (e.g., to choose the correct response when shown an array of four pictures), Shawnna has a strategy for showing a lot of her current achievements when she is assessed. In contrast, students who have not yet learned consistent responses like Shawnna may seem to be unresponsive. Even if the student knows the answer, he or she may not be able to indicate a response because a communication system has not been fully developed. In the movie, *My Left Foot,* Christy Brown, a boy with a severe physical disability, is assumed to have no academic ability because he does not have a way to communicate. In one scene, Christy watches in frustration as his sister struggles to do her math homework. As their father asks his sister to solve the problem, Christy picks up chalk with his toes and writes the correct answer on the floor. Some students with severe disabilities are like Christy *with no chalk within reach.* That is, not having been offered a means to communicate, they have no way to tell others what they know. The least dangerous assumption would be that the student understands more than can be conveyed and to give the student full educational opportunities while working diligently to find a way for the student to communicate.

This understanding about communication leads to the second important assumption that will form a foundation for an assessment to build student competence. This assumption is that when students with severe disabilities have not demonstrated educational achievement in the past it may be because their communication systems are underdeveloped. For example, a student cannot indicate understanding of the solar system or communicate with a peer about a favorite singer with a communication system that only has basic needs like "eat" and "toilet." Kleinert, Kearns, and Kleinert (2010) suggest several steps to promote communicative competence. First, a team observes to consider how the student currently communicates. Potential barriers to communication, like physical challenges, also are considered. Next, the team gathers information about whether the student has sufficient opportunities to communicate and whether adequate augmentative and alternative communication (AAC) is needed. Using this information, the team identifies how the student communicates and how to

build further competence. If needed, the team develops a communication system that includes promoting the use of symbols.

Building the student's communicative competence will likely be an ongoing focus for team planning. All assessments need to begin with understanding how a student communicates and identifying any potential barriers for the student to show what he or she knows. For example, any assessment of Jose's literacy skills requires understanding how he communicates or it may lead to erroneous conclusions that he does not comprehend text.

A third important assumption is that assessment must be responsive to the student's language, cultural heritage, and disability. When an assessment reflects the perspective of only one cultural group, results may be biased against students from other groups. Although students with severe disabilities may have a limited repertoire of speech and symbols, it is possible for them to be multilingual within this repertoire. For example, a hearing-impaired student who immigrates to the United States may have mastered sign language that differs from American Sign Language (ASL) and may be able to lip-read some words in his or her native language. Simply providing an ASL interpreter for an assessment will not likely yield information on what the student knows, but collaborating with the family to gain knowledge of the student's known signs and words could be very beneficial. A student like Jose might have a repertoire of words and symbols across languages. He might know the Spanish word for restroom, the English word "McDonald's," the icon to find his Angry Birds game on the computer, and a hand signal his mother uses for bedtime. Students with severe disabilities who live in countries that are multilingual (e.g., Singapore) might know and use words in more than two languages. In addition to understanding what the student understands, it also is important to include the family's perspective to know what is culturally relevant when conducting the assessment. Daily living and social behavior are two examples of skill areas where cultural differences can be critical to planning relevant educational goals.

To summarize, the assumptions that form the foundation of an assessment can either promote a capacity-building approach or a deficit-finding approach. If the assumption is that all students can learn and that education should promote students' ability to function with as much independence as possible both now and in the future, educators will use assessment to identify the supports and instructional strategies needed to reach this goal. Table 3–1 states the three primary assumptions in assessing students with severe disabilities.

TABLE 3–1

Three Assumptions for Assessing Students with Severe Disabilities

1. **All students can learn.**
   a. All students can learn skills that are appropriate to their age and grade level.
   b. All educational assessment should have the purpose of building students' capacity and opportunities.
2. **All students communicate, but they may not yet be able to show all they know.**
   a. All students communicate although they may still need to learn to use systems and symbols that are more widely understood and capable of conveying more complex concepts.
   b. Current achievement may reflect a lack of educational opportunity or an underdeveloped communication system.
   c. When given increased opportunity and a way to show what they know, students will likely meet higher expectations.
   d. When it is difficult to determine what a student knows due to the need for developing a communication system, it is a less dangerous assumption to assume the student will still benefit from receiving a full educational opportunity than to deny this and find out later the student knew more than realized.
3. **All students live in a cultural context that has implications for assessment.**
   a. Assessment should be unbiased and not discriminate against a student's culture, primary language, or disability.
   b. Including the family's perspective in assessment and planning helps make outcomes more culturally relevant.

QUALITIES AND TYPES OF ASSESSMENT

In addition to being clear on the assumptions that will provide the foundation of assessment, educators will want to be familiar with the full range of assessments available. A concept in assessment known as the "law of the instrument" states that when all you have is a hammer, everything looks like a nail (Kaplan, 1964). Educators will want to avoid relying on one assessment tool and making decisions using only one instrument. It is also important that the instrument used has the technical quality to make informed decisions.

Technical Adequacy

When evaluating the technical quality of an assessment instrument, educators will need to become familiar with the concepts of validity and reliability. Without confidence in the content of the instrument and consistency of outcomes, information resulting from administration of the instrument is not beneficial.

Validity

Validity is the degree to which an instrument measures what it is supposed to measure. In order for meaningful interpretation of results to occur, a test must be valid. If the content measured by the instrument does not align with the purpose of the instrument, then it lacks validity (i.e., content validity). A test of intelligence is not a valid measure of reading ability. Content validity is also lacking when test items do not sample the skill or concept to be tested. Consider the teacher who wants to assess how many fourth-grade science concepts the student has mastered. If the teacher does not understand the science constructs, the assessment may not measure the intended standards. This becomes apparent when the teacher uses a true-false question to ask whether magnets stick to metal, not realizing that magnets only stick to ferrous metals. So the answer is not true or false but true in some instances. The flawed content being assessed is not a valid science concept. Content validity may also come into question if an assessment instrument does not sample enough skills to suggest competence. If a literacy assessment only addresses sight word knowledge, it would not be a valid test of literacy skills.

Reliability

While validity is concerned with content, reliability refers primarily to consistency. If a student is assessed repeatedly within a short time frame with the same assessment instrument, the student's score should remain the same. A test is reliable if it is measuring a stable trait of an individual (e.g., intellectual functioning) across time, and produces a similar result each time. In contrast, if the student is being assessed on an evolving skill (e.g., vocabulary acquisition) instead of a stable trait, repeated administrations of assessment are not expected to yield the same result. To assess the reliability of an evolving skill, the skill is assessed by more than one observer at the same time. If both observers recorded the same data, then the assessment is considered reliable. Reliability refers only to the consistency of measurement and is not an indication of content quality. Two observers may agree that the student makes a specific response on a math assessment, but the assessment itself may poorly reflect mathematical content.

Types of Assessments

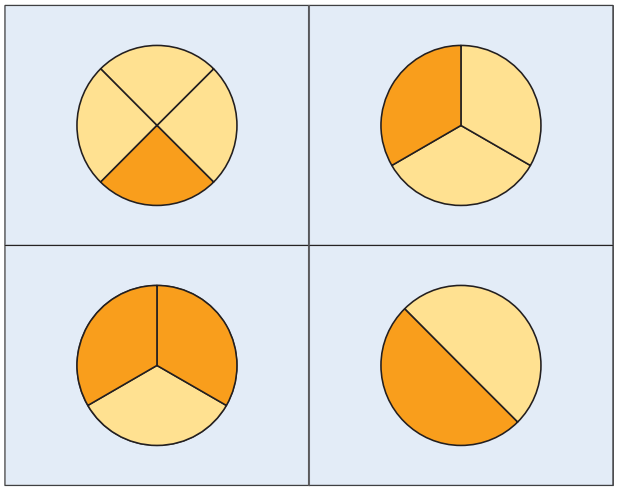
There are many ways to describe the range of assessments that are available for educators, including (a) how they are administered and scored (formal or informal), (b) when educational decisions are made (formative or summative), and (c) whether they are direct or indirect.

Formal and Informal Assessments

The first distinction that can be made between assessment methods is based on their administration and scoring procedures, which determine whether they are formal or informal. Formal or standardized assessments require that the conditions under which the assessments are administered are structured, and administrators must explicitly follow the testing manuals in all aspects of administration as well as scoring and interpreting results (McLoughlin & Lewis, 2008). If the test manual is not followed, the corresponding results may be invalid. These requirements can often present difficulties for individuals with severe disabilities, as they may not perform as well when removed from their natural routine (Brown, Lehr, & Snell, 2011). The majority of formal assessments require that the test administrators have some degree of training and familiarity in that particular assessment as well as with individuals with special needs and general special education assessment procedures. One way to make it possible for more students with severe disabilities to be able to participate fully in formal assessments (e.g., some state's alternate assessments) is to teach students test-taking skills. Many assessments use picture or word arrays as a response option with a verbal or written directive. Teachers may use a similar format during classroom instruction to give students the opportunity to show what they know. Most standardized assessments do not allow the administrator to give feedback on the correctness of the response. Teachers may introduce students to ongoing "tests" in which they are asked to make several responses before receiving feedback. Figure 3–1 provides an example of a multiple-choice picture format often used in standardized assessments. In this example, the student is to find the figure shaded to show one-third. Shawnna from the case studies may need some practice in how to respond to this "on-demand performance" format. She will need to learn to focus her eyes or a laser pointer on one quadrant of the four choices so an evaluator will be able to score her answer. She may need class practice to understand this response format with prompts to respond and feedback on her answers. Then she may also need to learn to practice taking a test in which she receives no prompt to respond or feedback on whether her response is correct. She may also need an accommodation such as enlarging the response board so she can tilt her head slightly to help indicate her eye-gaze answers.

Most standardized assessments allow for accommodations that do not change the construct of what is being assessed. For example, a science test may allow for a read-aloud of the written material for non-readers or braille for students who are blind. Students may be allowed to take the assessment in a private room or on a

FIGURE 3–1
A Multiple-Choice Picture Format Often Used in Standardized Assessments
Directions: Which of the following shows 1/3?



computer. Providing the student encouragement and reinforcement for general participation may also be allowable. Some students may benefit from having a work system (Hume & Odom, 2007) during standardized assessments to be able to anticipate how much longer the assessment will take. In a work system, visuals or objects are used to indicate how many more responses are required before a break is provided. A student may have 10 clips on an index card for a 10-item test. The student removes a clip after each answer as a way to monitor how many items are left before he or she can take a break. Additional breaks during testing may also be used as an accommodation.

Bolt and Roach (2009) note that a modification is different than an accommodation because it changes how the test can be used and interpreted. A calculator can be an accommodation if the focus in the math assessment is conceptual understanding, but would be a modification if the focus were factual knowledge. Dictation to a scribe would be an accommodation if the focus were how a student composes a communication, but would modify an assessment focused on the mechanics of writing. A read-aloud might be considered an accommodation for understanding the extent to which students can comprehend meaning of a text passage, but would modify an assessment focused on identifying a student's independent reading level. In general, educators should study the administration manual of a formal, standardized assessment or check with the school's testing coordinator to see what accommodations are allowable.

When using accommodations like extra breaks, dictation to a scribe, or a work system, the method used should be the same the student receives during instruction. Thompson, Morse, Sharpe, and Hall (2005) also recommend considering the student's and teachers' perspectives on how well the accommodation works and any difficulty in applying it to the testing situation. If an accommodation makes it more feasible for the student to show what he or she knows, it should be included during a formal assessment.

Most formal tests not only require standard administrations, but also have standardized or norm-referenced scores, meaning they compare the performance of one individual to that of the norm group. Scores are given as standardized scores or percentiles and are therefore used to interpret an individual's standing in relation to peers. An intelligence quotient (IQ) is an example of a standardized score. Standardized scores often have limited educational meaning for students with severe disabilities. These scores may be needed to confirm eligibility for services for students who are in the lowest percentile groups on some measure or for purposes of communication about a sample in research, but otherwise knowing a student is in the lowest percentile rarely offers much information for building capacity, or developing educational goals and objectives. Often test–retest reliability is poor for students in the extreme ranges of a normative sample and students with severe disabilities may not even have been included in the sample on which the test was originally norm-referenced. For these reasons, no educational decisions (e.g., educational placement) should be made on a single norm-referenced score (e.g., IQ).

Not all formal assessments use norm-referenced scores. Sometimes assessments are criterion-referenced. That is, the student's score must meet some specified level to be considered indicative of achievement of the construct being assessed. The most prevalent example of this for students with severe disabilities is the proficiency score given for state alternate assessments. No Child Left Behind Act of 2001 (NCLB, 2002) requires that states assess all students' achievement of state standards. Students with significant cognitive disabilities who cannot participate in the general assessment, even with accommodations, must be given an alternate assessment. To determine whether or not students in these assessments have met expectations for achievement, standards are set for what is considered proficient, above proficient, and below proficient. Although there is a variety of ways to set standards, in one approach panels look at test items or students' responses and classify them into low, middle, and high

categories (e.g., below proficient, proficient, above proficient). These are used to develop written descriptions of performance at each level of achievement. Then cut-off scores are used to identify the number of points on the raw score of the assessment for each achievement level (Perie, 2010). For example, a student who gets 25 out of 33 items correct might be considered proficient. Note that alternate assessment scores are sometimes reported as percentiles, a norm-referenced score.

In contrast to formal assessments, informal assessments do not require standard administrations and can be individualized to the student. Informal assessments can be used to assess other school factors such as instructional and environmental variables (e.g., how many minutes of reading a student receives daily) as well as student learning (e.g., how many new words a student can read). Informal assessments of student learning are often directly linked to a student's curriculum and can be used to monitor ongoing student progress. The assessment can also be tailor-made for the student's mode of responding. For example, an informal assessment of a student's comprehension might allow students to respond by stating the answer, pointing to a picture, typing the answer, or signing the response. Some other examples of informal assessments are counting the number of steps a student gets correct while using a vending machine, tallying the number of times a student initiates communication, and scoring a paper-and-pencil math worksheet. While some informal assessments are commercially available (e.g., end-of-chapter test for a textbook), many will be teacher-made.

The scores on informal assessments are typically criterion-referenced, and compare the student's performance to a set criterion or curricular goals rather than the performance of a group (McLoughlin & Lewis, 2008). The criterion set for mastery depends on the target skill. A teacher may decide the student needs to get 100% of the steps correct on using the vending machine because not doing so will not lead to obtaining a soda when the teacher is not present. In contrast, the teacher may decide that 80% correct on the math worksheet is sufficient evidence of learning to move to the next skill while reviewing this content for maintenance.

Formative and Summative Assessments

Assessments can be formative or summative, with the frequency and purpose determining which category applies. When information on student progress toward a specific skill is gathered frequently with the purpose of informing instructional practices and will be used to make decisions about instruction, it is called a formative assessment. These assessments are more likely to be informal and may be seen by the student and teacher as a learning experience or part of the learning and teaching process (Sidentop & Tannehill, 2000). Summative assessments, on the other hand, occur at the end of a longer learning unit or amount of time, such as a unit, semester, or year, and are used to assess overall student progress. Summative assessments generally encompass multiple skills learned over a long period of time and may be informal (e.g., teacher's unit test) or formal (e.g., alternate assessment given at end of the year).

The pitfall of relying on *summative* assessments is that educational decisions may need to be made when it is too late for the teacher to improve instruction. For example, if a teacher receives information at the end of the school year that the student is not proficient in English language arts on the state's alternate assessment, there is little that can be done until the next year. In contrast, formative assessments can be developed that permit instructional decisions throughout the school year. Formative assessments do not have to be informal. Some states and school systems may offer formal formative assessments in which students take practice items similar to the end-of-year alternate assessment in the same standard format. This can permit students to become familiar with the assessment format and help teachers determine if students are on track for mastering the content to be assessed. Teachers can also make their own informal formative assessments to create this same opportunity.

Formative assessments are often used for progress monitoring. To monitor progress, educators need both a method of assessment and a criterion for performance at a certain point in time. For example, a teacher may have an IEP objective for Shawnna to be able to initiate communication using a voice-output communication system. The criterion may be for her to make at least five initiations a day across at least three communication partners (e.g., teacher, paraprofessional, and peer). The formative assessment the teacher creates is a small tally sheet Shawnna has on her wheelchair tray table beside her communication devices. Her partners tally when Shawnna initiates communication. Each week, the teacher tallies how many communications per partner Shawnna had each day. Across weeks, the teacher begins to make decisions about whether Shawnna is showing enough of an increase in initiations or whether additional teaching strategies are needed. (See Chapter 4 for strategies to measure student behavior and learning.)

Direct or Indirect Assessments

The methods of assessing student progress also can be categorized as either direct or indirect. Direct assessments gather information about the individual through assessments (e.g., a test of math problems or assessment of steps to put on a coat), interviews (e.g., with teachers or parents), or observations (e.g., of duration of tantrum or frequency of use of communication system). The shortcoming of contriving a scenario to assess performance directly is that it may not provide information on whether or not the individual has generalized the skill to naturalistic settings. Observations of the student performing the skill in naturalistic settings can provide the additional information needed to determine if generalization has occurred. Larry from the case studies is an example of a student for whom some observations in naturalistic settings could inform the educational team about whether he knows how to apply the academic skills he loves learning. For example, can Larry apply his use of a calculator to compute tax when planning a purchase? Can he engage in an informal conversation about a favorite sports team after reading a column?

In contrast, sometimes students perform a skill in the naturalistic setting (e.g., identifying fractions during a math class or when cooking), but not in the contrived context (e.g., fractions test). This becomes especially concerning when the contrived context is linked to school or teacher accountability systems (e.g., performance on an alternate assessment that uses direct testing). One option is to give the student lots of informal opportunities for on-demand performance tasks so that he or she can learn how to take tests.

Another option is to use indirect methods to document what a student can do, especially when the student does not test well. When indirect assessment methods are used, information is gathered via other sources such as adults who are familiar with the individual or through a review of permanent student products, instructional data, or educational records. When significant others are interviewed, educators may need to use variations of "what," "when," and "how" questions to guide interviewees to specific descriptions of behaviors and skills (Cooper, Heron, & Heward, 2007).

State alternate assessments offer an example of direct and indirect assessments. Some states use performance-based assessments in which the teacher administers test items and scores the student's response. The performance-based assessment is used to assess how a student will perform the targeted skill(s) at a single point in time in a novel situation (Kearns, Burdge, Clayton, Denham, & Kleinert, 2006). The assessment may be computer-based with the teacher helping the student move to each item, reading the instructions, and then waiting for the student to select a response. In contrast, other states use indirect assessments such as a checklist that the teacher completes or a portfolio of student achievements. A portfolio includes multiple artifacts or evidences of student work or performance (Kearns, Burdge, Clayton, Denham, & Kleinert, 2006), but it may also include information from other sources such as observations, informal inventories, tests, questionnaires, and interviews (McLoughlin &

TABLE 3–2
Methods of Assessment

Component	Options	
Administration of the Assessment	**Formal:** Evaluator must follow the specific administration procedures for every student assessed. *Peabody Picture Vocabulary Test (PPVT-4)*	**Informal:** Evaluator determines how to administer the assessment. *Classroom Vocabulary Quiz*
Score to Be Reported	**Norm-referenced:** Results compare performance of individual to a normative group. *Intelligence Testing*	**Criterion-referenced:** Results compare performance to set criterion or curricular goal. *Supports Intensity Scale*
Timing of the Assessment	**Summative:** Test is conducted at the end of a learning unit to assess student knowledge. *End-of-unit math test; yearly alternate assessment*	**Formative:** Test is conducted frequently for the purpose of informing instructional practices and to modify or validate instruction. *Biweekly math probes*
How Information Is Obtained	**Direct:** Information is gathered directly from the individual through performance-based assessments or with observations. *Observation of student's off-task behavior; test of student's reading comprehension*	**Indirect:** Information is gathered through informants or artifacts. *Interview of classroom teacher about off-task behavior; portfolio of student's work in reading*

Lewis, 2008). Portfolios can be organized in a traditional format of paper artifacts in a three-ring binder or accordion file or in a technology-based system. The benefit of a technology-based system is that it decreases the amount of time it takes to compile artifacts and monitor progress, and can quickly be shared in a secure manner with other team members or parents. The use of technology-based portfolios also allows for artifacts such as video recordings and screen shots to be utilized, which give team members real-time information about a student's progress on prompting levels and social interactions (Stockall, Dennis, & Rueter, 2014).

To synthesize, an assessment can require standard administration for all recipients (formal) or be individualized to a student (informal). The process may involve collecting information over time (formative) or to evaluate achievement at some endpoint (summative). The format of the assessment may be a test or observation (direct) or may involve summarizing information through a checklist or portfolio (indirect). Table 3–2 provides examples of these different assessment formats.

PURPOSE OF ASSESSMENT

The assessment of individuals with severe disabilities may have a variety of purposes, including (a) eligibility for special education and related services, (b) school accountability, and (c) planning for instruction. Because assessment is essentially a decision-making process, it is crucial for the educational team to be clear on what decision will be made when the assessment is complete. An assessment to be used to document *eligibility* for special education services will need to identify the type and characteristics of the student's disability and will likely include some standardized scores from formal assessments. In contrast, an assessment for *progress monitoring* will utilize informal, formative assessments. Examples of the types of assessment used for each purpose will now be described.

Multidisciplinary Assessments Used to Determine Eligibility

The criteria for eligibility drive the assessments that are necessary when that is the purpose of assessment. For example, if a state requires an intellectual score, a multidisciplinary team will need to utilize assessments that will provide the best information for that purpose. However, individual characteristics should be taken into consideration of which assessments may be most appropriate for the individual.

Intelligence Testing

Intelligence testing is utilized to make identification and eligibility decisions in most school settings. The purpose of identification is to provide the supports and specialized education necessary for individuals to be successful in their culture. However, intelligence tests should only be used to confirm the presence or nature of learning difficulties observed by others (Bierne-Smith, Patton, & Kim, 2006), not to regulate access to educational opportunities, as so often has been the case in the past. The use of intelligence tests in special education has a history of concern that the cultural bias of IQ tests discriminates against diverse students (Deno, 1970). People in different cultures develop different intellectual abilities based on those that are valued and developed within their cultural group (Cianciolo & Sternberg, 2004). Students with complex and multiple disabilities may also have their abilities underestimated in IQ testing due to attentional, communicative, or physical challenges. When IQ tests are used, they should be administered by a trained school psychologist. The report typically yields a standard score (e.g., 40) and some information on how far the score deviates from the mean of the sample of participants on whom the test was norm-referenced. For example, on some IQ tests, a score of 40 would be four standard deviations below the mean of 100. Traditionally, scores of two or more deviations below the mean contribute to the diagnosis of an intellectual disability. Some classification schemas further differentiate three deviations below the mean as a moderate intellectual disability; four deviations below as severe intellectual disability. Caution should be used in interpreting scores at the extreme range of any norm-referenced test because they are more subject to measurement error and less trustworthy than scores closer to the mean (Schalock et al., 2010). For example, an IQ score of 39 versus 27 may have little to no educational meaning because both are in the extreme range of the test's normative scores. Scores below 25 typically have been derived through some process of extrapolation and may be especially untrustworthy. While the Wechsler Intelligence Scale for Children-Revised (WISC-R) is one of the most popular used in schools, Schalock et al. (2010) recommend consideration of the C-TONI (Hammill, Pearson, & Wiederholt, 1997) for students who are non-verbal or the Slosson Intelligence Test (Slosson, 1983) for students with more severe impairments. Some psychologists use developmental assessments such as the Scales of Infant Development (Bayley, 2004) or the Brigance Diagnostic Inventory of Early Development II (Brigance, 2004) for students with the most severe intellectual impairments that cannot participate in a traditional testing format. Unfortunately, neither of these scales is age-appropriate for older students and can perpetuate stereotypes about teaching students based on their "mental age." Although state eligibility criteria may require school psychologists to use some measure of intellectual functioning, this information should remain highly confidential and *not be* used for decisions about students' educational priorities.

Adaptive Behavior Scales

A diagnosis of an intellectual disability should never be made based on an IQ score alone, but also include documentation of significant limitations in adaptive behavior established through standardized measures. Adaptive behavior is defined as the conceptual, social, and practical skills people learn and perform in their everyday lives (Schalock et al., 2010). Conceptual skills include language, reading and writing, and

money, time, and number concepts. Social skills include skills like interpersonal skills, gullibility, social responsibility, and problem solving. Practical skills are those like personal care, health care, transportation, and use of the phone. As Brown, Lehr, & Snell (2011) noted, adaptive behavior scales have sometimes been criticized as being based on a vague construct, overlooking adaptability and problem solving, and for their correlation with IQ. In contrast, the American Association on Intellectual and Developmental Disabilities (AAIDD) continues to emphasize the importance of a threefold criteria for the diagnosis of an intellectual disability including (a) an age of onset before 18, (b) significant limitations in intellectual functioning, and (c) significant limitations in adaptive behavior (Schalock et al., 2010).

There are a variety of adaptive behavior scales and indirect assessments in the form of checklists and interviews that are completed by someone familiar with the student, typically the teacher or caregiver. Although adaptive behavior scales can provide a broad overview of the student's life skills, they are usually supplemented with additional informal assessments that offer more specific information for educational planning. When used for eligibility decisions, the adaptive behavior scale should be norm-referenced, standardized assessments. Some examples of frequently used adaptive behavior scales include the Vineland Adaptive Behavior Scales (Sparrow, Balla, & Cicchetti, 2005), the Comprehensive Test of Adaptive Behavior-Revised (Adams, 1999), and The Scales of Independent Behavior-Revised (Bruininks, Woodcock, Weatherman, & Hill, 1996). The AAIDD has revised their adaptive behavior scale, which is now called the DABS (Diagnostic Adaptive Behavior Scale) and is scheduled to be released soon (**http://aaidd.org/intellectual-disability/diagnostic-adaptive-behavior-scale#.U1VF2aROW70**).

Supports Intensity Scale

The *Supports Intensity Scale* (SIS) was developed to identify the "extraordinary support that a person needs in order to participate in the activities of everyday life" (Thompson et al., 2004, p. 11). While not a measure of adaptive behavior, it does align closely with adaptive behavior domains (Bierne-Smith, Patton, & Kim, 2006).

The SIS has an interview-based protocol that can be conducted with anyone who is familiar with the individual, such as a teacher or family member or the individual himself or herself. Informants provide three ratings for each listed activity based on how often the individual needs support in that activity, how much time they need to be supported in that activity daily, and what type of support is needed (e.g., none, monitoring, prompting, partial physical assistance, or full physical assistance). Six domains of living are addressed by the SIS: (a) home living activities, (b) community living activities, (c) lifelong learning activities, (d) employment activities, (e) health and safety activities, and (f) social activities as well as two optional scales on protection and advocacy, and medical or behavioral supports. Scores can be reported as either standard scores or percentile ranks. The SIS is available in 13 languages, with excellent internal consistency and test–retest reliability across Spanish, French, Italian, Catalan, and Dutch versions (Schalock, Thompson, & Tassé, 2008a, 2008b).

Assessments of Autism Spectrum Disorder

Autism spectrum disorders are developmental disabilities that involve a triad of core deficits in the areas of communication, social skills, and ritualistic behavior (American Psychiatric Association [APA], 2013). It is sometimes difficult to distinguish autism spectrum disorders from other conditions that cause individuals to display similar communication, social, or ritualistic behaviors, such as blindness, deafness, Fragile X, Rett's syndrome, Landau-Kleffner syndrome, Cornelia de Lange syndrome, William's syndrome, and sensory integrative dysfunction (Heflin & Alaimo, 2007; Walters, Barrett, & Feinstein, 1990). However, failing to provide an autism diagnosis may result in missed opportunities for educational programming tailored to the

individual's communication, social, sensory, and behavioral needs (Heflin & Alaimo, 2007). While the medical, psychological, and educational fields have improved in the past several decades in the area of identifying autism spectrum disorders, they are behaviorally defined disorders that lack medical tests or biological markers and the detection of autism spectrum disorder continues to rely on the observations of behaviors and interviews of familiar adults. One observational tool is the Modified Checklist for Autism in Toddlers (M-CHAT) (Robbins, Fein, Barton, & Green, 2001) that can be filled out by parents of children aged 18–24 months. The yes/no answers to 23 questions are converted to a pass-or-fail score with criteria set for further assessment. Studies of the M-CHAT have found adequate discriminate validity, interrater reliability, and sensitivity (Dumont-Mathieu & Fein, 2005; Kleinman et al., 2008; Robbins, Fein, Barton, & Green, 2001). Similarly, the Quantitative Checklist for Autism in Toddlers (Q-CHAT) is a parent-completed questionnaire of 25 questions on a 5-point Likert scale of frequency to quantify autism traits at 18–24 months of age. Preliminary investigations have found good test–retest reliability (Allison et al., 2008). The Q-CHAT may yield more information than the M-CHAT because it uses a Likert scale rather than yes/no responding. The Q-CHAT also has items related to social communication, language development, and repetitive behavior.

One of the most commonly used rating scales and earliest that was designed specifically for autism is the Childhood Autism Rating Scale (CARS) (Schopler, Reichler, & Renner, 1988). A trained evaluator with experience in giving assessments, such as a school psychologist, special educator, or speech pathologist, interacts and observes the child and makes clinical judgments based on their knowledge and experiences when filling out the CARS (Hall, 2009; Schopler, Reichler, & Renner, 1988). The results of the assessment are categorized as non-autistic, mild to moderate autism, and severe autism, although the CARS may over-identify two-year-olds, those with minimal verbal skills, or those with more severe intellectual disabilities (Heflin & Alaimo, 2007).

A third option is to use a combination of the Autism Diagnostic Interview-Revised (ADI-R) (LeCouteur, Lord, & Rutter, 2003), and the Autism Diagnostic Observation Schedule (ADOS) (Lord, Rutter, DiLavore, & Risi, 2001). The ADI-R is administered by a trained clinician and 93 questions are asked in a semi-structured interview of parents focusing on language and communication, social interactions, and restricted, repetitive, and stereotyped behaviors and interests. The ADI-R may over-diagnose very young children with developmental delays (Heflin & Alaimo, 2007). The ADOS is administered by trained evaluators who are familiar with individuals with autism and the protocol, and is appropriate for young toddlers through adults regardless of their verbal abilities, although it may be over-inclusive of very young children with intellectual disabilities (Hall, 2009; Lord & Corsello, 2005). During administration of the ADOS, the evaluator chooses one of four modules based on the individual's developmental and language level. Communication and social demands are presented and the responses of the individual are recorded and coded, with cut-off scores for autism spectrum disorder provided.

Communication and Language

Because communication is such a critical skill for educational planning, it is helpful if a multidisciplinary assessment for eligibility includes information on student's communication abilities and challenges. The content of the communication involves both the receptive and expressive communication abilities of the individual. The speech language pathologist will most likely be the member of the multidisciplinary team who conducts formal assessments about the form and content of the individual's communication; however, a classroom teacher may use informal methods and behavior recording to supplement the formal data. The Peabody Picture Vocabulary Test (PPVT-4) (Dunn & Dunn, 2007) is a measurement of expressive language and

vocabulary that is normed for individuals aged 2–90+ and can be administered in a very short amount of time. The PPVT-4 provides specific results on tasks students have as strengths and on those that should be targeted for more instruction.

There are communication assessments specifically designed for individuals with severe disabilities, such as the Receptive and Expressive Emergent Language Test, Third Edition (REEL-2) (Bzoch, League & Brown, 2003) and the Assessment for Persons Profoundly or Severely Impaired (APPSI) (Connard & Bradley-Johnson, 1998). However, these formal standardized assessments only give a general idea of what the individual is able to do; they are not conducted in a natural environment and have the same pitfalls as other direct assessments of students with severe disabilities (Downing, 2004).

For many students, there also is the need for some evaluation of their current AAC use and needs. For individuals who utilize AAC devices to communicate, assessments should be ongoing and focus on their needs in their current environment, plan for communication needs in future environments, and frequently reassess equipment, communication partners, and the individual's capabilities (Beukelman & Mirenda, 2005). Identifying participation patterns and needs of AAC will help to plan and implement interventions and should be followed by an evaluation of the effectiveness of the intervention to determine whether or not the person is participating (Beukelman & Mirenda, 2005). For example, assessment teams would assess opportunity and access barriers in order to determine appropriate corresponding interventions.

Applications to the Case Studies

To illustrate how assessment may be used for eligibility, consider the three case studies at the beginning of this chapter.

Shawnna *was classified as having a severe intellectual disability based on her mental age on the Bayley scale and severe deficits in adaptive behavior. In contrast, her fourth grade educational team questioned the usefulness of either of their scores to their educational planning and rejected the ongoing use of an infant mental age score for Shawnna. Shawnna's underdeveloped communication skills make it difficult to know her intellectual functioning. Her physical challenges have limited her ability to perform many skills of daily living without intensive supports. Because Shawnna is scheduled for an updated multidisciplinary assessment, the school psychologist will be using a non-verbal measure of intelligence that is appropriate to her age. The Supports Intensity Scale may also be useful to consider what supports Shawnna will need. The team is especially interested in supports that will increase her independence through the use of technology and increased mobility which the occupational and physical therapists will evaluate. The team also recognizes the importance of Shawnna receiving a comprehensive communication assessment including evaluation for potential assistive technology.*

Jose *is in middle school, however, he arrived without educational records from his home country. Working with a translator, his school psychologist will use one of the assessments appropriate to consider whether Jose has an autism spectrum disorder. The psychologist also wants to get a clear measure of adaptive behavior and will use a non-verbal measure of intelligence. The parental interviews for these assessments will also be given with the help of a Spanish translator. A speech language pathologist with training in English Language Learners will also help determine Jose's level of receptive and expressive communication, in both English and Spanish, and the need for any aided communication systems (e.g., picture system).*

Larry *has been able to participate in IQ testing and his most recent score was a 47. His adaptive behavior scale also shows that he lacks many of the daily living and social skills typical of his age group. He continues to be eligible for special education services as an individual with a moderate intellectual disability, but these scores do not provide enough information about what he will need to learn as he transitions toward adult living. The Supports Intensity Scale can contribute to this planning, but other informal assessments are needed to develop his transition plan and IEP.*

Assessments for School Accountability

One of the newer assessment purposes involving students with severe disabilities is assessment for the purpose of school accountability. The most recent waves of school reform have focused on all students achieving educational standards. The reauthorization of the Elementary and Secondary Education Act, No Child Left Behind Act of 2001 (NCLB, 2002), and reauthorization of IDEA (2004) required the inclusion of students with disabilities in state assessments. Students with disabilities may participate in the general assessment with or without accommodations. Those unable to take the general assessment must be provided with an alternate assessment. The IEP team decides whether or not students will take the alternate assessment or the general assessment. This decision cannot be based on the student's educational classification (e.g., severe intellectual disability). It should be noted that the term "significant cognitive disability" used in the law to describe who takes alternate assessments is not a category of IDEA (2004). Rather it helps educators recognize that these alternate assessments are reserved for students with more challenging disabilities who need an alternate achievement target for the grade level standards.

Choosing the alternate assessment is a critical IEP team decision because in some states students in the alternate assessment will not qualify for the typical high school diploma if it requires grade level achievement. One of the differences between alternate assessment and the general assessment is that outcomes on the general assessment may be used for student accountability (e.g., graduation, passing to the next grade level), but alternate assessment is only used for school accountability.

Schools are accountable for students achieving the standards of their grade level. Up to 1% of these students, those with significant cognitive disabilities, who take alternate assessments can be reported as proficient based on alternate achievement standards. Alternate achievement standards must be aligned with the state's academic content standards, promote access to general curriculum, and reflect professional judgment of the highest standards possible (U.S. Department of Education, 2005). Alternate achievement standards often require some prioritization, adaptations, pinpointing, and extensions of grade level achievement. For example, while all sixth graders may be expected to collect, graph, and interpret data, students taking the alternate assessment may work with smaller ranges of numbers, graphs with enhanced visual or textural features, and make a more narrow set of interpretations.

Alternate assessments are summative in nature and are typically given near the end of the school year. As mentioned earlier, states may use a variety of assessment formats and some use more than one format (e.g., checklist and performance-based assessment). The assessments are typically administered and scored by the special education teacher. Some states have a second observer present to verify the results that the teacher scores or require work samples to be submitted to external scorers. Alternate assessments have undergone many transformations since their inception. Perhaps most notable is that states have all moved toward aligning these assessments with their state academic content standards (Altman, Lazarus, Quenemoen, Kearns, Quenemoen, & Thurlow, 2010) and making administration more standardized (Quenemoen, 2008).

Alternate assessments have had both negative and positive consequences for students with disabilities and their teachers. The administration of these assessments has increased teachers' stress and workloads (Ahlgrim-Delzell, Flowers, Browder, & Wakeman, 2006). In contrast, teachers have reported that having students with severe disabilities "count" in school accountability has been beneficial overall (Kleinert, Kennedy, & Kearns, 1999; Flowers, Ahlgrim-Delzell, Browder, & Spooner, 2005). Parents have also reported seeing benefits to their children participating in alternate assessments, but are less confident this is true as students reach high school age (Roach, 2006). Although states have moved toward having their alternate assessments reflect their academic content standards, the assessment itself has not necessarily improved

access to general curriculum (Flowers, Ahlgrim-Delzell, Browder, & Spooner, 2005). In contrast, improved access to the general curriculum may improve alternate assessment outcomes (Roach & Elliott, 2006). In reviewing the literature on alternate assessment, Towles-Reeves, Kleinert, and Muhomba (2009) conclude that the next generation of these instruments must provide better links to grade level content, establish how all students can participate, link to postschool outcomes, be used in school improvement, and incorporate families' and students' perspectives in understanding their impact.

Educators need to become informed about their state's policies for alternate assessments. Browder, Spooner, and Wakeman (2011) suggest seven questions to guide the process of learning a state's alternate assessment system. Here are their questions:

1. **How will the outcomes of the alternate assessment be used?** If the school faces high stakes for all students to be proficient or if participation in the alternate assessment precludes receiving a diploma, there may be intense pressures on the IEP team in making participation decisions.
2. **Who is eligible for the alternate assessment?** Each state has eligibility guidelines that can be found on the state's education website. Remember that the student's disability classification cannot be used as the eligibility criteria.
3. **What will be assessed?** Many states have curricular resources that accompany the alternate assessment. These may be called extended standards, curricular frameworks, or some other term.
4. **How will the assessment be conducted?** It is important to find out if the educational team is to keep a collection of student work for a portfolio, complete a checklist, or give a performance-based assessment.
5. **How will the assessment be scored?** Sometimes if the assessment is computer-based, scores are generated automatically. Scoring may also be completed and reported to the state by the teacher or provided by an outside agency.
6. **What evidence exists that the alternate assessment is reliable and valid?** The state should have a report on the technical qualities of the alternate assessment. If this information is not available or suggests the assessment has poor quality, educators should push back on its use for high-stakes decisions; for example, by working with the professional teacher education association to make a statement.
7. **Does the alternate assessment system promote learning in the general curriculum?** Even if the system is primarily developed for school accountability, it is important that alternate assessments promote increased opportunity not only for learning general curriculum content, but in general education settings where this curriculum is delivered by content experts.

Shawnna's *IEP team decided that she will participate in the alternate assessment based on alternate achievement standards. Her state uses a performance-based assessment in which the teacher presents test items and then records the student's response. Unless Shawnna learns to use some additional assistive technology this year, she will likely have to use her eye gaze to select each response option. Although the administration of the assessment must be standard, selecting the answer from the multiple-choice answers using an eye gaze is acceptable if a second observer can recognize and score each response with the teacher. The team realizes that Shawnna may tire easily during the assessment and so they seek and obtain an accommodation for her to take the assessment in several short sessions. She will also be assessed in a separate room so that she is not distracted by activity around the room while trying to look at the test materials. The response options will also be enlarged for Shawnna on a computer screen. To give Shawnna the best possible chance of showing what she knows, her teacher will be using small tests of academic content throughout the year in the same format as the alternate assessment. When the time comes for this summative assessment, the format itself will be familiar to Shawnna.*

Assessments Used for IEP and Other Educational Planning

A third purpose for assessment, and possibly the most important, is collecting information to make decisions to improve a student's educational program and progress. The Individualized Education Plan (IEP) is the document completed each year to summarize this assessment and focus it into an annual plan. Educators then use ongoing informal, formative assessments to determine if the student is on track for meeting annual goals and short-term objectives. Additional assessments may be used to decide how the student is progressing in the general curriculum (e.g., a science chapter test).

Student and Family Involvement

Before developing any plan to assess a student and set educational priorities, it is important to know what both the students and their families want and value. Students and parents can work collaboratively with teachers and other school personnel to plan instructional goals and make educational decisions. Assessment data alone are not sufficient to inform these decisions; the perspectives of a team of individuals can help ensure the planning that ensues will have the greatest impact on the student. Forming a team, conducting person-centered planning, and conducting family-focused planning are all important considerations for instructional planning.

Forming a Team An important component of the assessment process is the formation of a team of people who will work collaboratively to gather data to improve outcomes for individuals with disabilities. These teams should include the student and the student's family as well as teachers and therapists. In accordance with IDEA (2004), family team members should be full, active participants in the development of IEPs. The purpose of this team is to gather and interpret assessment information and generate goals based on this information. The ultimate goal of education for any student is the generalization of skills across contexts in order to promote the greatest level of postschool success and independence. Involving students and families increases the likelihood that both the process and the outcomes are socially valid or significant to the individual with a disability.

Person-Centered Planning One model for involving students and families in the planning process is person-centered planning. Person-centered planning is an approach that prioritizes the individual and values the input from families and friends (Stineman, Morningstar, Bishop, & Turnbull, 1993). Through a team approach, goals are developed in response to the needs and preferences of the individual. In school settings, students can exercise ownership over their own education by collaborating with the team to provide input, develop goals, and lead IEP meetings. Additionally, several studies have demonstrated the relationships between self-advocacy and achievement of personal goals (e.g., Agran & Hughes, 2008; Arndt, Konrad, & Test, 2006).

Person-centered planning includes multiple interactions during which team members assess the individual's strengths, areas for growth, interests, and available supports. Agenda items for a planning meeting might include (a) developing a personal profile (e.g., identifying the people who are the primary supports in a student's life, identifying the different settings the student typically encounters, identifying the student's likes and dislikes); (b) identifying the student's ideal vision for the future across domains of housing, leisure, employment, and community involvement; (c) creating a plan for actualizing the student's future vision (i.e., set measurable goals and actions); and (d) identifying any systems-level changes that would support this plan (Browder, 2001). As a group, the team develops goals that will address these specific needs in a manner that is responsive to the particular characteristics and desires of the individual (Hagner, 2010). Team members should consider needs and preferences

across domains, including community living, social relationships, communication, self-determination, and academic skill acquisition (Wells, Sheehey, & Moore, 2012).

Several models of person-centered planning have emerged from research. These models include lifestyle planning (O'Brien, 1987), personal futures planning (Mount, 1995), McGill Action Planning Systems (MAPS) (Vandercook, York, & Forest, 1989), essential lifestyle planning (Smull & Harrison, 1992), Planning Alternative Tomorrows with Hope (PATH) (Falvey, Forest, Pearpoint, & Rosenberg, 1994), outcome-based planning (Steere, Wood, Pansocofar, & Butterworth, 1990), whole-life planning (Butterworth, Hagner, Heikkinen, DeMello, & McDonough, 1993), and group action planning (Turnbull & Turnbull, 1992).

The MAPS model of person-centered planning was initially developed as a tool for helping individuals with severe disabilities increase participation in general education contexts, improve peer interactions, and promote overall quality of life (Vandercook, York, & Forest, 1989). This method has been used to aggregate information for IEP development and include students with disabilities in the IEP process (Wells, Sheehey, & Moore, 2012). The MAPS process is intended to empower and support both individuals with disabilities and their families by valuing their input and role as equal contributors to the planning process. The process includes a mechanism for ensuring the goals and targeted areas of instruction are valued by both the students and the students' families (Turnbull & Turnbull, 2006). The three phases of the MAPS process include (a) preparation, (b) meetings, and (c) follow-up. In addition to the student, the student's family, school personnel, and peers are included in the planning team. Peers offer insight into social strengths and needs as well as considerations for supports and skills needed in general education contexts. Additionally, the MAPS planning team includes a facilitator who guides the meetings and records notes and responses during team meetings.

Several research studies have examined the effectiveness of person-centered planning on involving input from students with disabilities and their families. For example, Hagner, May, Kurtz, and Cloutier (2014) explored the effectiveness of person-centered planning strategies on the level of participation of transition-aged students with autism spectrum disorder (ASD). A group of 47 students with ASD participated in this study. Using the MAPS process, group facilitators provided students supports for participating in meetings, including (a) individualized preparation for meetings, (b) team-building activities to build the relationship between the facilitators and the students, (c) flexible designs for meetings, (d) the capacity to attend meetings electronically (i.e., Skype), and (e) alternative modes for communicating during meetings. Students met with their teams for five to eight sessions to discuss topics such as "vision for the future" and "career goals." These strategies were effective in increasing the student participation in the planning process, even for students with ASD who experienced difficulties with communication, anxiety, and social interactions.

Direct and Indirect Preference Assessments. Another important reason to include a team of individuals with deep and varied knowledge of the student is to gather information about the student's preferences. Everyone has likes and dislikes, and identifying these individual preferences across learners is one way to provide students with instruction and educational practices that are engaging, rewarding, and positive. Preference is identified when a student makes a selection or engages in an activity repeatedly over time. Incorporating preference assessment data into preference-based interventions can decrease challenging behaviors and increase desirable behaviors (Tullis et al., 2011). Assessing the preferences of students with severe disabilities can be challenging, particularly when students do not have the communication skills or physical ability to express preference to others reliably. To assess preference for these students, indirect or direct methods of assessment can be employed. Indirect methods include gathering information from the team. This information can include observational notes, interviews, or checklists (Hagopian, Long, & Rush, 2004). Families and

friends can provide a unique perspective of the student's preferences outside of the context of school. For example, families can provide information about students' favorite music, leisure activities, food, color, character or TV personality, sports team, or toy. Gathering this information provides a bank of items that may be used to support learning across contexts.

Direct assessments include the systematic testing of preferences by providing students with choices multiple times (Lohrmann-O'Rourke, Browder, & Brown, 2000). The items selected for the choices can be derived from information gleaned during indirect assessment procedures. Teachers can observe the amount of time students interact with each item or with the item the students select. Students may verbalize, use eye gaze, point, or reach for a preferred item. If a student selects or interacts with an item one time, this item should be presented again with a different set of choices to assess the potency of the student's preference for a particular item over time. Additionally, teachers should continually assess for preference, as people's preferences naturally change over time or across contexts.

Assessing preference for activities (as opposed to preference for physical objects) can be achieved by recording how long a student engages in particular activities over time. Teachers can teach students to pair a related object with a preferred activity so that the student can use the physical object to request the preferred activity in the future. For example, Browder, Cooper, and Lim (1998) taught individuals with severe disabilities to request a preferred activity by selecting a related object (e.g., a golf ball to indicate a desire to play golf). Teaching students to express a preference may depend on the team's ability to provide the student with the tools and instruction necessary to communicate these preferences.

Incorporating Student Preferences. Student preferences can be incorporated into traditional models, including multidisciplinary assessments and IEP development. Student preferences may influence decisions about who helps with accommodations during a test, the room used for testing, and the time of day a test is administered. Student preference may also be used to determine which stimuli can be used for contingent or non-contingent reinforcement during testing. Sometimes preferred items can be embedded in the testing materials as an accommodation for motivation. For instance, if a student loves dinosaurs, pictures of dinosaurs can be inserted in the student materials used for testing (e.g., instead of counting dots, the student can count dinosaurs).

Student preference should be used as a guide for setting instructional priorities during IEP development. For functional goals, including social skills, communication, or daily living goals, student preference can impact the types of goals that are selected and the manner in which they will be assessed. For academic goals, student preference can influence the development of goals that will help students develop the skills to access and demonstrate understanding of grade-aligned content. One way to ensure students have a voice in the development of their IEP is to teach students to plan and lead their own IEP meetings (e.g., Konrad, 2008; Torgerson, Miner, & Sehn, 2004; Test., Mason, Hughes, Konrad, Neale, & Wood, 2004). Teaching students to incorporate their own preferences into their educational plans can lead to increased self-advocacy and self-determination, qualities Wehmeyer and Palmer (2003) attributed to successful life outcomes. Additionally, research attributes the practice of student-led IEPs to several positive outcomes. For instance, Mason, McGahee-Kovac, and Johnson (2004) collected participant data through observations and interviews. The authors found that students who led their own IEP meetings made more contributions during IEP meetings, understood their disability and their rights, had more self-confidence, interacted more with adults, and were more aware of the supports and resources available to them. Test et al. (2004) recommended that in addition to participating in the development of goals, students can also help monitor their own progress toward achievement of their goals.

*Consider **Larry,** the 16-year-old from the case study examples. To prepare for his IEP meeting, Larry works with both his teacher and his family to brainstorm ideas for his "future vision." Larry uses a graphic organizer provided by his teacher to record his preferences for postschool education, employment, housing, and recreational activities. One of Larry's preferences is to "go to college." Next, Larry works with his teacher to create an IEP PowerPoint that will guide him through the essential components of the meeting. The PowerPoint will include cues for Larry to read that will remind him what to say or do. These activities include introducing the team, sharing his vision for the future, and planning goals. Although the meeting includes discussion of several potential goals, the team affirms Larry's choice to achieve the goal of attending a university program. Larry and his team decide he will complete the application materials for three university programs that serve adults with intellectual disability. The final component of the meeting is a self-evaluation component. Larry and his teacher have agreed that Larry will use a checklist and a timeline to track his completion of the application materials.*

Culturally Responsive Planning with Families

Fostering a relationship between families and schools can promote greater family involvement in setting and achieving goals. The health of these relationships positively correlates with student achievement and outcomes (Lee & Bowen, 2006). Culturally responsive planning and incorporating family perspectives are two ways to promote family-focused planning, a practice that can strengthen the bond between home and school and in turn support students with disabilities.

There are several compelling reasons for developing a multicultural perspective when working with families of students with disabilities. Cultural diversity within the United States encompasses ethnicities, religious beliefs, socioeconomic status, gender, sexual orientation, and geographic location. Over one third of the U.S. population is represented by Hispanic/Latino, African-American, and Asian ethnic cultural groups (Mather, Pollard, & Jacobsen, 2011). Additionally, there has been a recent influx in the number of Asian, Native Hawaiian, other Pacific Islander, and multiracial children in the United States (Ortiz, García, & Sorrells, 2010). Students who are culturally and linguistically diverse also have the highest poverty and school dropout rates and lowest rates of academic achievement (Mather, Pollard, & Jacobsen, 2011). Additionally, students who are culturally diverse are disproportionately categorized as having a disability. In 2007 the U.S. Department of Education reported American Indians/Alaska Natives and African-American students were 1.5 times more likely to be identified as having a disability than all of the other ethnic groups combined, particularly for identification under the categories of learning disabilities, emotional disability, speech language impairments, and intellectual disability (U.S. Department of Education, 2007). While these statistics point to the need for ongoing work to make schools culturally responsive overall, there also are specific strategies educators can use in planning for students with severe disabilities.

Dennis and Giangreco (1996) recommended six considerations for planning with families: (a) Appreciate diverse qualities, (b) be sensitive to the influence you convey as a professional, (c) recognize your own cultural bias, (d) commit to learning and understanding different cultures, (e) become aware of cultural characteristics, and (f) learn together with families. Another consideration is to be mindful and inclusive of family preferences. Just as educators should seek out and value student preference, family preference should be respected as well. Establishing positive and effective communication is another priority for culturally responsive planning. It is important to recognize the different styles in which different groups communicate. Differences in social norms include, for example, the familiarity with which you address families and the roles people play in meetings.

Family members each have a unique story to tell and information to contribute during planning meetings. Families should feel encouraged to lead meetings, express frustrations, set goals, and ask questions. Educators can listen for concerns from

family members, acknowledge the concerns, and then restate the concern as a priority for achievement. For example, a mother might express that she is concerned her son is not able to read. The teacher could respond, "It is important to you that your son learns how to read. I share that goal." Many families may feel intimidated to share their perspectives, particularly families whose primary language is not English (Salas, 2004). It is important to plan meetings that are inviting and respectful of the family's schedule. In addition to providing translators, educators should avoid jargon or other specialized terminology (Lo, 2012). Educators should also recognize that families may have perspectives about disabilities that differ from the cultural norm. Finally, family values and perspectives about goal setting may differ from the perspective of educators, particularly for students with severe disabilities. It is important to work through these differences together to reach consensus about the student's priorities. One way to honor the perspectives of families in a way that is collaborative with educators is the Choosing Outcomes and Accommodations for Children (COACH) model (Giangreco, Cloninger, & Iverson, 1998). Through this process, families and educators discuss and prioritize student goals together.

Finally, it is important to acknowledge that the family perspective also includes the dynamic of having a family member who has a disability. Caring for a family member with a disability can impact family functioning, family satisfaction, family stress, and family quality of life (Kyzar, Turnbull, Summers, and Gómez, 2012). In a review of literature on family supports, Kyzar, Turnbull, Summers, and Gómez described the positive correlation between family supports and family outcomes. Families are the ultimate advocates for students with disabilities; by listening to families and supporting their needs, educators can provide students with educational plans that may lead to greater and sustainable quality of life.

Ecological Assessment

In addition to knowing the student and family's priorities, it is important to consider the expectations of the student's current and future environments. The process for doing this is called an ecological assessment.

Requirements of Current and Future Environments. When considering an ecological assessment, educators will need to identify and study the current environments in which the student interacts, including where the student lives, plays, learns, and works (Brown, Branston, Hamre-Nietupski, Pumpian, Certo, & Gruenewald, 1979). Simultaneously, environments where the student will be transitioning in the future need to be anticipated and addressed as soon as possible. When completing an ecological assessment for Larry, the 16-year-old from the case study example, his teacher may include Larry's house, his high school, the shopping mall, and the park. Since Larry is considering his postschool opportunities, his teacher may want to also identify future environments like the university and a place Larry wants to work part time, like a movie theater.

Each environment will need to be further subdivided into smaller units known as *subenvironments*. The purpose of this is to accurately pinpoint activities students will need to complete in each environment. Subenvironments in Larry's home include his bedroom, bathroom, kitchen, backyard, etc. Within his high school, Larry's general education classroom, bathroom, hallway, parking lot, and main office all serve as subenvironments. In the university, these will include his dormitory, cafeteria, classrooms, computer lab, and student union (see Table 3–3).

The next step after determining subenvironments is to determine which activities must occur within those units. There is no limit to the number of activities that can be completed within any environment, but when conducting an ecological assessment, educators should focus on relevant activities that are family- and student-centered, necessary for success within the environment, aligned to the student's current skills, and meaningful for the student. By identifying these activities, the planning team begins to see the types of skills that will be a priority for the student.

TABLE 3–3
Ecological Inventory: Environment, Subenvironments, and Related Activities

Ecological Inventory		
Environment	**Subenvironment**	**Activities**
Larry's Future University	Larry's Dormitory Room	Get dressed, negotiate with roommate, fix snacks, study
	Cafeteria	Select meals, pay with student cash card
	Student Union	Purchase fast food, play pool, socialize with friends
	Computer Lab	Use course websites, read information, complete assignments on computer and upload

Examples of Ecological Assessment to Plan Life Skill Needs. By identifying environments and subenvironments, and the relevant skills contained within, educators can focus on life skills that students will need to exhibit to be successful in their surroundings. Looking at Larry's ecological inventory, it begins to become clear which life skills he will need (Table 3–4).

> ***Larry*** *will need to be able to negotiate with a roommate and socialize in the student union. This will require increased communication skills. To manage his own dormitory room, he will need to acquire more independence in selecting his clothes and keeping his own supply of snacks. He also needs enhanced computer skills to learn to use a lab to read, develop, and upload assignments. Although Larry will be applying for some on-campus supports in the program for adults with intellectual disability, the more independence he achieves before college, the greater his chances are for being able to negotiate the campus.*

Discrepancy Analysis. After completing an ecological assessment and determining what supports are necessary for success within the environment, student-specific goals can be generated through the creation of a discrepancy analysis. When completing a discrepancy analysis, the evaluator considers three questions: What would a same-age peer without disabilities do in this situation? What can the student with disabilities do now? What skills does the student need to exhibit more like a same-age peer? By observing how other young men function in dormitory rooms, it becomes clear that making his bed will not necessarily be a priority for Larry, but social conversation, negotiating boundaries, and selecting his own clothes will be.

> *In thinking about* ***Larry's*** *interest in a part-time job at the cinema, the teacher observes a young man with a job in this context and notes that he greets customers, sweeps the theater, and runs the register to fill snack orders. The teacher arranges to have Larry try out the job during a simulation of the job in a local theater. Although she gives him directions and a checklist of what to do, Larry inappropriately greets customers with a hug, neglects to sweep until a customer complains, and gets flustered when he has to enter items into the register. Each of these skills can be taught at both school and in ongoing community job training (see Table 3–4).*

Identification of Academic Priorities

Ecological assessments help provide an overall picture of the skills students will need for current and future environments including some academic priorities (e.g., Larry needs to learn to enter spoken numbers fluently into a register). Consideration of state standards for the student's assigned grade level also yield academic priorities

TABLE 3–4
Discrepancy Analysis: Occupational Skills

Working at the Movie Theater			
Work Task	**Larry's Response (Simulated Work Environment)**	**Javier's Response (Actual Theater)**	**Implications for Instruction**
Greeting customers	Larry greeted strangers inappropriately by hugging; he forgot to check their tickets for the screen numbers.	Javier greeted each movie-goer with a smile and directed them to the correct theater screen.	Teach him to greet strangers appropriately; teach rule for checking tickets.
Sweeping floors	Larry swept the floor when prompted to do so by a customer.	Javier self-initiated sweeping when a mess was made by a customer.	Use a signal on the clock (e.g., every 10 minutes) as a reminder to check the floors for messes.
Running the register	Larry can make change accurately, but became easily confused when entering prices into the register.	Javier sold tickets, refreshments, and accurately made change.	Practice entering prices into a register.

and help with planning for full access to the general curriculum. State standards increase expectations for all students, and serve to promote collaboration between educational professionals and provide access while sharing accountability (Voltz, Sims, & Nelson, 2010).

The Common Core State Standards (CCSS) are a specific set of research-based standards developed by states to help students become college and career ready. The standards cover language arts and math from kindergarten to 12th twelfth grade. The ultimate goal of the Common Core is for students to develop critical thinking, problem-solving, and analytical skills that will be beneficial in their post-secondary pursuits. The Common Core State Standards have currently been voluntarily adopted by 44 states, and provide continuity of curricula across those states (National Governors Association Center, 2010). For examples of the CCSS, see Table 3–5.

TABLE 3–5
Common Core Learning Progressions Across Grade Levels

Language Arts: Reading Literature		
Kindergarten	6th Grade	11th–12th Grade
RL.K.1. With prompting and support, ask and answer questions about key details in a text.	**RL.6.1.** Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	**RL.11–12.1.** Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves.
Math: Numbers and Operations		
Kindergarten	6th Grade	11th–12th Grade
K.OA.A.2 Count 2 sets to find sums up to 10.	**6.NS.C.6a** Determine the difference between two integers using a number line.	**HSN-RN.A.2** Simplify expressions that include exponents.

TABLE 3–6
Questions to Use in Reviewing How Assessment Information Informed the IEP

1. Which of the goals/objectives in this IEP were written by the student or directly derived from his or her preferences? Which ones indirectly or somewhat promote the student's preferences?
2. Which of the goals/objectives in this IEP incorporate the family's priorities? Are there any goals/objectives that need further discussion with the family?
3. Which goals/objectives in this IEP can be cross-referenced with the ecological assessments that were considered? Will these goals/objectives help the student function in current and future environments?
4. Which goals/objectives in this IEP are aligned with state standards and will promote academic learning? Are there goals/objectives to promote full access to general curriculum?
5. Which goals/objectives in this IEP build on the student's current level of functioning as identified through curriculum-based and informal assessments?
6. Did this student need a functional behavioral assessment and, if so, which goals/objectives were derived from the FBA?
7. Overall, will the goals/objectives written in this IEP promote the student's competence and opportunities?

Each academic content area of the Common Core is divided into domains, and the domains develop across grade levels. For example, the language arts standards consist of literature, informational text, foundational skills, writing, speaking and listening, and language. Similarly, content covered in math includes counting and cardinality, numbers and operations, geometry, measurement and data, ratios and proportions, expressions and equations, functions, and statistics and probability. Table 3–6 shows examples of Common Core Standards that build a progression of skills across grade levels.

From Standards to Individualized Academic Priorities. While the first step is to become familiar with academic content standards and any state resources on alternate achievement standards for the student's assigned grade, some additional planning is needed to set academic priorities. Courtade and Browder (2011) suggest that IEP priorities can be set by considering broad skills needed in each content area, ways to promote self-determination, ways to access technology, and applications to real-life activities. Hunt, McDonnell, and Crockett (2012) have described how the ecological assessment that has been used for many years to identify priority skills related to the student's environments can also help set these academic priorities. A student like Larry who has ambitions to try a college program and a strong preference for academics might pursue some adaptations of more advanced content than students with differing priorities. One of the environments to consider in ecological assessments is the general education class. For example, although it may be found that Jose has no reading skills, he may be able to work on adapted versions of his grade level standards in language arts through simplified text, read-alouds, or picture supports. He might also benefit from text that includes both English and Spanish.

Curriculum-Based Measurement. One way to determine student's current level of functioning in academics is to use curriculum-based measurement (CBM). CBM now has more than 200 empirical studies published in peer-reviewed journals supporting both its technical quality and capacity to help teachers improve student outcomes in the elementary grades. Some of the standard tasks used for CBM are reading aloud from text and selection of words deleted from text (maze) in reading, writing word sequences when given a story starter or picture in writing, writing letter sequences from dictation in spelling, and writing correct answers/digits in solving problems in arithmetic (Deno, 2003). Hosp, Hosp, and Howell (2007) note that the distinctive feature of CBM is that it is tied to the curriculum. Because the increased focus on academic learning for students with moderate and severe disabilities is recent, educators