I.6 Assessment for Learning Disabilities’ Diagnosis, Placement, and Program Planning

As discussed in Chapter 4, widespread controversy surrounds assessment for learning disabilities. Some concerns stem from methodological, conceptual, and ethical issues and problems; others arise from social-political-economic considerations. A broad range of fundamental concerns must be understood and addressed in using assessment in practice and research.

In *Screening for Learning Disabilities* (p. 323), we addressed specific concerns about LD screening. Here the focus is on diagnosis, placement, and program planning specifically for learning disabilities.

### Assessment for Diagnosis

For practitioners, the whole point of screening is to identify a problem so that it can be resolved. The point of screening specifically for LD is to treat those having such problems differently from those with other types of learning problems. While such differential treatment is not always available, the intent is there.

Before appropriate differential treatment can be given, a differential diagnosis must be made. Because there are different types of learning problems with different causes and remedies, it is important to differentiate among individuals who have one type or another. Differential diagnosis is the process by which a person is assigned to a particular category. To conclude that an individual should receive one diagnosis and not another, it is necessary to show the presence of a set of symptoms or signs unique to the diagnostic category.

Assessment procedures used in making a differential diagnosis should be keyed to a definition of learning disabilities and related criteria. When the definition and criteria stress central nervous system causes and resulting processing disabilities, the assessment should include procedures to detect the underlying problems. In contrast, if one is not interested in cause and underlying problems, one would stress definitions, assessment procedures, and criteria that focus only on observable problems and factors that contribute to such problems.

Because of controversy over definition, criteria, and related assessment procedures, currently assessors heavily rely on findings that (a) an individual should be diagnosed as having some problem other than learning disabilities (exclusionary criteria), and (b) the degree of underachievement is severe enough to qualify as indicative of LD. In addition, data are gathered on indicators of developmental immaturity and performance deficiencies—which are seen by some as related to underlying psychological processing dysfunctions.

#### Exclusion Data

Information is gathered regarding a variety of problems that may be the primary cause of the learning problem. As listed in federal guidelines (see Chapter 1), a diagnosis of LD is not given if any of the following are identified as the primary cause: (a) vision, hearing, and motor handicaps, (b) mental retardation, (c) emotional disturbance, and (d) environmental, cultural, or economic disadvantage.

Information about these matters often comes from existing school, medical, and psychological records. Where such information is inadequate, the data are sought through interviews, medical exams, and psychological tests.

One major difficulty in interpreting the information is lack of agreement about how severe any of the “exclusion” problems must be before a diagnosis of LD is ruled out. For example, how much loss of vision? Some say that to rule out a diagnosis of LD, visual acuity in the best eye must be poorer than 20/70 with glasses. What should be considered mental retardation rather than a learning disability? Some say that the person’s individual intelligence test score (judged as valid by a qualified psychologist) must be 70 or below; others say 80 or below. What about environmental, cultural, and economic disadvantage? The current intent seems to be to avoid assigning a label of learning disabilities to those whose learning and performance problems reflect educational programs and testing procedures that have not appropriately considered an individual’s background and native language.
Intelligence and Achievement Levels

Essentially, any of a number of standardized individual tests of intelligence and achievement in reading, math, and language may be administered (see Table 1 and Procedures and Instruments for Assessing Learning Problems, p. 341). All such tests have their limitations, especially when given to individuals with learning and behavior problems. In general, scores from the best available instruments are only moderately accurate for individuals from such populations. This is due to problems in test construction and administration, to psychological influences such as test-taking anxiety and motivation, and to other factors that can affect both the performance of the test taker and how assessors interpret subjective test responses (see Chapter 4 and Technical Concerns About Assessment, p. 349).

Because of the limitations of standardized psychoeducational tests, assessors and multidisciplinary teams reviewing LD diagnoses are encouraged to note other information, such as how individuals perform in the classroom or on the job, their motivation during testing, and so forth. Decisions regarding the accuracy of test findings often are based on judgments about such in situ behavior.

Scores on intelligence and achievement tests are used to determine how severe the discrepancy is between an individual’s learning potential and current functioning. Determination of this discrepancy tends to be subjective.

In an effort to be more objective, many school districts have adopted one of a variety of discrepancy formulas that have been advocated (see Feature 1). However, critics of such formulas stress that the appearance of objectivity is countered by the fact that the formulas result in as many errors as the procedures they have replaced (Berk, 1984; Dangel & Ensminger, 1986; McLeskey, 1989; Willson, 1987).

In part, errors in judging the severity of a discrepancy are due to the degree of error associated with intelligence and achievement scores. That is, when used with problem populations, such tests often produce invalid data on individuals. Also, an increase in error occurs when separate test scores are combined in discrepancy formulas (Berk, 1984; Stanovich, 1991b, 1991c).

Underlying Problems

Because of the controversies surrounding the assessment and correction of underlying problems, such as underlying psychological processes, federal guidelines do not specify that these must be assessed. Nevertheless, tests intended to assess such problems are administered quite routinely by diagnosticians. These are discussed in a subsequent section.

Testing

As part of the individual assessment used to arrive at a diagnosis of LD, a battery of tests is often administered. Although there is no standard battery, certain tests have been favored (see Table 1). At the same time, test reviewers have cautioned that all are severely flawed for use in diagnosing learning disabilities.

For example, even the best of the tests in technical terms, the long-established and recently revised Wechsler Intelligence Scales, have serious deficiencies as a diagnostic instrument. (Note: An instrument may be the best available, and still not be very good.) Intelligence testing using the Wechsler often is interpreted with respect to differences among the scales’ various subtests. Large differences among the subtests have been interpreted as having major significance for diagnosis (and even for profiling strengths and weaknesses as a basis for remediation). Research has not supported such interpretations. The conclusion of researchers in this area is that the Wechsler scales “are not likely to be very useful in the diagnosis of LD or in its differential diagnosis” (Kaufman, 1981, p. 523). In addition—as discussed elsewhere in the text—the use of intelligence tests to diagnose and place students in special programs has been challenged as a discriminatory practice.

Labeling

“What’s the use of their having names,” the Gnat said, “if they won’t answer to them?”

“No use to them,” said Alice, “but it’s useful to people who name them, I suppose. If not, why do things have names at all?” (Lewis Carroll, Through the Looking Glass)

What’s in a name?

When it comes to diagnosis, the label assigned may profoundly shape a person’s future. The labels attach names to problems. The names often imply what caused a problem and what to do about it. People tend to have strong images associated with specific labels and to act upon these images. Some-
<table>
<thead>
<tr>
<th>Area Tested</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>Wechsler Intelligence Scales (WPPSI, WISC-III, WAIS-R) or</td>
</tr>
<tr>
<td>Intelligence and achievement</td>
<td>Stanford-Binet Intelligence Test</td>
</tr>
<tr>
<td>Achievement (reading, math,</td>
<td>Kaufman Assessment Battery for Children (K-ABC)</td>
</tr>
<tr>
<td>mechanics of English, spelling)</td>
<td>One of the following:</td>
</tr>
<tr>
<td></td>
<td>California Achievement Test</td>
</tr>
<tr>
<td></td>
<td>Iowa Tests of Basic Skills</td>
</tr>
<tr>
<td></td>
<td>Metropolitan Achievement Test</td>
</tr>
<tr>
<td></td>
<td>Peabody Individual Achievement Test—Revised</td>
</tr>
<tr>
<td></td>
<td>SRA Achievement Series</td>
</tr>
<tr>
<td></td>
<td>Stanford Achievement Test</td>
</tr>
<tr>
<td></td>
<td>Wide Range Achievement Test—Revised</td>
</tr>
<tr>
<td></td>
<td>Woodcock-Johnson Psychoeducational Battery</td>
</tr>
<tr>
<td>Motor</td>
<td>One of the following:</td>
</tr>
<tr>
<td></td>
<td>Bruininks-Oseretsky Test of Motor Proficiency</td>
</tr>
<tr>
<td></td>
<td>Peabody Development Motor Scales</td>
</tr>
<tr>
<td>Perceptual-motor</td>
<td>One or more of the following:</td>
</tr>
<tr>
<td></td>
<td>Bender Visual-Motor Gestalt Test</td>
</tr>
<tr>
<td></td>
<td>Developmental Test of Visual-Motor Integration</td>
</tr>
<tr>
<td></td>
<td>Developmental Test of Visual Perception</td>
</tr>
<tr>
<td></td>
<td>Graham-Kendall Memory for Designs</td>
</tr>
<tr>
<td></td>
<td>Purdue Perceptual-Motor Survey</td>
</tr>
<tr>
<td></td>
<td>Southern California Perceptual-Motor Tests</td>
</tr>
<tr>
<td></td>
<td>Motor-Free Visual Perception Test</td>
</tr>
<tr>
<td>Auditory perception</td>
<td>One of the following:</td>
</tr>
<tr>
<td></td>
<td>Goldman-Fristoe-Woodcock Auditory Skills Test Battery</td>
</tr>
<tr>
<td></td>
<td>Goldman-Fristoe-Woodcock Test of Auditory Discrimination</td>
</tr>
<tr>
<td></td>
<td>Wepman Test of Auditory Discrimination</td>
</tr>
<tr>
<td>Language</td>
<td>One or more of the following:</td>
</tr>
<tr>
<td></td>
<td>Detroit Test of Learning Aptitude—2</td>
</tr>
<tr>
<td></td>
<td>Goldman-Fristoe Test of Articulation</td>
</tr>
<tr>
<td></td>
<td>Illinois Test of Psycholinguistic Abilities</td>
</tr>
<tr>
<td></td>
<td>Peabody Picture Vocabulary Test</td>
</tr>
<tr>
<td></td>
<td>Test of Written Language</td>
</tr>
<tr>
<td></td>
<td>Test of Language Development—2 (primary, intermediate)</td>
</tr>
<tr>
<td>Social and emotional</td>
<td>One or more of the following:</td>
</tr>
<tr>
<td></td>
<td>Children or Thematic Apperception Tests</td>
</tr>
<tr>
<td></td>
<td>Childrens Depression Inventory</td>
</tr>
<tr>
<td></td>
<td>House-Tree-Person (and other human figure drawings)</td>
</tr>
<tr>
<td></td>
<td>Minnesota Multiphasic Personality Test</td>
</tr>
<tr>
<td></td>
<td>Rorschach</td>
</tr>
<tr>
<td></td>
<td>Sentence Completion</td>
</tr>
<tr>
<td></td>
<td>Vineland Adaptive Behavior Scales</td>
</tr>
<tr>
<td>Neurological and psychoneurological</td>
<td>Specialists increasingly are using:</td>
</tr>
<tr>
<td></td>
<td>Haislet-Reitan Neuropsychological Test Battery</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>Luria-Nebraska Neuropsychological Battery</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>Clinical assessment of soft signs</td>
</tr>
</tbody>
</table>

Note: The above data usually are supplemented with informal tests, questionnaires, and interviews with the referred individual and family members, as well as with a review of medical and school records. In addition, family members and teachers may be asked to provide rating data on a student using instruments such as the Child Behavior Checklist or the Conners Behavior Rating Scale. Finally, observations may be made in the home or at school.
times the images are useful generalizations; sometimes they are harmful stereotypes.

Some people think all labeling is a bad thing (National Association of School Psychologists, 1986). They point to many potential negative effects of assigning diagnostic labels such as learning disabilities:

"The label stigmatizes the person. People tend to think less of a person who has a diagnostic label; they often avoid and act differently toward them. This may make a problem worse."

"If you tell people they have problems, they often make your words come true."

"When the label is wrong, serious errors in treatment can be made."

These are important concerns. Labeling a person can have negative effects. The possibility of negative effects is a good reason to be careful about how labels are used, and it may be a good reason to do away with a particular label. But it is not a good reason to stop diagnostic labeling.

Diagnostic labeling, like all classification in science, is essential. It is basic to communication and to efforts to solve problems. Society cannot hope to correct and prevent the various types of learning problems without some form of differential classification.

The problem is not to do away with labels, but to develop the most useful labels and minimize the negative effects that arise when they are used. One criterion of a ‘good’ diagnostic label is that the label helps more than it hurts.

Although there is controversy over how the term learning disabilities is defined and applied, there seems to be consensus that the label itself is a good one for describing one major subtype of learning

---

**Feature 1 Discrepancy Formulas**

Despite all the criticisms of discrepancy formulas, they are used and, therefore, an example of one seems in order. The one developed by Myklebust (1968) provides a representative illustration. The formula yields an index of learning potential called a Learning Quotient (LQ). The LQ is based on present achievement, called Achievement Age (AA), as compared to expected achievement, called Expectancy Age (EA).

This is expressed as the formula $LQ = \frac{AA}{EA}$.

Myklebust proposed that those whose LQ scores are 0.89 or below should be diagnosed as having learning disabilities. Because this figure was established without sufficient research, use of a higher- or lower-criterion score can rather easily be justified.

To show how the formula works, we can take the example of James. When he was 12, in grade 6.5, he was tested and found to have an IQ of 125. His reading test scores indicated a grade level of 5.5.

1. **AA**—To determine present achievement level, or Achievement Age, Myklebust's approach calls for adding 5.2 to James's achievement test score (5.5). So James's AA = 10.7.

2. **EA**—To determine his expected level of achievement, or Expectancy Age, the approach calls for combining mental age (MA), actual or chronological age (CA), and grade age (GA) and dividing by 3.

   The MA is computed by multiplying his IQ (125) by his chronological age (12) and dividing by 100. So James's MA = 15.

   The GA is computed by adding 5.2 to his present grade level (6.5). So James's GA = 11.7.

   Thus, $EA = \frac{MA + CA + GA}{3} = \frac{15 + 12 + 11.7}{3} = 12.9$

3. **LQ**—Dividing 10.7 (AA) by 12.9 (EA) gives a learning potential or LQ score of 0.83.

   By Myklebust's criterion of 0.89, James would qualify for a diagnosis of learning disabilities.

   Obviously, discrepancy formulas can be used only with children who have learned to read well enough to produce a reasonably valid score on a reading test.
problem. However, some critics point out that, as
this label is used in daily practice, a large number of
persons are misidentified (Coles, 1987). From the
perspective of these critics, the label should be used
only for purposes of research and theory until the
diagnosis can be made with fewer errors.

**Mistaken Identity**

School districts have identified many children as
learning disabled simply because they did not
perform at grade level. Many of these children are
slow learners, culturally or linguistically disadvantaged,
or have had inappropriate instruction. Any-
one visiting the programs for learning disabled
children will observe that most programs include
children who are not the hardcore learning dis-
abled. If this practice continues, the learning dis-
ability programs are in danger of becoming
dumping grounds for all educational problems.
(Kirk & Kirk, 1983, pp. 20–21)

A great many differential diagnoses of learning
disabilities are made every day. Practitioners use the
best procedures that are available. (Remember, best
does not necessarily mean good.) Despite the best
efforts, however, there are errors in diagnosis
whether the focus is on neurological dysfunctioning
or indicators of poor attention and memory.

Until there is an agreed-upon set of characteris-
tics, symptoms, or signs for differentiating LD from
other types of learning problems, a large number of
misidentifications is inevitable. Soft signs and other
behaviors seen as symptoms of minor cerebral dys-
functions or other psychological factors are compel-
ling correlates, but they are insufficient evidence of
the cause of an individual’s learning problem (see
Chapters 1 and 2 and CNS Function and Assess-
ment of Minor Dysfunction, p. 304).

For example, what makes soft signs so compell-
ing to diagnosticians is that they are found with
significant frequency among individuals whose neu-
rological disorders have been well established.
However, researchers point out that the identified
behaviors also are found with considerable fre-
quency among persons whose problems are un-
likely to be the result of neurological dysfunctioning
and even among persons with no significant prob-
lems at all.

Misdiagnoses do continue to be a source of seri-
ous ethical and practical concern for practitioners
and researchers. Inadequacies related to prevailing
definitions and criteria and the poor validity of diag-
nostic procedures ensure that almost anyone mani-
festing a learning problem in school could, and
many do, end up diagnosed as having learning dis-
abilities. It is for this reason that those so labeled
have become the biggest group of exceptional chil-
dren. And, while this has made the field attractive
to professionals and the general public, the magnitude
of misidentifications also is the biggest threat to ad-
vancing knowledge about LD (and has produced
significant political backlash).

Because there has been so much misidentifica-
tion, individuals currently served in programs for LD
and used in research studies differ in very important
ways. Unfortunately, the prevailing tendency is to
pay relatively little attention to spelling out these
differences. As a result, most research purporting to
deal with samples of individuals with LD is seriously
compromised. The problem is compounded for all
those studies that attempt to identify subtypes of
learning disabilities (Lyon & Flynn, 1991). In effect,
the literature on learning disabilities has much to say
about learning problems, but its conclusions about
learning disabilities are tenuous at best.

In general, it is one thing to theorize about learning
disabilities; it is quite another to study the phenome-
non. It is one thing to have a theory about what
causes learning disabilities; it is quite another thing to
be able to assess the cause of a particular individual’s
learning problem. This makes it particularly ironic that
so many famous people who lived before the term
learning disabilities was adopted have been as-
signed this label posthumously (see Feature 2).

**Finding Diagnostic Errors**

Mara’s family was delighted to have her diagnosed
as having a learning disability. Joseph, a high-
school senior, wasn’t quite so pleased, but he
thought he could turn it to his benefit. We have
probably known as many individuals who were con-
tent with the label as those who were upset by it.

For Mara, the label provided the family with pub-
lic funds to help them pay for special programs.
Many people would never be able to afford special
help without such funds. Ask those who have been
in similar circumstances, and they usually say they
would have suffered considerably more without the label than with it.

Joseph plans to use the label to explain to college admissions officers why his reading and writing skills and some grades and admission test scores are so poor. He knows he is entitled to certain considerations because those diagnosed as having a learning disability are officially recognized as requiring special accommodation. Those who simply have learning problems receive no exceptions to admission criteria, nor are they usually offered individual remedial help or other special considerations after admission.

Despite the advantages people such as Mara and Joseph find in the diagnosis, they may be among those who have been misidentified. One of the most difficult problems confronting those who are trying to improve practice and research related to learning problems is that of identifying individuals erroneously diagnosed as having learning disabilities. The importance of finding the errors cannot be stressed enough; neither can ideas about how to do so (Adelman, 1989).

Those who argue that the errors must be identified don't want to deprive anyone of opportunities for help. Anyone who has a learning problem deserves as much help as possible. But there is more at stake than whether some individuals will qualify for special considerations. The large number of individuals misdiagnosed combined with the lack of procedures for finding these errors represents such a weak link in efforts to advance knowledge that it threatens the very existence of the field.

Currently the primary value of having a field devoted to learning disabilities is to lobby for those with LD and to help distinguish who does and who does not have such dysfunctions. The next major advances in knowledge about learning disabilities await the time when this subtype of learning problem can be isolated reliably. As more and more persons are indiscriminately declared as having LD, the public and its policymakers grow tired of the drain on special resources and cut back on support. Without support, the field cannot live up to its promise. Thus, to maintain its viability, the field must minimize misdiagnoses.

Cutting down on the number of errors in identification is also an important key to preventing many types of learning problems. Several researchers have suggested some type of filtering system for separating out those whose learning problems truly are due to LD (Adelman, 1971, 1989; Lindsay & Wedell, 1982; Wissink et al., 1975; Wedell, 1970). One proposed approach involves creating an optimal, nonremedial learning environment to find out if a significant number diagnosed as having learning disabilities can learn effectively under such circumstances. If they can, it becomes reasonable to argue that (1) these individuals did not actually have disabilities, and (2) similar individuals need not become learning problems if such optimal environments replace current classroom programs. Moreover, such programs might go far toward minimizing the emotional overlay that accompanies learning problems.

Such approaches eventually may lead to improvements in the diagnosis of LD and may even help distinguish several other significant subgroups within that category of handicap. At the very least, these strategies hold promise for reducing the number of persons wrongly diagnosed.

---

**Assessment for Placement**

Once a person is assessed as having a serious learning problem there is no question that special help must be provided. Let us assume that all options are available to the individual; the problem is to decide what types of help should be pursued.

Special class or not? Public or private setting? Stay in the regular class with extra help? These placement decisions are primarily made with information about what options are available. If a satisfactory educational program can be provided in the student's regular class, there is no reason to place the student elsewhere. (Of course, if this already were the case, it is unlikely the student would have been referred for help.) If an appropriate program cannot be provided somewhere in the public school system, then it becomes necessary to seek placement in a private setting.

What is an appropriate educational program? Minimally, an appropriate program is one with an apparently competent teacher who has time to give the type of one-to-one attention that the student requires. In keeping with the principle of least intervention needed, the idea has been set forth that an appropriate placement is the "least restrictive envi-
the intent is to keep students with learning disabilities in the "mainstream" of public education. This appealing idea has been easy to accept in principle, but the implications for practice have proven to be rather difficult to turn into specific prescriptions for individuals.

Ancillary services? After major decisions are made about educational placement, decisions are made about which ancillary services, if any, seem appropriate. Often, the best assessment of the need for such services is made by waiting to see if the new educational placement is working and seems sufficient.

The decision that an individual should pursue

---

**Feature 2 Edison, Einstein, and Rodin—Did They Have Learning Disabilities?**

Did Albert Einstein really see the theory of relativity like this?

\[
E = mc^2
\]

This is the claim made in an advertisement seen in a publication of a learning disabilities organization. The caption goes on to indicate that Albert Einstein was dyslexic. Like many of the world’s 7.5 million children with learning disabilities he was thought to be unintelligent by his teachers... Fortunately, his parents placed him in a special school where he was taught in accordance with his disability. Otherwise he might never have gone on to achieve greatness.

In recent years, it has become fashionable to analyze the lives of famous people and to assign them a diagnostic label. Einstein, Thomas Edison, Auguste Rodin, and many other distinguished persons have been posthumously diagnosed as having learning disabilities.

What makes these particular historical figures likely candidates for posthumous diagnoses is that they had difficulties as children, and some did poorly at school. Edison was described in childhood as stupid and mentally defective; Rodin was seen as uneducable; Einstein apparently had a developmental lag with respect to speaking and later got into some trouble at school. These cases certainly show that developmental, learning, and schooling problems can plague even those with special genius. But should their problems be diagnosed as learning disabilities?

Take the case of Einstein, for example. Although his biographers agree that he was somewhat delayed in developing speech, there is no satisfactory evidence of a language disability. In fact, Einstein’s reported fluency as an adult in composing German limericks and his acquisition of foreign language can be cited as evidence that he used language without apparent handicap after his earlier problems.

One of his biographers (Clark, 1971) specifically argued against the suggestion that Einstein’s speech fluency difficulties as a child were due to dyslexia. "Far more plausible is the simpler explanation suggested by Einstein’s son Hans Albert; who says that his father was withdrawn from the world as a boy..." (p. 10). Holtz (1971-72) and Jakobson (1982) point out that Einstein himself accounted for his early problems by suggesting, "The words or the language, as they are written or spoken, do not seem to play any role in my mechanism of thought... I rarely think in words at all. A thought comes and I may try to express it in words afterward." (Jakobson, 1982, p. 140).

Significantly, none of his biographers mention reading problems or such difficulties as writing letters backward. In fact, Einstein was very advanced as a child, reading popular science books with what he later described as "breathless attention" (Hoffman & Dukas, 1972). At 13, he read and understood Kant’s philosophical works. As for his school years, when he was 8, his mother wrote to her mother with pride that "yesterday Albert got his school marks. Again he is at the top of his class and got a brilliant record" (Hoffman & Dukas, 1972, p. 19). Einstein’s main problem at school apparently was that he could not "sufficiently conceal his dislike for [his] teach-
ancillary treatment often is made less on the basis of valid assessment data than on decision makers' beliefs. For example, if the person making the decision believes that stimulant drugs or special diets or psychotherapy can help a person overcome a learning problem, such treatments are likely to be recommended. This is particularly true for a variety of controversial medically related interventions and the various fads that have plagued the field (see Controversial Treatments and Fads, p. 309).

Often, the assessment data gathered during the diagnostic process is sufficient for making general placement decisions. However, current law in the United States ties all such decision making to the

ers and their Draconian methods" (Hoffman & Dukas, 1972, p. 25).

In 1940, Einstein himself stated:

When I was in the seventh grade at the Luitpold Gymnasium I was summoned by my home-room teacher who expressed the wish that I leave the school. To my remark that I had done nothing amiss he replied only "your mere presence spoils the respect of the class for me."

I myself, to be sure, wanted to leave the school and follow my parents to Italy. But the main reason for me was the dull, mechanized methods of teaching. Because of my poor memory for words, this presented me with great difficulties that it seemed senseless for me to overcome. I preferred, therefore, to endure all sorts of punishments rather than to gabble by rote. (Hoffman & Dukas, 1972, p. 25)

In later years, he said:

As a pupil, I was neither particularly good nor bad. My principle weakness was a poor memory and especially a poor memory for words and texts... Only in mathematics and physics was I through self-study, far beyond the school curriculum. (Erikson, 1982, p. 151)

As Einstein's recollections make clear, he had a lifelong history of challenging authority, thinking for himself, not thinking in words, and learning by his own means. And he had extremely high standards for himself. Consequently, his comments about poor memory for words must be judged in the context of these qualities. For example, his memory for words may have been "poor" as compared to his exceptional gifts for mathematics and physics. These qualities probably also account for his failure on his first college-entrance exam and the problems related to his first teaching position.

In short, while there is general agreement among his biographers that Einstein was somewhat delayed in developing verbal fluency, there is not satisfactory evidence to claim he had a verbal language disability and nothing to indicate that he was dyslexic. Indeed, despite his view (contradicted by other data) that he was neither a "particularly good nor bad" student, he had excellent reading skills and was well read. Ironically, it is reported by his sister that he did have some minor problems with math computation in his early school years. However, his math grades over the years were high, and, given his genius in mathematical concepts, it seems likely that any problem in this area was because he approached mathematics in ways that confounded those who attempted to have him work with simple addition and multiplication.

Given that professionals often cannot agree about a diagnosis of learning disabilities for individuals they have personally examined, it is not surprising to find controversy about assigning such a diagnosis to someone who died long before the concept of learning disabilities was conceived. While we understand there are positive motives for such posthumous diagnoses, we are concerned that history may be distorted in some cases. As the list of famous historical figures casually mentioned as having had learning disabilities grows, it seems increasingly important to exercise some caution in this regard. (See Adelman & Adelman, 1987, for more on this topic.)
Assessment for Program Planning

When it comes time to plan the specifics of a program, formal and informal assessment are essential. The procedures used include tests, observations, interviews, trial teaching, and so forth. As indicated, by U.S. law, a key administrative step is formulation of an IEP (see Feature 3).

Prevailing procedures related to LD have been shaped by the two dominant, contrasting orientations to remediation: Those concerned with underlying problems assess for deficits in such developmental areas as perception (for example, auditory, visual), cognition (for example, memory, language), and motor functioning in order to plan specific interventions. The types of instruments they have relied on are listed in Table 1. Poor performance on a set of subtest items is seen as indicating an underlying problem that should be improved (if it can be) through special treatment/training. This often takes the form of exercises to improve abilities, for example, to make visual or auditory discriminations. These exercises may differ from regular classroom tasks; for instance, they may involve discriminating abstract forms and patterns rather than specific letters and words. The assumption is that the exercises develop deficient underlying abilities and enable the individual to generalize successfully from the exercise to regular classroom tasks. If the underlying ability cannot be improved, the emphasis is on teaching individuals how to compensate for the handicap.

As already suggested, available research and logical analyses suggest that devices currently used to assess such areas are inadequate, especially for assessing problem populations. Research suggests that the special training exercises have not aided learning to read, write, and do mathematics (Arter & Jenkins, 1977).

All this does not mean, however, that good tests of underlying problems and related remedial programs won't be developed (Kavale & Mundschken, 1991). And the poor validity of a given test or remedial practice says nothing about the validity of the theory upon which it is based (Snart, 1989). The ultimate value of theories about underlying dysfunctions is yet to be determined. Thus it is well to be aware of the nature of assessment and remedial procedures based on such theory.

Those whose orientation is direct instruction of observable skills are concerned with specific knowledge and skills that have not been learned as yet by the individual. Thus, skill-oriented assessments use such procedures as standardized achievement tests, unstructured and informal skill diagnostic tests, observation of daily performance, trial teaching, and criterion-referenced evaluations.

No one skills-assessment instrument is mentioned in the literature more than others; Procedures and Instruments for Assessing Learning Problems (p. 341) provides a listing of representative examples. However, the processes called criterion-referenced testing (Hambleton, 1990), curriculum-based assessment (Shapiro & Derr, 1990), and criterion-based measurement (Blankenship, 1985; Deno, 1987; Fuchs, 1991; Fuchs, Hamlett, Fuchs, Stecker, & Ferguson, 1988; Shinn, 1989) represent the most highly structured and ambitious forms of skills assessment.

Although practitioners could make such assessments by daily observation of performance, diagnostic skill tests are used to provide information systematically. These approaches are designed to assess a variety of skills that a student is expected to learn. Tests are based on analyses of instructional goals and tasks. Assessed skills usually are grouped in terms of the sequence in which they are taught. Testing is used to evaluate progress and identify the skills the student apparently has not acquired.

For example, there are tests to assess readiness with respect to instructional programs that emphasize traditional reading instruction. One subtest focuses on readiness to learn phonics, with items assessing the student's performance in identifying, classifying, using, and producing alphabet-letter
names, consonants, vowels, and their combinations. Using criteria reflecting what the student is expected to have learned, those who fall below criteria are seen as needing instruction and practice to develop missing skills. Such teaching takes the form of direct instruction, with an emphasis on workbooks and computer-aided instruction having specific objectives and exercises. The assumptions are that there is no underlying reason why the individual cannot learn such skills and that direct instruction is the best way to teach them.

As with testing underlying problems, diagnostic

**Feature 3 The Individual Education Plan (IEP)**

To improve intervention planning and evaluation, guidelines connected to Public Law 94-142 call for preparation of a written individualized education plan (an IEP) by a multidisciplinary team for each student seen as possibly having a disability. In addition to the written plan, the IEP process also is used for case management—from referral (encouraging prereferral interventions) going on to do multidisciplinary assessment, write the program plan, arrange placement, and monitor progress (Cruickshank et al., 1990).

A number of controversies have arisen around the IEP process. One has centered on the written plan itself.

The idea of writing out a specific plan is not controversial. Most practitioners feel that although this is a bit of a bother, it is reasonable for professionals to be open and accountable for their actions (Dudley-Marling, 1985).

What has become controversial is the manner in which government guidelines have tried to shape intervention rationales by stressing how intended outcomes should specifically be stated (Adelman & Taylor, 1983a).

The emphasis in current guidelines reflects the direct instruction of observable skills. That is, the trend has been toward “curriculum-based assessment” and writing all intended outcomes in the form of highly specific statements of observable behavior (behavioral or criterion-referenced objectives). Following behaviorist thinking, such an approach assumes that any long-range aim or goal (which can be a comprehensive and abstract outcome) is best achieved by listing each behavior or skill to be learned and then proceeding to teach it (Hambleton, 1990; Shapiro & Derr, 1990).

For instance, one long-range aim of schooling is to facilitate the development of children in a manner that prepares them to be effective citizens. A long-range goal related to this aim is to teach each student to read and write at a level adequate to participate in society (a level where they can hold a job). A great variety of objectives can be stated with respect to such a goal. One behavioral or criterion-referenced objective may be that “the student will learn to recognize 85 percent of a basic vocabulary list and correctly spell 60 percent of the words.” Such objectives have been programmed for access by microcomputers for ease in generating the written plan.

Alone, objectives expressed in behavioral terms and including criteria for evaluation tend to look like a promising aid in planning and evaluating intervention. Critics concede that aspects of intervention can and should be spelled out in concrete ways. However, they also point out that students with a range of motivational, learning, emotional, and social problems are likely to require outcomes that cannot be translated appropriately into a set of simple behaviors and skills. Included are the many abstract outcomes of developing and changing attitudes and overcoming emotional blocks and other problems that may be interfering with learning. Attempts to state such outcomes as simple behaviors can end up as a list of objectives that have little connection with the intervention's intended long-range outcomes.

Many concerned theorists have cautioned that limiting programs to such simplistic objectives is, at best, irrelevant or perhaps a cruel hoax and, at worst, a dangerous reshaping of education (Hesiusius, 1991; Shepard, 1991).
skill tests have their limitations, especially in assessing problem populations. The tests tend to yield inconsistent findings from one administration to another. Moreover, there is considerable controversy over what skills should be included in tests and programs because of fundamental arguments over what skills should be taught and when. And, because of test and performance anxiety and motivational considerations, there always is concern that skills identified as missing may have been acquired but not manifested during testing. Research suggests that skills learned through direct instruction are not maintained over time and do not generalize to the learning of more comprehensive knowledge and skills (Harris & Pressley, 1991; Heshusius, 1991).

In short, critics argue that such an approach to assessment for program planning assumes all skills require formal instruction. This fails to recognize that many basic skills are learned informally—in the course of daily experiences or while learning other things. Spoken language frequently is noted as an example of this informal learning. Those concerned about underlying problems maintain that the observable problem approach ignores the possibility that for some individuals there are factors interfering with learning skills.

As the above discussion suggests and Remediating Learning Disabilities: Prevailing Approaches (p. 314) further elaborates, there is little agreement about how best to remedy learning disabilities. Relatedly, there is considerable dissatisfaction with assessment procedures for program planning. In the long run, of course, such assessment cannot be any better than the interventions it prescribes.

### Summing Up

Diagnosis, placement, and program planning must be done, and are done, every day. Whenever screening procedures are used, additional assess-