As discussed in *Learning Disabilities in Historical Perspective* (p. 291), remedial approaches for learning disabilities have been drawn from practices that were developed over the course of the twentieth century in clinics and classrooms. Thus, although practitioners in the LD field have adopted a variety of terms to describe their work, the major approaches can be grouped under the two contrasting orientations to remediation we discussed in Chapter 3—underlying or observable problem approaches.

### Underlying Problem Approaches

LD practitioners who use underlying problem approaches assume there is an internal dysfunction at the root of the learning problem. Both the initial and recent emphasis in the field has been to see the underlying problem as biological—namely, a minor CNS dysfunction. The underlying CNS dysfunction is seen as interfering with processes (such as short-term memory, selective attention) required to learn effectively and efficiently. As discussed in Chapter 2, over time this state of affairs is seen as affecting development (such as slowing it down or producing developmental anomalies). In turn, this interferes with acquiring certain prerequisites (such as visual and auditory perceptual discriminations) needed in learning to read, write, and so forth. Failure to acquire these prerequisites impedes subsequent learning and performance.

### Lagging Development

To expand briefly on Chapter 2, lags in development (sometimes called maturational lags) are common and except in extreme cases are not matters of great concern. There are marked developmental differences both among people and within the same person with respect to sensory, perceptual, motoric, cognitive, language, social, and emotional functioning.

In most cases, there is no way to determine why some individuals develop at a slower (or for that matter at a faster) rate than others overall or in a particular area. But, it is commonplace for some individuals to lag behind at one time and eventually to catch up or even spurt ahead.

Learning problems arise when an individual has not yet developed sufficiently to meet age-related expectations and demands. This happens particularly in learning environments, such as school, and with respect to specific learning tasks, such as discriminating between letters, learning to write, and so forth. Such problems can make it more difficult for the individual to catch up. Overcoming such learning problems may be even harder if the initial lag in development was due to a CNS dysfunction.

Given the lack of diagnostic procedures to assess minor CNS dysfunctions validly, remedial decisions for young children generally are based on early indications of learning problems associated with lagging development. There have been frequent warnings about the difficulty of differentiating common fluctuations in development from those where the individual’s developmental lag warrants a learning-disabilities diagnosis.

Our clinical findings over the years since the term *learning disability* has come into vogue is that a large percentage of the boys and girls referred to our own clinical service as learning disabled have been children of apparently quite normal academic potential who simply were overplaced in school. In our opinion, these children are having trouble in school chiefly because they were started too soon—on the basis of their chronological age rather than their behavior age.

Based on our clinical findings, we would urge all those involved with the process of education to make absolutely certain that they are not labelling any child as learning disabled who is immature or young for the grade he or she is in and who is thus failing simply because he or she is not ready for the work involved. (Ames, 1983, p. 19)

### Developmental Anomalies

As also discussed in Chapter 2, development may be impeded or distorted because of brain injury or other factors causing CNS dysfunction (genetic abnormalities, endocrine malfunctions). Such factors
may cause delayed neurological maturation, development of abnormal brain structures, or malfunctioning of connections between brain cells. Resulting problems may take the form of unusual behavior, difficulty in learning, or both. Obviously, developmental anomalies can be major factors interfering with efforts to teach.

**Remedial Approaches**

Remedial and treatment approaches used by those oriented to underlying problems include educational, psychological, and even some medically related strategies. As outlined in Table 1, those who pursue this orientation to learning disabilities attempt to address a range of developmental disabilities seen as disrupting learning.

Although the primary overall concern is with underlying problems, classroom programs also provide instruction to teach students age-appropriate school and life skills (especially readiness skills), and pursue strategies designed to minimize behavior that interferes with classroom instruction.

The roots of this orientation are found in medical, psychotherapeutic, and educational concepts. Thus the resulting corrective interventions usually are built

<table>
<thead>
<tr>
<th>PRIMARY OVERALL CONCERN</th>
<th>Underlying Problem Approaches</th>
<th>Observable Problem Approaches</th>
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<tr>
<td></td>
<td>Developmental disabilities (legs and anomalies) that disrupt learning</td>
<td>Age-appropriate unlearned skills</td>
</tr>
<tr>
<td>SPECIFIC AREAS OF CONCERN</td>
<td>Development</td>
<td>School/life knowledge and skills</td>
</tr>
<tr>
<td></td>
<td>perceptual problems</td>
<td>• readiness (for learning) skills (including strategies for learning)</td>
</tr>
<tr>
<td></td>
<td>motoric problems</td>
<td>• basic language/reading and math</td>
</tr>
<tr>
<td></td>
<td>language problems</td>
<td>• academic content areas</td>
</tr>
<tr>
<td></td>
<td>general cognitive problems</td>
<td>• life adjustment skills (including social and vocational skills)</td>
</tr>
<tr>
<td></td>
<td>Compensatory strategies for overcoming areas of continuing disability</td>
<td>Interfering behaviors (e.g., poor impulse control, lack of sustained attention)</td>
</tr>
<tr>
<td>SECONDARY CONCERN</td>
<td>Age-appropriate unlearned skills (i.e., school/life knowledge and skills)</td>
<td></td>
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<td>TERTIARY CONCERN</td>
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<td></td>
</tr>
<tr>
<td>PROCESS COMPONENTS</td>
<td>Construct-oriented assessment of developmental functioning for program planning and evaluation</td>
<td>School curriculum-based assessment of sequential skills for program planning, monitoring, and evaluation</td>
</tr>
<tr>
<td>FORM OF OBJECTIVES</td>
<td>Nonbehavioral, as well as behavioral and criterion-referenced objectives</td>
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**ASSESSMENT**

<table>
<thead>
<tr>
<th>REMEDIAL RATIONALE AND METHODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapy-oriented interventions (primary emphasis on establishing rapport through interpersonal dynamics)</td>
</tr>
<tr>
<td>• exercises intended to correct developmental anomalies and accelerate lagging development</td>
</tr>
<tr>
<td>• eclectic instruction related to age-appropriate unlearned skills</td>
</tr>
<tr>
<td>• eclectic instruction related to compensatory strategies</td>
</tr>
<tr>
<td>• eclectic strategies for reducing interfering behaviors</td>
</tr>
<tr>
<td>Behavior change interventions (primary emphasis on establishing control over behavior through manipulation of reinforcers and instruction in cognitive self-direction and monitoring)</td>
</tr>
<tr>
<td>• direct instruction to teach missing skills</td>
</tr>
<tr>
<td>• behavior management to reduce interfering behaviors</td>
</tr>
</tbody>
</table>
on testing designed to analyze perceptual, motoric, cognitive, and language functioning. In addition, for purposes of diagnosis, neurological or psychoneurological testing may be done.

Intervention is concerned specifically with underlying problems in four developmental areas: perceptual, motoric, language, and general cognitive functioning. Instructional objectives are stated in nonbehavioral as well as behavioral and criterion-referenced terms. Instructional strategies are eclectic, drawing on psychotherapeutic principles and a variety of teaching models. Thus they emphasize rapport building to reduce anxiety and increase positive involvement, traditional learning principles (mastery learning, reinforcement theory), contemporary views of cognitive strategy instruction, use of social interaction, and so forth. If all else fails, individuals are taught strategies for compensating for a specific learning disability (using multisensory techniques to learn words, mnemonic techniques to help with memorization).

Examples of approaches for psychoeducational remediation in the four specific developmental areas follow. Major medically related approaches and some controversies surrounding them are highlighted in Controversial Treatments and Fads (p. 309).

Perceptual-motor problems There is a long history of theory, intervention, and research in the LD field based on the view that underlying some learning problems (for example, in reading and writing) are perceptual and motor dysfunctions. These dysfunctions are believed to cause deficits in the ability to recognize and interpret sensory stimuli or in the ability to integrate such stimuli with motor activity. Major areas affected are seen as including auditory, visual, tactile, and kinesthetic perception and the integration of perceptions across areas and with motor patterns.

Kurt Goldstein, Alfred Strauss, and Heinz Werner are recognized as pioneers in working with such ideas. Later, Laura Lehtinen, Newell Kephart, William Cruickshank, and Marianne Frostig continued to emphasize this line of thinking; they developed remedial strategies that were used widely in the 1950s and 1960s.

For example, poor perception of body parts and functions has been attributed to CNS dysfunctions. In such cases, Cruickshank and colleagues (1961), Kephart (1960), and others have advocated exercises to improve sense of body awareness and coordination. Such exercises start with simple tasks (identifying body parts in response to verbal cues); then they move on to more demanding tasks requiring controlled use of the body (catching, throwing, and walking special routes as directed).

The types of perceptual and related motor functions for which exercises have been developed or adapted include

- laterality and directionality
- balance and posture
- gross and fine motor coordination
- figure-ground perception
- position in space
- perceptual-motor coordination
- multisensory integration
- rhythm
- strength, endurance, and flexibility
- body image and differentiation
- locomotion
- ocular control
- eye-hand coordination
- constancy of shape
- spatial relationships
- auditory and visual integration
- tactile and kinesthetic integration
- agility

Because the exercises usually are designed for young children, practice is encouraged through use of gamelike activities, such as Simon Says, duck-, crab-, and elephant-walks, rabbit hops, hopscotch, angels in the snow, jumping rope, walking on balance boards, skating, skateboarding, copying, drawing, coloring, paper cutting and folding, and rhyming games.

Language-related problems Here, too, there is a long history of concern about underlying dysfunctions that interfere with language development and functioning (reading, writing, and speaking). Approaches developed by Samuel Orton and Grace Fernald in the 1920s often are mentioned as pioneer examples. It was not until the late 1950s and 1960s, however, that this area received major attention. During that period, Joseph Wepman, Samuel Kirk and his colleagues, and Helmer Myklebust and his colleague Doris Johnson focused attention on remedial approaches for disabilities underlying language learning problems.

For instance, there has been tremendous emphasis on the notion that CNS dysfunctions may
interfere with the processes by which information from one or more senses is received and understood. Thus individuals with reading problems who are diagnosed as having learning disabilities often are hypothesized as having inadequate auditory or visual processing abilities. For example, a major area of study has been on deficiencies in perceiving the sounds of words (poor awareness of linguistic sounds). When this is the case, exercises are used to correct the problem, if possible. For the time being, at least, reading instruction is changed to avoid emphasizing the individual’s auditory senses in favor of functionally stronger senses, including multi-sensory approaches.

The areas of underlying functioning related to language for which exercises have been developed or adapted include

* auditory and visual perception (awareness and processing)
* sound-symbol and visual-auditory associations
* conceptual understanding and classification
* auditory and visual memory
* speech production

Exercises include many of the activities cited above for improving perception; responding to rhythmic patterns; letter sound and phonics games; sorting and organizing; object and attribute identification tasks; direction following activities; recall of objects, designs, letters, and numbers.

In the 1980s and 1990s, renewed interest in instruction targeting language abilities and deficiencies has emphasized addressing phonological awareness, a hierarchy of metalinguistic skills related to the segmentation and manipulation of spoken language (Mann & Brady, 1988; Sawyer, 1992; Wagner & Torgesen, 1987). However, Hodgson (1992) offers a familiar note of caution about such activity:

[Data reviewed question] whether the correlations that have been shown to hold between explicit knowledge of the phonological significance of orthographic units and word identification accuracy in the first 2 or 3 years of school may not be the direct pathway to mature, phonologically based reading that they have often been taken to be. . . . It may turn out that reading development is not entirely a creature of the exercise of general-skill-forming abilities over a simple set of explicit understandings. (p. 100)

**General cognitive problems.** With increasing theoretical activity related to cognitive development and function have come hypotheses about general cognitive problems underlying learning disabilities (Swanson, 1988). Early concerns about memory have been expanded to encompass problems related to automaticity, cognitive structures, cognitive style, and metacognition.

For example, CNS dysfunction may be seen as having disrupted development of knowledge and skills for approaching learning tasks effectively and efficiently. Or, the dysfunction may be responsible for passive or impulsive interactions with learning tasks. In this regard, there is an increasing concern about differences in cognitive style and temperament (Keogh & Bess, 1991).

All remediation designed to affect the way the individual thinks about pursuing learning can be viewed as involving metacognitive strategies. The prototype for such strategies comes from cognitive behavior-modification ideas introduced into LD classroom programs in the 1970s (Abikoff, 1979; Douglas, 1972; Meichenbaum, 1977, 1983). Initially, the approach stressed the importance of students’ giving themselves directive messages and monitoring and evaluating their own progress. For instance, to teach students to attend more carefully in learning situations, the students were instructed to “stop, look, and listen.” Broadly, the intention was to have them learn to define what had to be done, attend to the relevant parts of the task, reinforce themselves as they proceeded, and evaluate their accomplishments.

To teach such “cognitive strategies,” (a) the teacher models the process by talking through the steps while doing a task, (b) the student does the task, with the teacher directing and talking through each step, (c) the student then repeats the task with self-directions, saying the steps aloud and eventually only whispering them, and finally (d) the student does the task without saying the directions aloud. What the student says may sound like this:

OK, what is it I have to do? Copy these words. I should do it slowly so I won’t make mistakes.

Draw the line down—good—then to the right—that’s it, now down. I’m doing fine so far. Remember to go slowly. Oh, oh. I was supposed to go down. That’s OK. Just erase the line. Good. Even...
if I make a mistake, I can go on. I have to draw a circle now.

Finished. I did it!

More generally, the approach has been to teach and model metacognitive strategies and arrange for practice in the form of rehearsal and review. For instance, cognitive-oriented strategies to improve memory have encompassed association techniques, mnemonic devices, and chunking (Mas- tropieri, Scruggs, & Levin, 1985). Such strategies emphasize use of visual or verbal mental images.

Strategies designed to improve the way the individual thinks about and approaches the process of learning encompass a range of general strategies for learning, lessons on specific ways to think about how one can improve learning through self-direction and monitoring, and modeling and guided learning to illustrate steps for learning and problem solving. (Many of the strategies resemble study-skills approaches.)

Strategies to alter passive or impulsive learning stress active, focused, self-directed, and monitored task involvement. For example, individuals with these problems are shown and encouraged to approach a learning task by (a) surveying it in order to gain a perspective and overview, (b) formulating questions, and (c) predicting or speculating about answers and outcomes. As they proceed, they are to pace reviews and rehearsal, to accommodate short attention spans, and to minimize passive involvement.

One example of a contemporary approach to cognitive-oriented remediation that stresses guided teaching is called "reciprocal teaching" (Palincsar & Brown, 1984). The method is based on Vygotsky's (1978) view that through social dialogue a child can participate in strategic activity that he or she does not completely understand. The process involves teachers and students in taking turns leading group discussions about a shared text. During the discussions, the process is structured through the use of four activities—predicting, questioning, summarizing, and clarifying—that are taught, modeled, and practiced as strategies.

Another example is seen in the extensive learning-strategies curriculum developed by the staff at the University of Kansas Institute for Learning Disabilities (Deshler & Schumaker, 1986; Schumaker, Deshler, & Ellis, 1986). Learning strategies have been defined as "techniques, principles, or rules that will facilitate the acquisition, manipulation, integration, storage, and retrieval of information across situations and settings" (Alley & Deshler, 1979, p. 13).

Designed for adolescents, the curriculum has three major strands. The three strands are keyed to three curriculum demands that call on the student to (1) acquire information from written material (reading requirements), (2) identify and store important information (remembering and study techniques), and (3) demonstrate competence in written expression. Related to each curriculum demand are a set of general learning strategies. For example, six strategies are identified for the first curriculum demand listed above (strategies for word identification, visual imagery, self-questioning, paraphrasing, interpreting visual aids, and multipass—a review strategy). Finally, specific instructional steps are detailed for each learning strategy.

A major concern related to metacognitive instruction is that, rather than addressing underlying problems, strategies may become another set of observable skills that are not learned. That is, individuals with true learning disabilities may have as much trouble learning these strategies as they do learning other basic skills.

**Observable Problem Approaches**

Practitioners of observable problem approaches assume that even if a person has an underlying problem, the only thing that can be done from an instructional perspective is teach the skills the individual should be learning. In contrast to the underlying problem orientation, this view sees no value in assuming an underlying problem. Instead, the assumption is that individuals with learning problems simply haven't yet learned the skills they need. As we have discussed, those who hold this view primarily stress direct instruction of observable, age-appropriate, unlearned skills (review Table 1 and see Feature 1).

For instance, based on a student's grade and age, proponents of this approach focus assessment on knowledge and skills identified through analyses of the school curriculum and daily life tasks. Based on assessment of missing skills that should have been learned, behavioral and criterion-referenced objectives are formulated. In classrooms, intervention also is designed to deal with behavior that inter-
fers with classroom instruction. Strategies emphasize direct and systematic teaching and behavior management drawing on behavior change principles.

Those who hold this view tend to subscribe to behaviorist and cognitive behaviorist models of instruction. Thus, they view skill instruction in terms of direct strategies for behavior change (eliciting and reinforcing specific responses, instruction in cognitive self-direction and monitoring).

**Observable skills and objectives** The skills to be taught are seen building one on another. Lists of sequential skills, called skill hierarchies, have been developed in areas such as reading and math to identify which skills should be learned first, second, and so forth. These lists are presented as representing the developmental scope and sequence of skills to be learned. There also are lists of readiness skills that are seen as general prerequisites for most school learning. These include learning to listen, attend, follow directions, classify, relate to others, and so forth. (Some activities used to teach prerequisites are the same as those used in efforts to remedy underlying problems seen as interfering with learning such prerequisites.)

As indicated, assessment is used to identify missing skills, and these are specified as the intended outcomes for intervention. They are specified in the form of behavioral objectives (they are formulated in highly concrete behavioral terms) and criterion-referenced (they refer to a criterion for evaluating success). For instance: "Joe will decode unfamiliar vocabulary words from fourth-grade texts with 85 percent accuracy." Intended outcomes are carefully monitored as a basis for planning subsequent objectives.

**Direct instruction** The process of direct instruction itself stresses use of curriculum-based assessment and monitoring, behavioral and criterion-referenced objectives, and operant conditioning and cognitive behavior-modification change strategies. To illustrate this orientation, it is useful to go back to programs that emerged around the middle of the twentieth century.

During the 1950s and 1960s, Richard Whelan, Norris Haring, E. Lakin Phillips, and Frank Hewett established classroom models based on behaviorist ideas of learning. In the 1960s and 1970s, an increasing number of learning disabilities classrooms adopted these models. Such approaches strongly emphasize establishment of environments in which desired behavior (observable skills appropriate to the student's level of functioning) can be elicited and then reinforced in a consistent manner.

For instance, first a student's most basic missing skills are identified; then relatively short tasks and exercises are provided to help the student acquire each skill. The student is told that he or she can earn rewards for working in a specified way. Thus, after perhaps 15 minutes of work, a student's efforts and

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**Feature 1  Contrasting Orientations**

To illustrate one basic difference between the underlying and observable problem approaches, let's assume Mara has been having trouble learning beginning math skills. She is the only one in her class who can't count and group objects.

Underlying problem approaches would try to determine whether her learning problems were caused by developmental deficits, such as a deficit related to visual and auditory memory. If such a deficit is identified through assessment, remediation is likely to include exercises to improve short-term memory. These might involve Mara in doing such things as repeating tapped patterns, learning to use visual imagery, and so forth.

Those pursuing observable problem approaches would not be especially concerned with why Mara had not learned to count. They would assume she could learn the skills if a good direct teaching strategy was now used. Such a strategy would need to account not only for the math skills currently troubling Mara but also for any related observable readiness skills. Mara would then be directly taught all designated missing skills. Exercises might include games to help her memorize and recite the numbers 1 to 10, 11 to 20, and so forth.
accomplishments are evaluated and checkmarks, tokens, or some other “reinforcers” are given. Accumulated checkmarks or tokens are turned in at a specified time for a prize, a special activity, or for free time. If the student does not cooperate or misbehaves, he or she may lose a privilege. What the student obtains or loses (the positive and negative consequences) is seen as the actual reinforcement for the behavior. Reinforcement strategies have been described as (a) giving students something they want, (b) taking away something they want, (c) giving them something they don’t want, and (d) taking away something they don’t want to experience (Hewett & Taylor, 1980).

This early work was followed by “precision teaching” formulated by Lindsley (1964) and developed as “applied behavioral analysis” by colleagues such as Lovitt (1975a, 1975b, also see Alberto & Troutman, 1982) and by the directive teaching strategies of Stephens (1977). The emphasis on direct instruction and behavioral and criterion-referenced objectives also can be found in programmed materials for reading, language, and arithmetic such as DISTAR (Engelmann & Bruner, 1964).

**Individual education plans** Because observable problems are easier to monitor than underlying ones, approaches based on this orientation are appealing to program planners and evaluators. Thus, when legislation in the United States called for detailed, written individual educational planning (IEPs), a strong trend toward using these strategies developed.

Public Law 94-142 requires an IEP for each student with a learning disability. IEPs have rapidly become detailed prescriptions of content to be taught and outcomes to be achieved. A large proportion of these prescriptions are written in the form of behavioral and criterion-referenced objectives. This way of stating objectives tends to shape program content toward overemphasizing certain skills and toward using teaching processes that stress training rather than education (Heshusius, 1991). These points can be seen from the two relatively typical examples illustrated in Feature 2.

As can be seen from the examples, the IEPs provide no content or outcome options for the student. Moreover, teachers complained that the objectives poorly matched students’ current motivational and developmental capabilities. In the case of the first student, the overriding need was that he start to perceive school as a place that had something to offer him. He belonged to a street gang that was trying to convince him that school was a worthless experience; by following the IEP prescription, the teacher could not convince him otherwise.

The second student demonstrated tremendous creative talent in his cartooning and his creative stories. He had aspirations for a career in this area, and this was not out of line with his talent. His talent and career aspirations were ignored completely by the IEP and, indeed, the prescribed program left him no time for these important interests and strengths.

As legislation for individuals with disabilities has emphasized the importance of offering programs from birth on, the focus in planning programs has broadened from the individual to the family (Baily, Buyssse, Edmondson, & Smith, 1992). Thus, rather than Individual Education Plans (IEPs), programs for infants and preschoolers prepare Individual Family Service Plans (IFSPs). Again, however, the trend is to focus on narrowly conceived objectives.

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**A Note on Classroom Management**

Individuals with learning disabilities often manifest behavior problems as well. For this reason, learning disabilities teachers are as interested in classroom management strategies as they are in learning specific approaches to remediation. The problems they confront encompass a variety of behaviors associated with learning problems that interfere with classroom instruction and learning. These include poor impulse control, lack of sustained attention and follow-through, low frustration tolerance, and inappropriate interpersonal interactions.

In the 1960s when learning disabilities classrooms emerged in public schools, the underlying problem orientation dominated the scene. However, because such approaches were developed in clinical and research settings, the interventions did not address the matter of classroom management. Many teachers complained that instruction could not take place unless they could find a way to control their students’ behavior.

To meet their needs, inservice programs offered training in classroom management. At the time, the prevailing techniques for managing problem behavior were behavior-change strategies of the type being used for populations with extreme problems (mental
### Feature 2  IEPs: Two Typical Examples of Planning Gone Astray

The following is the Individual Educational Plan (IEP) of a 13-year-old student diagnosed as having learning disabilities—who also manifests severe behavior problems.

<table>
<thead>
<tr>
<th>Annual goals</th>
<th>Short-term objectives</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior: develop appropriate modes of behavior</td>
<td>Will employ impulse control. Will submit a paragraph of 4 alternative ways in which inappropriate behavior could have been avoided.</td>
<td>Observation</td>
</tr>
<tr>
<td>Math: demonstrate basic skills in mathematics</td>
<td>Will multiply a 3-digit no. by a 3-digit no. regrouping as necessary. Will divide a 3-digit no. by a 1-digit no. with and without a remainder.</td>
<td>Observation</td>
</tr>
<tr>
<td>Reading: increase sight word vocabulary</td>
<td>Will recognize sight words from various content disciplines, e.g., Dolch &amp; Core lists. Will maintain a booklet of synonyms, antonyms, and homonyms.</td>
<td>Observation</td>
</tr>
<tr>
<td>Counseling: improve self-control</td>
<td>Will maintain self-control and comply with adult authority. Will share frustrations and feelings in counseling setting.</td>
<td>Observation</td>
</tr>
</tbody>
</table>

The following is the Individual Educational Plan (IEP) of a 16-year-old student diagnosed as having learning disabilities.

<table>
<thead>
<tr>
<th>Annual goals</th>
<th>Short-term objectives</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math: develop consumer math skills</td>
<td>Will develop and learn shopping skills and learn to live within a budget. Will tell time to 1 hour with 100% accuracy.</td>
<td>Observation</td>
</tr>
<tr>
<td>Behavior: develop ability to participate in small groups; develop ability to work on assignments</td>
<td>Will attend a small group for one class period. Will read aloud in group. Will work on teacher-assigned task independently for 15 min.; asking for help only when necessary.</td>
<td>Observation</td>
</tr>
<tr>
<td>Language arts: improve oral expression</td>
<td>Will moderate voice for expression. Will use complete sentences in spontaneous speech.</td>
<td>Observation</td>
</tr>
<tr>
<td>Improve sight vocabulary</td>
<td>Will increase sight vocabulary to 600 words. Will decode unfamiliar consonant-vowel-consonant words with 85% accuracy.</td>
<td>Product assessment</td>
</tr>
<tr>
<td>Counseling: increase sense of identity</td>
<td>Will identify feelings and formulate goals. Will express feelings and personal goals appropriately to others.</td>
<td>Observation</td>
</tr>
</tbody>
</table>
illness, autism, and profound retardation). As a result, many teachers ended up using an underlying problem orientation when working on students' developmental problems and an observable problem orientation in relation to students' behavior problems. This, along with the management orientation of IEPs, helped to institutionalize the observable problem orientation in the LD field.

**Summing Up**

In recent years, there has been a reaction to behavioral approaches. For example, direct instruction and curriculum-based assessment are criticized as an isolated set of measurement and control procedures superimposed on, and unrelated to, the phenomenon of human learning (Heshusius, 1991). The call is for a return to holistic approaches, with their emphasis on the learner as a motivated discoverer of meaningful skills and knowledge and a functioning whole (Bartoli, 1990; Heshusius, 1982, 1986, 1989; Iano, 1987; Poplin, 1988). In reaction to the criticism, behavioral principles have been defended vigorously (Forness, 1988; Forness & Kavale, 1987; Kimball & Heron, 1988). Besides bringing to the surface conflicting rationales underlying remedial practices, the need for the debate underscores increasing concern over the limited success of prevailing practices.