CHAPTER 14

Intensive Language and Communication Assessment and Instruction

As we know from the preceding chapters, there are children who, despite exposure to language, fail to develop language skills at the same rate or to the same extent as other children. For some of these children, effective instruction in the general education classroom or targeted intervention can be sufficient to enable them to improve their language and communication skills. But some students require more intensive instruction. In this chapter, we will examine effective practices in intensive language instruction.

Learning Outcomes

After completing this chapter, you should be able to:

1. Interpret the results of intensive language assessments.
2. Identify evidence-based methods of intensive instruction in language and communication and the rationale for selecting appropriate methods.

Sarah: A Case Study

Sarah is a seventh-grade student who is in a general education inclusion setting. She is 12 years, 7 months old. Sarah has cerebral palsy and has been classified as otherwise health impaired on her individualized education plan. Sarah has hypertonia, or spastic movements. She experiences significant limitations to her range of motion, and her movements are slow and jerky. Additionally, she experiences involuntary movements of her arms. Sarah is eligible for special education and related services. Sarah has received speech therapy from kindergarten to the present. She has worked on areas such as articulation, oral motor coordination, and most recently, vocal loudness.

During her sixth-grade year, Sarah received speech therapy on a consultative basis to monitor her vocal loudness. Sarah consistently exhibited appropriate speaking volume during the first half of the school year. However, beginning in the third marking period, Sarah became very depressed and withdrawn and refused to speak in class most of the time. Sarah preferred to communicate by writing things down. To address this issue, positive behavior supports were implemented by her teachers. She exhibited significant inconsistencies using a loud, intelligible voice in the classroom until the end of the school year. In an effort to remedy this, she began to receive pull-out speech therapy sessions to review loud voice speaking strategies, such as sitting up straight and using diaphragmatic breathing. In therapy, during spontaneous speech with the therapist, she used appropriate loudness, but this did not transfer to her speech in the classroom.

In seventh grade, Sarah has made great strides in her classroom speech. She is not demonstrating a depressed demeanor, and she is speaking more in class. Sarah is using a better volume level that can be heard; however, she still has moments where she seems reluctant to speak in class when called upon. In the small-group setting or in partnerships, she will speak to her peers, but she rarely offers her opinion first. Additionally, at times, she has been observed working independently in a group

(continued)

Sarah: A Case Study Continued

setting. Sarah must be totally comfortable with her partner or group mates in order to fully communicate with them. Although Sarah does not vocalize frequently in class, she is excelling academically. For example, she is an excellent writer, enjoys social studies and science, and has frequently scored at the top of her section in math. Nonetheless, her classroom participation is low. When called on, she will answer with a voice that can be heard; however, she rarely volunteers to answer questions or give opinions to the entire class.

Intensive Assessment

Identification of language difficulties can enable teachers to intervene quickly to address problems that may be preventing children from succeeding academically and/or socially. But some children may not respond or may have disorders that are more significant. For these children, referral for a more detailed, comprehensive assessment might be required. Such assessment would typically be conducted by a speech-language specialist. However, it is the responsibility of the classroom teacher, whether general or special education, in collaboration with the speech-language specialist, to provide appropriate instruction that addresses the issues identified by the assessment. Therefore, it is important that teachers understand the methods and materials used in comprehensive language assessments and be able to interpret the results so that they can deliver instruction effectively.

Development of a comprehensive plan of language assessment should include the following elements:

- Testing of hearing
- Examination of the child's mouth, teeth, and tongue to determine whether malformations may be affecting language production
- Assessment of cognitive functioning
- Observation of language use in school
- A language sample (or other functional assessment of language)
- Formal tests of language

What to Assess

What should be included in a comprehensive assessment of language? Although the answer to this question is affected by factors such as the characteristics of the child and the purposes for testing, there are some broad areas that should be included in most assessments of language. At the core of any assessment of language are the five basic elements of language discussed previously: phonology, morphology, syntax, semantics, and pragmatics. Both the child's understanding and production of each of these elements should be considered. Specific elements of language that might be included in a comprehensive assessment are described in Table 14.1.

A comprehensive assessment of language might also include the evaluation of social, cognitive, and physiological bases of language. We know, for example, that typically developing children engage in a number of prelinguistic communicative routines with their parents. These include turn-taking exchanges, gaze behavior, and the like. Observation of these routines could be included in the assessment of a nonspeaking child. An evaluation of the child's level of cognitive development may provide helpful information on whether the child engages in symbolic play or whether the concept of object permanence seems to be established. Certainly, one would need to know whether the child's speech-processing abilities are

Table 14.1

Language Elements Used in Assessment

Element	Expressive	Receptive
Phonology	Articulation of speech sounds Phonological errors: reduction deletion devoicing substitution	Phonological awareness: rhyme division of words into sounds adding/deleting beginning and ending sounds
Morphology	Use of grammatical morphemes in real and nonsense words	Identification of grammatical morphemes
Syntax	Use of basic sentence elements (e.g., noun, verb) Use of sentence types (simple, complex) Use of transformational rules (question, passive)	Understanding and interpretation of sentence types and transformational rules
Semantics	Vocabulary use: amount types Speed of word retrieval Use of figurative language	Identification of words Comprehension of humor/proverbs
Pragmatics	Use of speech acts: requesting greeting answering Use of conversational rules: turn-taking repairs topic setting	Understanding of direct and indirect speech acts

intact. An examination of the child's mouth and teeth to determine whether they are healthy and intact may be necessary. In addition, a neurological evaluation may be necessary to determine whether the child is physically capable of using and understanding language.

Apply Your Knowledge 14.1: Planning Language Assessment, Case Study: Sarah

Review the case study of Sarah, who was introduced at the beginning of this chapter. Considering her age, history, and current functioning, what language assessments would be recommended for her?

Methods of Language Assessment

There are two basic types of assessment procedures: formal and informal. Formal procedures include tests, checklists, and observation systems. One type of formal assessment—screening tests—was discussed in Chapter 13. In that chapter, we also reviewed several types of informal methods include language sampling, language elicitation techniques, and a variety of classroom-based methods for assessing language skills. In this chapter, we will examine other examples of formal tests of language and discuss one type of informal language assessment procedure—language samples.

Formal Procedures. **Formal assessment** procedures consist primarily of standardized tests—that is, tests that have a standard set of directions and format. Most standardized tests are also **norm referenced**, which means that the tests compare an individual's

Table 14.2

Examples of Language Screening Tests

Test Name	Author(s) and Date of Publication	Publisher
Fluharty Preschool Speech and Language Screening Test–Second Edition (FLUHARTY–2)	Fluharty (2000)	Pearson
Preschool Language Scale–5	Zimmerman, Steiner, & Pond (2011)	Pearson
Preschool Language Assessment Instrument–Second Edition (PLAI-2)	Blank, Rose, & Berlin (2003)	Pro-Ed
Receptive-Expressive-Emergent Language Test–Third Edition (REEL-3)	Bzoch, League, & Brown (2003)	Pro-Ed

performance to that of a comparison population. Unfortunately, norms do not always include children from a variety of cultural and socioeconomic groups and often do not include children with disabilities.

Despite concerns about norms and test **validity**, use of formal, standardized tests of language continues. Therefore, it is important for practitioners to be aware of the great variety of language tests available, to keep in mind the limitations of these tests, and to learn about alternative assessment procedures—such as those discussed later in this chapter.

Formal tests of language can be divided into three types: screening tests, comprehensive measures, and tests of specific language skills. **Screening** involves the testing of a large number of children in order to identify current levels of functioning and those children who might benefit from more intensive assessment and intervention. The instruments that are used must be relatively brief and easy to administer and interpret. As a result, screening measures may overidentify or underidentify children. In addition, screening tests may fail to identify subtle language difficulties (Reed, 2012). A few examples of screening tests for language skills can be found in Table 14.2.

Watch the first few minutes of this video as a child is given part of the Preschool Language Scale. How does the tester establish rapport with this child?
https://www.youtube.com/watch?v=oA5bkoY2H7o

Comprehensive tests of language are designed to test a broad range of language skills across a wide range of ages. For example, the Test of Language Development–Primary (fourth edition) (Newcomer & Hammill, 2008) is designed to assess both expressive and receptive language in children from ages 4 to 9 and comprises nine subtests that cover the areas of phonology, syntax, and semantics. Using scores for each subtest, practitioners can derive an overall language age, as well as gain composite scores for phonology, syntax, semantics, speaking, and listening. The test is relatively easy to administer and interpret. It requires no special training, other than requiring a very careful reading of the manual.

Comprehensive tests of language skills have several advantages, the most important being that they give a reasonably complete picture of the child's language functioning. They provide information about the child's skills in syntax and semantics, and some (but not all) evaluate skills in phonology (e.g., the Test of Language Development–Primary) and pragmatics (see Table 14.3 for some examples). Most of these tests evaluate both receptive and expressive language skills. Because these tests evaluate a wide range of skills, the results reflect the child's skills in various domains of language.

Table 14.3

Examples of Comprehensive Language Tests

Test Name and Author(s)	Age Range (year, month)	Areas Assessed	
		Receptive	Expressive
Clinical Evaluation of Language Fundamentals–5 (Semel, Wiig, & Secord, 2013)	6–0 to 21–0	syn, sem	syn, sem, pho, prag
Comprehensive Assessment of Spoken Language (CASL) (Carrow-Woolfolk, 1999)	3–0 to 21–0	sem, syn, prag	sem, syn, prag
Test of Language Development–Primary (4th edition) (Newcomer & Hammill, 2008)	4–0 to 8–11	pho, syn, sem	pho, syn, sem
Test of Language Development–Intermediate (4th edition) (Hammill & Newcomer, 2008)	8–0 to 12–11	syn, sem	syn, sem
Test of Adolescent and Adult Language (4th edition) (Hammill, Brown, Larsen, & Wiederholt, 2007)	12–0 to 24–11	syn, sem	syn, sem

Sarah (the student presented at the beginning of this chapter) was given the Comprehensive Assessment of Spoken Language (CASL) test. Here were her scores:

Subtest	Raw Score	Standard Score	Test-Age Equivalent (year, month)
Antonyms	24	62	8–8
Synonyms	19	64	8–10
Sentence Completion	30	64	9–6
Syntax Construction	33	64	9–0
Grammatical Morphemes	10	48	6–10
Grammaticality Judgment	27	41	5–4
Nonliteral Language	18	59	10–4
Meaning from Context	5	65	10–2
Pragmatic Judgment	53	75	10–10
Core Composite Score	304	59	N/A

The CASL assessment shows that Sarah is below age expectations in all areas of language. Based on the results of the subtests, Sarah is having particular difficulty with expressive syntax (Grammaticality Judgment and Grammatical Morphemes subtests).

Although comprehensive tests of language can give us valuable information to use in making classification decisions, by their very nature, they are limited in depth. Because they are designed to test a wide range of skills, they do not have a sufficient number of items for in-depth exploration of a specific language domain. Often such in-depth analysis is important for making instructional decisions because teachers need to know whether *specific* language structures are present or absent. Tests of specific domains of language can provide more detailed information about a single area of language. These tests evaluate phonological, syntactic, semantic, or pragmatic skills in greater depth than most general tests of language can (see Table 14.4 for some examples).

Table 14.4

Examples of Tests of Specific Language Skills

Test Name and Author(s)	Age Range (years, month)
Phonology	
Bankson-Bernthal Test of Phonology (Bankson & Bernthal, 1999)	3–0 to 9–0
Test of Phonological Awareness–Second Edition (Torgesen & Bryant, 2004)	5–0 to 8-0
Goldman-Fristoe Test of Articulation–Third Edition (Goldman & Fristoe, 2015)	2–21
Syntax	
Structured Photographic Expressive Language Test–Third Edition (SPELT-3) (Dawson, Stout, & Eyer, 2005)	4 to 9–11
Test of Auditory Comprehension of Language–Fourth Edition (Carrow-Woolfolk, 2004)	3 to 9–11
Semantics	
Boehm Test of Basic Concepts–3 (Boehm, 2000)	K to grade 2
Comprehensive Receptive and Expressive Vocabulary Test–Third Edition (Wallace & Hammill, 2013)	5–0 to 17–11
Peabody Picture Vocabulary Test–4 (Dunn & Dunn, 2007)	2–6 to 90+
Pragmatics	
Test of Pragmatic Language–2 (Phelps-Teraski & Phelps-Gunn, 2007)	6–0 to 18–11

Watch as the Goldman-Fristoe Test of Articulation is administered in this video. What happens when the child fails to identify an item correctly?
https://www.youtube.com/watch?v=kd55ZWoTDc8

Formal, standardized tests can provide important information for making classification and instructional decisions. However, there are significant limitations to the use of standardized tests. Salvia and Ysseldyke (2010) note three particularly troubling issues regarding language assessment. First, standardized tests may not accurately reflect the child's spontaneous language abilities. Because standardized tests must be administered in a very particular way, they do not allow for spontaneous language expression. The child may talk incessantly before and after the testing session, but this cannot be counted as part of the test. A good tester, however, will be sure to note everything about the testing session. A second issue raised by Salvia and Ysseldyke (2010) involves problems associated with the use of test results to plan intervention. They note that many language tests do not easily translate into therapeutic goals. They also caution, as an aside here, that clinicians may be tempted to teach in ways that will improve test scores rather than focus on the skills the child needs for success in the classroom and the community. Third, there is a danger that tests may not adequately assess children from diverse social and cultural backgrounds. This is an especially important concern with language testing, since language is so closely intertwined with social and cultural norms.

Informal Procedures: Language Sampling

One useful way to obtain information about a child's language abilities is by collecting and analyzing a sample of his or her language (Costanza-Smith, 2010). Language samples can be a rich source of information, but they can be difficult to collect and analyze. Most speech-language specialists are trained in methods for eliciting and analyzing language

samples in detail. But it is possible to collect brief samples of language in the school setting that can reveal important information about a child's language skills.

The best context in which to obtain a language sample is a realistic setting. In other words, the child's classroom, home, and lunchroom are ideal places to record the sample. If possible, the child should be engaged in real activities, such as working together on a group project or playing a game. Of course observing language in real settings has its drawbacks. Usually there is background noise, and there may be a variety of other distractions in the classroom and the lunchroom. Therefore, the ideal of assessment in a natural setting must be balanced by the realities of the limitations. Sometimes it may be necessary to adapt the setting to make it more possible to get a language sample, for example, by bringing mom into a clinic room that is furnished in a homelike way or by sectioning off a portion of the classroom for language sampling. A representative language sample length of 50 to 100 utterances is optimal (Owens, 2010).

After the language sample has been collected, it must be analyzed. A typical language sample analysis would include some or all of the following elements:

- A measure of syntactic development such as *mean length of utterance* (MLU) for younger children or *t-unit analysis* for older children and adolescents. A t-unit consists of one main clause plus any attached or embedded subordinate clause. This measure has been found to be a rough measure of syntactic complexity in older children (Nippold, 2000).
- A measure of semantic development such as *type-token ratio* (TTR). TTR is calculated by counting the number of *different* words used in a language sample and dividing by the total number of words in the sample.
- Analysis of pragmatic language elements such as initiating or concluding a conversation, topic maintenance, and adjusting language to different speakers.

Language samples are a good way to find out more about the language of a particular child. They can give a more realistic picture of the child's use of language in realistic conversational contexts. Careful analysis of the samples can yield information that can be used for instructional planning.

Check Your Understanding 14.1

Click here to gauge your understanding of the concepts in this section.

Intensive Language Instruction

When students continue to lag behind their peers, despite good classroom instruction and appropriate supplementary support, they may be assigned to receive more intensive, individualized instruction. This type of instruction should be targeted at specific language skills, be supported by evidence from research and practice, and be sufficiently intensive to cause an improvement in these skills. Intensive instruction is an expensive and, therefore, a limited commodity, so it is important to be able to identify children who need and may benefit from intervention and to select intervention methods that have the greatest likelihood of success.

There are many types of intensive language instruction (also known as intervention) methods. Some were developed to meet the needs of specific groups of individuals with language and communication disorders. Others are designed to remediate particular aspects of language. Several examples of intensive language-intervention methods have been discussed in earlier chapters of this book (see Table 14.5 for a complete list). Many of these methods were developed for a specific population (such as the Picture Exchange Communication System [PECS] for individuals with autism). Others (such as milieu instruction) have been applied to individuals with many types of disabilities. But even those methods that were originally developed for a specific population could be useful for

Table 14.5

Intervention Methods from Previous Chapters

Method	Chapter
Lindamood Phoneme Sequencing Program	7 Learning Disabilities
Orton-Gillingham Method	7 Learning Disabilities
Fast ForWord	7 Learning Disabilities
Earobics	7 Learning Disabilities
Direct Instruction	8 Intellectual Disabilities
Mand model	8 Intellectual Disabilities
Interrupted behavior chain	8 Intellectual Disabilities
Discrete trial	9 Autism Spectrum Disorders
Picture Exchange Communication System	9 Autism Spectrum Disorders
Pivotal-response	9 Autism Spectrum Disorders
Auditory training	9 Autism Spectrum Disorders
Facilitated communication	9 Autism Spectrum Disorders
Visual phonics	11 Sensory Impairments

any child who is having significant difficulty acquiring the types of skills taught by that method. For example, there is no reason that PECS could not be applied to any child with limited spoken language skills.

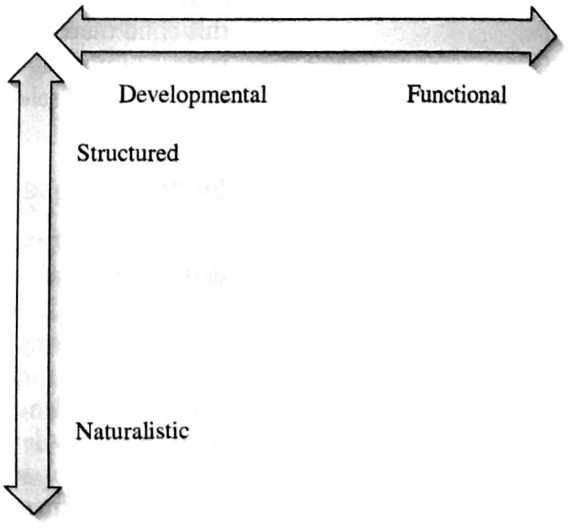
Every teacher or therapist faces the difficult task of choosing the best method for their students or clients. To determine what kind of intensive instructional method to use, practitioners should consider:

- The abilities and challenges of the individual student
- The child's developmental and instructional history
- The goals (short and long term) for the individual
- Who will deliver the instruction
- Where and how instruction will be delivered
- The evidence that supports the use of this method

The choice of which approach to use can be a daunting one for education professionals. Intervention methods range from highly structured methods (such as discrete trial training) to less structured approaches, like milieu or naturalistic instruction. Some rely on typical development to guide the selection of intervention goals, whereas others emphasize a more functional approach. In practice, many intervention programs combine elements of several of these dimensions (see Figure 14.1).

Figure 14.1

Dimensions of Language-Intervention Approaches



In schools where a more traditional model of problem identification and intervention is in place, children in need of more intensive instruction in language and communication skills may be referred by a parent and/or a classroom teacher for an evaluation of their current level of performance and identification of any related disabilities. When deciding whether a child might benefit for intervention, teachers and parents might want to ask the following questions:

1. *Is the child having difficulty with academic tasks?* For example, does the child have difficulty with reading, spelling, or writing?
2. *Does the child have difficulty participating in classroom interactions?* Does the child have problems understanding directions, following discussions, or contributing to classroom interactions?

3. *Does the child have difficulty getting along with others?* Are language difficulties causing the child to be teased by others, be misunderstood, or be left out of social activities?
4. *Is the language problem getting worse, getting better, or staying about the same?* If the child is making steady progress, intervention may not be needed. Instead, the child may need to be carefully monitored for a while.

If the answer to at least one of the first three questions is yes, and the problem appears to be getting worse or not improving, the child should be considered for intervention for the speech or language difficulty. This intervention might take place in a clinical setting, such as a speech-language therapy room or a special education resource center, but, increasingly, language intervention is being delivered in the classroom (Reed, 2012).

In a response to intervention service delivery model, intensive instruction is known as tier 3. Children who are continuing to fall behind their peers on measures of academic performance despite supplementary instruction may be candidates for tier 3 intervention. Additionally, children who are experiencing very severe or significant academic, behavioral, or social-emotional problems might be placed directly into tier 3 (Ervin, 2011). Tier 3 instruction is usually delivered by a specialist. In the case of language or literacy difficulties, this might be a special educator and/or a speech-language specialist. The intervention might be delivered in the classroom but is typically provided in a separate therapy or resource room. Intervention might consist of more intensive and more frequent instruction using materials used in tiers 1 and 2, but specialized intervention methods and materials are often used. In some cases, tier 3 might be the point where children are referred for special educational services.

Ervin (2011) suggests that the following considerations should guide the development of tier 3 intervention:

1. What the intervention will look like (i.e., its steps or procedures)
2. What materials and/or resources are needed and whether these are available within existing resources
3. Roles and responsibilities with respect to intervention implementation (i.e., who will be responsible for running the intervention, preparing materials, etc.)
4. The intervention schedule (i.e., how often, for how long, and at what times in the day?) and context (i.e., where, and with whom?)
5. How the intervention and its outcomes will be monitored (i.e., what measures, by whom, and on what schedule?) and analyzed (i.e., compared to what criterion?)

Of these considerations, perhaps the most critical one is what methods will be used. After all, this is a child who has already experienced significant difficulties. Previous instruction has not been successful. The question now becomes, what can we do to help this child meet the performance expectations of his or her age group? One of the key factors in making instructional decisions at any level, but certainly at tier 3 (intensive instruction), is selecting evidence-based practices.

Evidence-Based Practice

The concept of evidence-based practice comes from the medical field. An often-cited definition is that proposed by Sackett, Rosenberg, Gray, Haynes, and Richardson (1996): "Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research." The American Speech-Language-Hearing Association has developed a position statement on evidence-based practice for speech and language professionals that includes both the use of high-quality research evidence and clinical expertise in making intervention decisions (you can review the statement on their website).

This video explains the concept of evidence-based practice and how it can be used in decision making. What factors does the video suggest are needed to make evidence-based practice effective?
https://www.youtube.com/watch?v=Xiv75BLGtrs

Although the idea that teachers and other school professionals should use research to guide practice should hardly seem to be controversial, it is, in many cases, a departure from past practices. Slavin (2002) and others have noted that it is only very recently that educators have begun to rely more on scientific evidence than on past practice or opinion. Similarly, in the speech and language field, practitioners have traditionally been taught to consider their clients' wishes and their own experience in making clinical decisions rather than relying on research to guide practice (Gillam & Gillam, 2006).

The No Child Left Behind legislation called for educators to use "scientifically based" practices in delivering education. In response, the U.S. Department of Education has established the Institute of Education Sciences (visit the institute's website for more information) to disseminate information about effective practices, and many professional organizations (including the American Speech-Language-Hearing Association and Council for Exceptional Children) are at work to identify and inform their members about educational practices that are supported by research.

Implementing evidence-based practices in the classroom and in clinical practice is not always as easy as it may seem at first glance. As Ratner (2006) has pointed out, sometimes there is too little valid research available on a particular practice. Sometimes there is conflicting evidence. Ratner (2006) also reminds us that effective methods are only as good as the practitioners who implement them. Still, it is essential that teachers and other professionals attempt to use research-validated instructional practices and, when the research is not available, that they participate in studies of educational practices whenever feasible.

Gillam and Gillam (2006) proposed a seven-step process for using evidence-based practice for decision making as follows:

Step 1: This step involves creating the clinical question. The authors suggest that clinicians should specify the instructional target, the developmental level of the child, and the type of learning difficulty of the child.

Step 2: In the next step, the clinician (or teacher) should look for research evidence on interventions designed to address the type of problem identified in step 1. Resources such as research databases (e.g., the Education Resources Information Center [ERIC] or the What Works Clearinghouse; see the websites for these databases) can be the place to start the search.

Step 3: The practitioner evaluates the quality of the evidence. That can be difficult when there are many studies and contradictory findings. One approach is to consider the preponderance of the evidence. If 9 out of 10 studies have reached a similar conclusion, it is more likely that this approach is effective.

Step 4: Consider student and family factors, such as cultural values and beliefs, student interests, and family resources.

Step 5: Consider personal and agency factors. The practitioner may be better prepared to carry out one type of intervention over another. Similarly, school district or agency policies, practices, and finances may need to be factored into the decision-making process.

Step 6: Integrate the evidence to make a final decision. This can be simple when the research evidence, previous practice, the practitioner's preparation, and the school's ability to support the approach match. But in some cases, parents prefer one approach over another or the school may have invested in an approach that does not appear to meet the criteria for being evidence-based. Gillam and Gillam (2006) suggest that greater emphasis should be placed on the research evidence for making instructional decisions.

Step 7: Evaluate the outcomes of the selected procedure.

Developmental and Functional Approaches

One of the major questions in language instruction is how information about language development can and should be used in planning therapy for children with language disorders. Knowledge of the usual steps and timing of typical language development can provide a benchmark against which the language development of any individual child can be compared. Knowing what *should* come next can help in determining what should be taught next. However, at times, developmental evidence has been used to deny children access to instruction. For many children with significant learning difficulties, waiting for children to develop so-called "prerequisite" skills before engaging them in reading or writing or using augmentative communication methods may mean that they will never have these opportunities.

Because we know that children with disabilities often acquire language in the same sequence (although more slowly) as nondisabled children, it makes sense to follow developmental guidelines in planning language goals. This was the hypothesis tested by Dyer, Santarcangelo, and Luce (1987). In a series of studies, they taught phonetic sounds and syntactic structures to children with severe language disabilities. They found that earlier-emerging forms (e.g., /b/ sounds) were learned in fewer trials than were later-emerging forms (e.g., /z/ sounds). Moreover, later-emerging forms were never acquired unless the earlier forms had been learned. Here, using typical language development as a guideline turned out to be a useful way of planning instructional goals for these students with severe language disorders.

Although knowledge of typical language development can be helpful in planning language instruction, Owens (2010) suggests that we should be cautious in using development too strictly to guide intervention. He points out, for example, that it would be a mistake to teach children with language delays to go through all the steps that typically developing children use to get to the final form of a language structure. It is not necessary for a child to say *goded* before learning the correct irregular past-tense form, *went*. Owens suggests that developmental hierarchies can best be used as broad guidelines for instruction—for help in determining which structures are less complex—and should therefore be taught prior to more complex structures. Having knowledge of language development can also help the instructor avoid leaps that are too great for the child to master.

Largely as a result of concerns about the role of typical development in planning language instruction, some have suggested that instruction should focus on teaching specific skills that the children will need in their immediate environment. Sometimes called **functional approaches**, these instructional programs seek to identify skills that the children need in order to be successful in their present environment or in one that they will soon be entering. For example, if a child needs to request materials in the classroom, then practice on requesting might be an instructional goal. Although functional goals can be very useful to help a child master a short-term task, they may not lead to generalization of the skill to new environments.

It is possible to combine a developmental approach to language instruction with a functional approach. Language development should be seen as a framework within which there can be considerable variation. This is true for typically developing children and even more true for children with disabilities. Information about typical language development should be used as a way to identify children at risk for language disorders and as a way to develop an overall sequence of skills. The child's age and status should most importantly determine how developmental guidelines are used. In general, developmental hierarchies are less valid for older children and children with more severe disabilities. These children are more likely to benefit from programs that focus on skills needed in their current environment, skills of functional communication and general literacy. But instructional objectives can always be put in functional terms. In other words, typical development can be used as a guideline for the selection of instructional objectives. The objectives themselves can be put in functional terms that will enable the child to enhance their functionality in natural settings.

Remember Sarah, the 12-year-old student with intellectual disabilities. Sarah's teacher completed a speech and language checklist in which she identified a number of

areas of difficulty, including poor or limited vocabulary, incorrect use of grammar, difficulty expressing thoughts, and difficulty with storytelling. Sarah's teacher decided that one skill that Sarah needed to work on was vocabulary development. Using Quizlet, a website that enables students to develop their own flashcards, Sarah's teacher gave her three vocabulary words to learn each week. The words were not taken from a standardized word list but rather from areas of high interest for Sarah, including sports and community activities. In this way, Sarah's teacher combined a developmental goal (expansion of vocabulary) with functional objectives (computer use and words that Sarah would need in the community).

Structured and Naturalistic Methods

Structured language instructional approaches are typically used with a standardized set of instructions and materials. They take the child through a sequence of steps toward a goal that is set by the teacher or therapist prior to instruction. Instruction is usually delivered for extensive periods of time over a long duration. Earlier in this book, some highly structured intervention methods, such as direct instruction (Chapter 8) and discrete trial training (Chapter 9), were discussed. Although highly structured programs can work, they have been criticized for being unnatural. That is, the instructional procedures are unlike what the child is likely to encounter in the real world, and as a result, children may master *splinter* skills—skills that are relatively useless. For example, a child might learn to identify a picture of a "spoon" by pointing to the picture of when it is presented along with two other pictures of utensils. However, the child may be unable to request a spoon when she needs one to eat her lunch.

Naturalistic approaches emphasize the delivery of language intervention in natural settings, using dispersed trials that follow the child's lead and using reinforcers indicated by the child's preferences (Warren & Kaiser, 1986). Although language-instruction goals may be set prior to instruction, the language facilitator is encouraged to be responsive to the child. The language facilitator may structure the environment in ways that will lead toward a language goal but should follow the child's lead and be responsive to the child rather than to a set of instructions. Therefore, if the child uses structures that were not anticipated or wants to talk about topics that were not part of the plan, the facilitator should follow the child's lead.

A number of different instructional approaches can be grouped under the general heading of naturalistic instruction, including:

1. *Modeling.* A verbal model is presented that is related to the student's interests. The student is reinforced if a response occurs. If there is no response, the model is repeated. For example, if a child were playing with a favorite toy, the teacher might say, "Barney." If the child responds with the word, the teacher could extend the conversation, such as, "I like Barney." If the child made no response, the teacher would repeat the sequence.
2. *Time delay.* When using this procedure, the language facilitator moves close to the child and looks at the child for 5 to 15 seconds while waiting for the child to talk. If the child does not initiate an interaction, the adult can provide a verbal prompt or model an initiation.
3. *Incidental teaching.* Warren and Kaiser (1986) describe incidental teaching as including the following elements:
   - Arranging the environment to increase the likelihood that the child will initiate to the adult
   - Selecting language targets appropriate for the child's skill level, interests, and environment
   - Responding to the child's initiations with requests for elaborated language
   - Reinforcing the child's communicative attempts with attention and access to the objects and activities with which the child has expressed interest

Research on Intervention Efficacy

In general, research has found that language intervention can be effective. A meta-analysis of a large number of studies found that language intervention was effective for children with phonological or vocabulary difficulties and somewhat effective for children with syntax difficulties. Intervention was not found to be effective for children with receptive language difficulties (Law, Garrett, & Nye, 2004). Cirrin and Gillam (2008) pointed out that although a number of intervention methods have shown promise, there is still a limited research base to support the effectiveness of language-intervention methods.

Some intervention methods have been found to work better with particular groups of children. For example, research by Connell (1987) and Connell and Stone (1992) found that modeling correct language was sufficient to improve the language skills of typically developing children but did not have the same effect on the language of children with specific language impairments. For those children, modeling combined with imitation was much more effective for improving the acquisition of grammatical morphemes.

One major question about the efficacy of language-intervention methods is whether highly structured methods (such as discrete trial training) are more effective than more naturalistic methods (such as milieu teaching). This question was directly studied by Yoder, Kaiser, and Alpert (1991). In their study, a less structured (milieu) approach was compared to a more structured (communication training program) language-instruction program. They found that the milieu approach worked best for the children with the most serious language impairments. The more structured program worked best for the higher-functioning children. The authors speculated that one reason for their findings may have been that the lower-functioning children benefited more from a program that emphasized the generalization of language skills (the milieu approach). A number of research studies have found that milieu teaching methods can be effective for enhancing the language skills of children with disabilities (Kaiser, Yoder, & Keetz, 1992). However, other studies have found that highly structured programs, such as discrete trial training, can also be effective (e.g., Downs, Downs, Johansen, & Fossum, 2007).

The results of research on language intervention suggest that factors such as the child's age and degree of disability, as well as the aspect of language being taught, should be considered when making decisions about the goals and methods of intervention. Developmental guidelines seem to be most appropriate for younger children. Goals developed from the demands of the environment (functional goals) are also useful, especially for older students and students with more severe disabilities. Structured-intervention procedures may work best for teaching discrete skills such as vocabulary. Instruction that takes place in natural settings can be effective if there are clear goals.

Generalization

The ultimate goal of language intervention should always be to make the child a more effective communicator. Therefore, no matter what intervention method teachers and speech-language specialists choose to use, they should always consider that the skills taught need to be generalized to new situations. Because many individuals with disabilities have difficulty generalizing learned skills, it is especially important to teach those skills in ways that will enhance generalization.

Some strategies to enhance the generalization of language skills include:

- Teaching in contexts that are as close to the natural environment as possible
- Using a variety of materials and examples to teach a new task
- Using a variety of communicative partners
- Teaching skills demanded by the environment
- Using reinforcers that are available in the natural environment (e.g., praise)

Let's try an example. We are trying to help Jason, a 10-year-old student with autism, to initiate conversations with his peers. Currently, he gets the attention of his peers by

touching them. If they do not respond, he may escalate to hitting them. So, Jason's teacher decided to use modeling and coaching of communication skills to help Jason replace his current behavior with one that is more socially acceptable. His teacher modeled for Jason how to request something he needs, for example saying, "Please give me a marker." Then she had Jason practice this skill several times with her, receiving feedback from the teacher. But Jason's teacher did not stop there. She sometimes had the classroom assistant provide the modeling and feedback. She also used other objects and situations in the training. After Jason demonstrated that he had learned how to request different kinds of things in several situations, she asked one of his peers to provide the model. Finally, she created opportunities in the classroom for Jason to use his new requesting skills and was there to provide coaching to Jason as he performed his newly learned skill. Using multiple instructors, a variety of materials and situations, and practice in the actual settings where Jason would need to perform his newly learned skills, the teacher provided many opportunities for generalization of the skill.

This video shows methods that can be used to enhance the generalization of skills. What does the video suggest that teachers do to increase generalization of skills in their students?
https://www.youtube.com/watch?v=xU395HgXI2s

Apply Your Knowledge 14.2: Generalization of Instruction

Give two suggestions for how Sarah's teacher could enhance the generalization of the vocabulary words that Sarah is learning.

Collaboration

One of the keys to the success of any type of instruction is the collaboration among those who are responsible for the planning, implementation, and evaluation of the intervention. For students with language and communication disorders, a team approach that includes the child's parent, classroom teacher, and one or more specialists such as a speech-language pathologist and/or a special educator is required. Each of these partners brings essential knowledge and skills to bear on identifying the child's challenges and designing an effective program to address the issues. Parents can provide essential background information about the child as well as insights on how the child performs at home and in the community. The classroom teacher knows how the child interacts with peers and adults in the classroom and how the child is progressing in literacy skills and academic subjects. The specialist brings his or her knowledge of child development, language training, and instructional supports to the task.

Ideally, all of the team partners work together to help the child develop the skills he or she needs for success in school, at home, and in the community. Unfortunately, that ideal is not always achieved. That is why it is important for school professionals to understand the principles for successful collaboration and how to apply those principles to instructional planning and delivery.

Collaboration has been defined as "a style for direct interaction between at least two co-equal parties voluntarily engaged in shared decision making as they work toward a common goal" (Friend & Cook, 2007, p. 7). There are some key words in this definition. The first is the word "style." Friend and Cook (2007) claim that successful collaboration requires that partners engage with each other in a style that encourages free and open interaction. The participants must be willing to listen to the contributions of others and respond to their suggestions in ways that value what is said. A second key word is "equal." Ideally, all

partners should feel that they have an equal role in the planning or implementation of instruction. In reality, sometimes there can be defensiveness and claims of ownership over some aspects of the discussion. Parents may not be included as full partners on the team or may insist on the use of a strategy that the rest of the team believes is not appropriate for the child. A third critical concept is "shared" decision making. Instructional planning and delivery work best when everyone shares responsibility for the success of the program and is willing to objectively examine the results of the intervention.

Friend (2014) identified five elements as essential for successful collaboration:

1. *Personal commitment:* There must be a commitment to collaboration as a worthwhile approach to intervention planning and delivery.
2. *Communication skills:* Participants must be able to engage in active listening, where each participant is encouraged to contribute to the discussion. Additionally, participants should strive to describe a behavior rather than make an evaluative comment that cuts off discussion. For example, instead of saying, "Jose is disrespectful of others," his teacher might say, "On two occasions last week, Jose tried to take a toy away from one of his classmates."
3. *Interaction processes:* The team should develop a process for problem solving that includes identification of the problem, generation of alternative methods for addressing the problem, a process for deciding which method to implement, and deciding the criteria for success and how that will be evaluated.
4. *Programs/services:* The team must decide which programs and services will be required and how they will be delivered.
5. *Context:* In order for collaborative planning and instruction to be successful, there needs to be a culture of collaboration. School leaders need to understand the value of collaboration and provide the time and resources that are required to make collaboration work.

Watch this video of a collaborative planning discussion. What does the team leader do to engage each team member in the discussion?

Implementing a successful collaboration model can be challenging. At first, all of the pieces suggested by Friend (2014) may not be in place. The team may need to work hard to ensure that all members are heard and that a plan is developed that all support. However, when collaboration works, it can enhance the success of any intervention program.

Check Your Understanding 14.2

Click here to gauge your understanding of the concepts in this section.

Apply Your Knowledge 14.3: Sarah's Instructional Plan

Review Sarah's instructional plan and develop at least two additional suggestions for teaching one language or literacy skill.

Summary

In this chapter, we discussed methods that can be used when students require more intensive instruction. Assessment procedures and methods that could be used to identify more precisely the language and communication needs of students were presented. A discussion of methods for planning and delivering language intervention followed. The use of evidence-based practices, teaching for generalization, and the importance of collaboration were emphasized.