The Eligibility Process: Identifying Students with Learning Disabilities in California's Community Colleges

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Classification models of learning disabilities have typically been based on political expediency and clinical folklore. In contrast, the community college system of California (CCC) spent 5 years in the research and development of an eligibility model for students with learning disabilities. This article highlights major activities of the process and details the resulting components, procedures, and criteria which were implemented. All LD students evaluated for learning disabilities are assessed with this same model. While the model is specific to the context of the CCC, the research and development process has broader application. This process is worthy of consideration as one means of combining clinical and databased evidence with the political realities of public policy.

In the fall of 1987, the California community college system initiated a new era in the identification of students with learning disabilities. Since 1982, the colleges have been working to establish an eligibility model based on characteristics of adults with learning disabilities and which could be implemented across the 106 colleges in the system. The product of this research effort, the California Assessment System for Adults with Learning Disabilities, includes a databased eligibility model for use in the state's community colleges' learning disabilities programs. This model was developed to, (a) provide a clear definition of the LD construct for adults in the community colleges, and (b) reduce or eliminate inequities, inconsistencies, and biases which characterized previous eligibility models.

The purpose of this article is to present the components, procedures, and criteria used for identifying students with learning disabilities. In addition, the development of the model and its implementation in the state's 106 community colleges will be presented.

The LD field lacks a validated theory for understanding, predicting, and controlling its manifestations. This situation is not unlike other physical, cognitive, or behavioral disabling conditions. Nonetheless, lacking this theory does not diminish LD's pragmatic consequences—lifelong learning and other functional difficulties. The need exists to develop a frame of reference for addressing LD's varied, debilitating manifestations. An important consideration was that the proposed eligibility model be developed within the specific context of the California community colleges. Other settings need to adopt procedures suitable to themselves. Shaywitz and Shaw (1988) advocated an eligibility model for selective colleges with high admission requirements and a select group of the learning disabilities population. Similarly, this community college eligibility model is different from models implemented by departments of vocational rehabilitation, and elementary and secondary public school systems throughout the country. The model was designed to be responsive to current students' characteristics, the college system's characteristics, and current understandings of LD. As concepts in any of these areas change, the model itself must also change. To help establish part of this context, some salient characteristics of the community college system are described.

DESCRIPTION OF THE CALIFORNIA COMMUNITY COLLEGE SYSTEM AND LD PROGRAMS

Background

The community college system includes 106 colleges. The colleges independently established programs for students with varying disabilities, e.g., acquired brain injury, developmental disabilities, physical handicaps, deaf, blind, communication disorders, and learning disabilities. Kanter (1986) described the community colleges' efforts of pro-

viding services to students with disabilities as evolving from the spirit of the Education for All Handicapped Children Act (PL 94–142) and the Rehabilitation Act of 1973. Legislation enacted in California, Assembly Bill 77 (1976), authorized programs and services for LD students. As a consequence, categorical programs and supplemental funding were formally established at community colleges and administered through accompanying regulations (Title 5 California Code of Regulations Section 56000-56088).

LD is one of the categorically funded programs through the Chancellor's Office, Disabled Students' Program and Services. This funding mechanism contrasts with Stalcup and Freeman's (1980) findings that LD college programs are generally supported from the college's institutional budget. On some campuses, funding for the program's excess costs are entirely supported by the state. On other campuses, local funds from the college's general budget may be added to the state legislature's appropriation. Specifically designed classes for LD students generate their own funding through a funding formula just as other campus classes generate funds based on average daily attendance.

Services

LD programs provide varying services to students. Assessment for the purposes of determining eligibility and special classes are only two of the services available in the LD programs. Other college services may include registration assistance, academic advisement, test-taking and note-taking facilitation, transition assistance to 4-year college programs, and referral to other agencies such as vocational rehabilitation. Specific services and goals are identified for eligible students and recorded on an IEP.

Each year, approximately 40–60% of the LD student population changes on college campuses. During 1987–1988, approximately 8,500 student were reported by the colleges as having been evaluated for LD. In the same time period, about 11,000 students were counted as receiving LD services. This prevalence figure amounted to almost 1% of the college system's total enrollment.

DEVELOPMENT OF THE ELIGIBILITY MODEL

The development of the California Assessment System for Adults with Learning Disabilities combined the efforts of experts in a broad range of disciplines: general education, special education, educational measurement, psychology, policy analysis, decision theory, and speech and language. At key junctures in the development process, community college LD practitioners participated in the deliberations on issues of planning, implementation, data analysis, presentations, and reporting. As several authors have suggested (e.g., Gerber, 1988; Kavale & Forness, 1985; Keogh, 1983, 1987), recognition of the political factors influencing handicapping conditions is very important. Inclusion of the varied disciplines helped integrate the multiple stakeholders' varied views.

Significant elements of the model's development are highlighted in the approximate order in which they were completed:

- Clinical characteristics of the adult student with LD were identified through a literature review, a survey of LD specialists in the community college system, and a national survey of educators, counselors, advocacy groups, and other service providers.
- The above identified clinical characteristics were operationalized through specific test instruments to assist college personnel in the eligibility determination. These instruments, the *Academic Attribute Survey* (AAS) (Mellard, 1986) and the *Academic Skills Assessment Battery* (ASAB) (Mellard, 1986) were developed and normed to assess those characteristics useful for distinguishing students with LD who will likely be judged eligible for services from other students who might be experiencing academic difficulties.
- A normative database including over 900 community college students was established to provide baseline data against which students with learning disabilities could be compared and alternative LD eligibility models could be simulated. In this phase, students from over 40 college campuses were assessed on self-report, achievement, ability, and diagnostic instruments. From these data, norms were calculated for the WAIS–R (Wechsler, 1981), WJ I, WJ II (Woodcock & Johnson, 1977), and the WRAT (Jastak & Jastak, 1978). Co-norming of instruments for adult assessments previously had not been accomplished and generally was not available on any population for the instruments. Statewide norms provided a more accurate representation of community college students' performances relative to their peers.
- An additional 900 students who had been identified on their campuses as LD were evaluated on the same instruments as the normative sample. This sample provided a database for describing the colleges' current LD population, comparing the latter with the general student population, and

simulating the effects of alternative eligibility models.

- Groups concerned with the eligibility criteria were included as stakeholders in determining specific cutoff scores for the model's seven eligibility components. These groups represented college administration, state control agencies, the community colleges' Board of Governors, the legislature, college instructors, LD specialists, ancillary services (e.g., school psychologists and speech and language clinicians), advocacy and student groups, and vocational rehabilitation services. Since cutoff or criterion scores are arbitrary and designed to maximize a set of values or utilities, these divergent groups were asked to participate in setting the specific numerical cutoff scores (Winterfeldt & Griffin, 1982). A decision-theoretic approach (Edwards, 1977) was chosen to represent both the groups' values or concerns and to equate those concerns with a numerical cutoff score. A point of observation: All of the groups chose numerical cutoff scores which were more stringent than the measurement model's accuracy permitted.
- LD specialists and Chancellor's Office staff identified the desired qualities of the model as a whole. Eleven standards (Figure 1) were specified as "yardsticks" for the development of the eligibility model. These standards provided a guideline for developing and evaluating each eligibility component, procedure, and criteria of the model.
- The developed eligibility model incorporated clinicians' skills and standardized the components, procedures, and criteria for determining students with LD. The resulting model included multiple components for evaluating the student using normative and informal procedures. These procedures yield information in the following areas: educational, family, medical, and vocational histories; language proficiencies; academic and vocational achievement; expected achievement level; and academic processing skills.
- Training and evaluation were initiated to ensure that (a) correct implementation was followed; (b) implementation issues and questions were addressed; (c) refinements and updates could be systematically disseminated, and (d) continued research would be conducted.

FIGURE 1 Standards Chosen for Developing the Eligibility Model

1. Use Objective Data
2. Allow for Professional Judgment
3. Be Implemented Statewide
4. Minimize Bias
5. Yield Reliable Data
6. Provide Sufficient Scope of Assessment
7. Be Time Efficient
8. Be Cost-Effective
9. Be Compatible with the Goals of Community Colleges
10. Best Distinguishes LD from non-LD
11. Provide a Rational Basis for LD Identification

CALIFORNIA COMMUNITY COLLEGE DEFINITION OF LEARNING DISABILITIES

Definitions serve a variety of functions. For LD, a definition delimits conceptual parameters for classification and identification models (Keogh, 1987) and by extension, for establishing public policy. Chalfant (1984) and Mercer, Hughes, and Mercer (1985) have documented both the variety and similarities in various organizations' and agencies' definitions of learning disabilities. The lack of definitional uniformity has consistently been identified as one of the field's major issues (Interagency Committee on Learning Disabilities, 1987).

The situation has been no different in the community college system. Prior to the 1986 training on the eligibility model, most colleges were operating on their own clinical model of daily experience and graduate training (Mellard & Deshler, 1984). Generally, that definition, as well as those definitions adopted by state education agencies were developed from an orientation based on research and experience with children or adolescents. Those definitions were infrequently based on empirically evaluated characteristics, but at best relied on clinical experience and data gathered through hearings and field meetings. In contrast, the adopted community college definition involved not only representation of the LD specialists' clinical experiences, but also the establishment of standards for an eligibility model, a normative database of the general college population's characteristics, representatives of interested agencies and advocacy groups, iterative computer simulations of various eligibility models, and pilot tests of procedures. Perhaps a dominant characteristic of this definition is its dynamic qualities reflecting not only the specific community colleges' context in higher education, but also the recognition that the measurement methods will evolve into greater specificity through a variety of feedback mechanisms, e.g., external consultants, empirical research, field meetings, evaluations by regulatory agencies, and qualitative case studies.

The following definition was adopted into the regulations governing California's community colleges:

Learning disability in California community college adults is a persistent condition of presumed neurological dysfunction which may also exist with other disabling conditions. This dysfunction continues despite instruction in standard classroom situations. Learning disabled adults, a heterogeneous group, have these common attributes:

a. average to above average intellectual ability;
b. severe processing deficits;
c. severe aptitude-achievement discrepancy(ies);
d. measured achievement in an instructional or employment setting; and
e. measured appropriate adaptive behavior. (Title 5, California Code of Regulations, Section 56014).

Components of the Eligibility Model

The LD definition was operationalized in procedures and cutoff scores for seven eligibility components. Each of the components was tied to one or more of the shared LD attributes. The eligibility components are organized into a "hurdle model" as contrasted with a "compensatory model" [See Anastasi (1982) for further discussion]. The hurdle model requires that the student meet a criterion of each of the eligibility components. If the student does not meet a component's criterion, the student is not LD and some other explanation is warranted for understanding his or her learning difficulties. The theoretical understanding of LD prompted the selection of the hurdle model. Those concepts focus on the shared attributes among the learning disabled and on ensuring that no single criterion is the sole basis for determining a student's eligibility. An additional feature of the model is that standardized, normative measures, informal measures, and professional judgment can be utilized in the assessments for each of the components.

For each component steps and procedures are prescribed. The steps are invariant across students but are rather general. However, greater specificity is tied to a component's procedures. For most components, three possible procedures may be followed to test whether a student satisfies the component: primary, secondary, and professional certification procedures. Primary procedures are considered the most valid means for assessment. For example, the WAIS–R (Wechsler, 1981), and WJ Part I (Woodcock & Johnson, 1977), are primary procedures for the Ability Level component. However, for some students, the primary procedures may be invalid, and thus an alternative is needed. In such circumstances, a secondary procedure is chosen from listed alternatives. If none of the primary or secondary procedures is valid, the LD specialist completes a professional certification. The steps of professional certification are listed in Figure 2 (Mellard & Halliday, 1988).

FIGURE 2 Documentation Needed in Completing a Professional Certification of an Eligibility Component

1. Rationale for the invalidity of the primary procedure(s).
2. Rationale for the invalidity of the secondary procedure(s) (if applicable).
3. Record of the information on which the professional certification was based.
4. Index of the reliability of the information used.
5. Weighting/importance of the different data.
6. Alternative explanations for this performance.
7. Criterion met or not met.

Several important factors are connected with these concepts. First, each component must be assessed and only one criterion of a component's procedure must be met in order for eligibility. If a component's criterion is not met for a particular procedure, testing is stopped, and the student is not eligible. Alternative recommendations are made to assist the student. Second, while several procedures are listed as primary or secondary procedures for a component, only one procedure is required for each component. The specialist chooses the procedure which is judged by the best index of performance for a student. Third, while a procedure such as assessment on the WJ Reading Achievement cluster yields three subtest scores, only one score must meet the criterion. Last, all numerical scores in these procedures are based on the community college's norms for comparison rather than on national norms. The rationale for these norms is that the community college norms provide a better comparison or reference group for understanding the student's performance than the ranking available from national norms. The random sampling of 900 nonhandicapped community college students was used in developing these norms.

Component 1–Intake Screening

Rationale. Over 94% of the LD programs included a set of screening questions which, through the LD specialists' experiences, were thought useful in determining a learning disability (Ostertag, Baker, Howard, & Best, 1982). However, these questions were not standardized, varied with each campus, and lacked empirical evidence validating their utility. Previously, at least one college used the intake as the sole basis for diagnosing learning disabilities.

In the Intake Interview, standardized self-report and interview procedures are completed with the student. The interview questions elicit information regarding

the student's current difficulties; educational, medical, and family history; career goals; language proficiencies; and employment experiences. This information provides a basis for understanding the student's perspective, choosing appropriate assessment instruments, and interpreting the student's performance within familial, educational, and cultural experience.

Based on this background information, the examiner administers the *Academic Attribute Survey* (AAS) (Mellard, 1986), or the *Academic Skills Assessment Battery* (ASAB) (Mellard, 1986). The AAS is used to analyze how the student's personal attributes relate to his or her learning problems. The current version includes 32 items which the student completes individually or in a small group, using either a paper-and-pencil or computer-displayed version. The items can also be presented using a cassette-taped version to reduce the reading requirements of the task. Ninety-seven percent of the students take the AAS. The ASAB is composed of subtests that assess written expression, reading, and mathematics skills associated with LD. The subtests parallel tasks expected of community college students or which were found to have high predictive utility. Weiler and Strawser (1980) evaluated students' performances on similar tasks and found that they also distinguished students on skill levels.

Procedures. The Intake Screening component includes three steps: completion of a consent form, the Intake Interview (Chancellor's Office, 1988b), and either the AAS or the ASAB. No scores are calculated from the Intake Interview.

Criterion. Scores from the AAS and the ASAB are advisory rather than mandatory. That is, students who do not meet the cutoff scores are not automatically excluded from further assessment. The derived scores are helpful to the LD specialist in determing the likelihood of a student's meeting the other eligibility components.

Remarks. The Intake Screening component is one of the most important in the eligibility process. This importance is realized in both the information obtained and in its rapport-building opportunities. Successful rapport is deemed critical to valid assessments. The influence of these initial impressions can hardly be overemphasized (Arkes, 1981; Matuszek & Oakland, 1979; Ysseldyke, Algozzine, Regan, & McGue, 1981).

Similarly, the Intake Interview contains questions which most practitioners agree are very sensitive and of a personal nature: history of drug and alcohol abuse, history of emotional problems, parental level of education, language used in the home. Given the cultural pluralism in California's population, these questions have varied interpretations. Presently, the students' responses are treated as accurate and descriptive. In the future, perhaps some scale may be empirically derived which permits additional uses of the student's responses. The *System of Multicultural Pluralistic Assessment* (Mercer, 1979) is an example of how descriptive information might be used in score interpretation, though it too is controversial (Brown, 1979; Goodman, 1979; Gordon, 1980; Oakland, 1979).

At this time the Intake Interview is being distributed in a computerized format. Thus, the interview can be completed by recording the answers in a computer file and, at the conclusion, a copy of the responses can be given to the student for his or her own record. Hopefully, this format will increase the efficiency and accuracy with which information is collected and shared with appropriate staff. These data will guide conclusions regarding validity of the eligibility model and service delivery (Senf, 1986).

Component 2–Measured Achievement

Rationale. This component is based on the assumption that the learning disability is manifested in a specific skill area, but that in other academic and vocational areas these students are successful. This component identifies those academic or employment settings in which the student has been successful. In this manner the LD student is further differentiated from a student better characterized as a low achiever—someone whose ability and achievement are comparable and distinguished by generally low achievement relative to his or her peers. This component is designed to identify students' strengths and inconsistencies in achievement, either in an instructional setting or in the employment setting. The employment setting is most applicable to nontraditional students, that is, those students who have not matriculated directly from a high school program. By identifying areas of strengths, the component's results suggest a realistic expectancy for improving the deficit areas.

This achievement index is evaluated independently of assessed ability or aptitude. That is, the component is evaluated by comparing the student's performance relative to a similar-aged normative group, not by comparing his or her achievement in terms of potential or expectancy for achievement or by comparing one achievement score with another achievement score, i.e., an achievement-achievement discrepancy.

Procedures. The LD specialist's first decision in assessing the Measured Achievement component is determining whether an academic or an employment setting is most appropriate for a particular student. That is, in which setting is the student more likely to have demonstrated successful performance? In the *instructional* setting, Measured Achievement includes the following procedures:

- Achievement measure *Woodcock-Johnson Battery*, Part II, (Woodcock & Johnson, 1977) or *Wide Range Achievement Test* (Jastak & Jastak, 1978) (primary) or,
- College placement tests, e.g., *Scholastic Aptitude Test* (SAT), *American College Test* (ACT) (primary)
- College nonremedial or noncompensatory course completion (secondary) or,
- High school transcripts (secondary)
- Professional certification

For these primary and secondary procedures, a number of options are available. Any of the achievement subtests from the WJ II (Woodcock & Johnson, 1977) or WRAT (Jastak & Jastak, 1978) would be possible alternatives. Similarly, the college placement tests provide achievement areas which may be appropriate. Problems with the college placement tests are that the information is frequently unavailable, students have not taken them, or they were administered so long ago that the scores are not considered representative of current achievement.

The secondary procedures depend on in-class evidence of academic achievement. Specialists are advised to use credit or content courses rather than nonacademic, adult education, or remedial courses. Based on an assumption that courses, even those courses with the same titles and descriptions, are not equal in their content, methods, and requirements, they were considered as a less valid index of student performance. Quite possibly, with the development of alternative assessment procedures such as curriculum-based assessment or measurement, classwork might be evaluated differently.

In the *employment* setting, Measured Achievement is assessed with one procedure; documentation obtained from an employer. The student authorizes the LD specialist to contact a recent or current employer and verify the student's employment history.

Criterion. The achievement test procedures all have criterion scores corresponding to the tenth percentile, i.e., the student must earn at least one subtest score which is equal to or greater than the tenth percentile. In an instructional setting, the two secondary procedures are that the student must have earned a letter grade of at least "C" in an academic or vocational course. The criterion for the employment setting is that the student must have been employed in a competitive setting for at least 6 months, and at least half-time.

Remarks. While the achievement criterion established in this component might be considered minimal, many LD specialists consider it a difficult criterion because the normative comparison is made with students who are in college and not the population as a whole, which is reflected in national norms. On the other hand, the construct is generally accepted as important and useful. Its utility is especially considered important in distinguishing LD from general low achievement. Such distinctions have been raised in the research literature (Algozzinne & Ysseldyke, 1983; Clark, 1981; Sabatino & Miller, 1980; Stanovich, 1986). From several perspectives, school-identified learning disabled individuals appear to be the lowest of the low-achieving students. This component provides an alternative perspective.

A significant contextual factor for this model is reflected in the inclusion of the employment setting as evidence of successful achievement. Since college LD students are also likely candidates for vocational rehabilitation services (Shiro-Geist & McGrath, 1983; Weller & Strawser, 1980), this procedure encourages a broader understanding of the student's strengths and weaknesses than just academic manifestations.

Component 3–Measured Appropriate Adaptive Behavior

Rationale. Success on the community college campus requires a modicum of socially acceptable behavior. The purpose of the Measured Appropriate Adaptive Behavior component is to provide an index of a student's adaptive functioning in college and community settings. This information is useful in determining the extent and severity of the student's disability in a broad range of behavioral domains (Leigh, 1987; Weller & Strawser, 1987; Weller, Strawser, & Buchanan, 1985). These procedures intend to evaluate personal and social competencies beyond academic achievement. By using screening in addition to standardized, normative measures, the Measured Appropriate Adaptive Behavior component provides information about whether the student has the level of personal independence, as well as social and vocational responsibility expected of other community college students. The primary focus of this component's content is personal and social functioning in the classroom situation.

This component is useful in a second way. Those individuals with functional mental retardation, developmental delays, or behavioral disorders should have lower overall adaptive behavior than the learning disabled. This distinction assists with the differential diagnosis (Adelman & Taylor, 1986; Forness, 1981; Friedrich, Fuller, & Davis, 1984; Fuller & Goh, 1981; Gajar, 1980; Mercer, Hughes, & Mercer, 1985).

Adaptive behavior may be assessed by using the *Screening Measure of Adaptive Functioning* (Chancellor's Office, 1986a) or one of several standardized, normative measures. If the student does not meet the criterion of the screening measure, or if the examiner has any reason to question the reliability or the validity of this instrument, a standardized, normative measure is administered. The *Screening Measure of Adaptive Functioning* is an adaptation of the concepts incorporated in the American Psychiatric Association's (APA) (1982) diagnostic manual. Adaptive functioning is assessed in three domains from the APA perspective: social relations, occupational functioning, and use of leisure time. In the community college context, occupational functioning may include classroom performance as well as the employment setting.

An assumption of this component is that LD students' composite adaptive behavior is appropriate. Thus, a two-step sequence was established in the procedures.

Procedures. For the majority of students, this component is satisfied with the LD specialist's completion of the screening instrument. Over 90% of the students meet this procedure's criterion. However, if the criterion on the screening measure is not satisfied, a second step is included in this component. For the second step, a test from the other three primary procedures is completed. If these three instruments are judged invalid, professional certification procedures are completed. The following list includes the procedures used with this component.

- *Screening Measure of Adaptive Functioning* (Chancellor's Office, 1986a) (primary) or,
- *Comprehensive Tests of Adaptive Behavior* (Adams, 1984) (primary) or,
- *Scales of Independent Behavior* (Bruininks, Woodcock, Weatherman, & Hill, 1984) (primary) or,
- *Vineland Scales of Adaptive Behavior* (Sparrow, Balla, & Cicchetti, 1984) (primary)
- Professional Certification

Criterion. *The Screening Measure of Adaptive Functioning* (Chancellor's Office, 1986a) is a rating scale with values ranging from one (Superior) to seven (Grossly impaired). This component's criterion is satisfied by a score between one and four (Fair).

For those students who are administered one of the normative measures, the criterion is a full scale score greater than or equal to the tenth percentile.

Remarks. Inclusion of this component in the eligibility model is likely the most controversial from the perspective of LD specialists (Chancellor's Office, 1988a, January), and external reviewer's comments on the model (Chancellor's Office, 1987). The issues essentially concern the interpretation of the component, the measured options, and the LD specialists' competencies in making the associated judgments.

In light of these issues the Chancellor's Office of the Community College system has organized a task force. Broadly speaking, the task force is examining for the purpose of developing appropriate conceptual definitions, operational procedures, and eligibility criteria. Previously published work, including the test instruments listed above, has generally focused on adaptive behavior of children, especially as part of mental retardation classifications (Weller et al., 1985). The work is complicated by such factors as ambiguity in adaptive behavior concepts (Coulter & Morrow, 1978; Leland, 1978), age, environmental influences on expected behaviors (Kicklighter, Bailey, & Richmond, 1980; Mercer, 1979), and inaccurate ratings based on interpersonal perceptions (Kenny & Albright, 1987). A 3-year timeline was established for the task force.

Component 4–Ability Level

Rationale. Procedures in this component assess the student's likelihood of achieving in the general community college curriculum. The primary procedures for the Ability Level component are standardized, normative measures of cognitive ability. If these instruments are judged invalid, professional certification is applied. The information obtained from these procedures has predictive utility in planning and implementing appropriate instructional goals and activities for the student. Instructional programming available to students with learning disabilities assumes that the student's ability level is at least at the tenth percentile in comparison to his or her same-age peers.

Procedures. LD specialists choose either of these two instruments:

- *Wechsler Adult Intelligence Scale–Revised* (Wechsler, 1981) (primary) or,

- *Woodcock-Johnson Psycho-Educational Battery*, Part I (Woodcock & Johnon, 1977) (primary) or,
- Professional Certification (secondary).

For a learning disabled student the particular disability might also lower the assessed aptitudes or abilities. As a consequence, this assumption was considered in establishing the cutoff score and in determining that any of the commonly recognized derived scores might be used. For the WAIS–R, the choices include the Verbal, Performance, or Full Scale IQ scores, or the Verbal Comprehension or Perceptual Organization factor scores. The Verbal Comprehension and Perceptual Organization factor scores are calculated according to the procedures described in Sattler (1988a). For the WJ Part I, the choices include the Broad Cognitive Ability, Reading, Mathematics, or Written Language aptitude scales.

Criterion. The minimum ability level chosen was the tenth percentile. That is, the student's obtained score on one of the scales must be at least at the tenth percentile to satisfy this component's criterion. The multiple comparisons possible increase the likelihood of meeting this criterion.

Remarks. Use of ability or aptitude measures in California's community colleges is perhaps unexpected in light of Judge Robert Peckham's decision in the Larry P. v. Riles litigation. Sattler (1988b) provides a brief critique of that case, and the most recent litigation, Crawford v. Honig, which seeks to reverse the decision. However, Judge Peckham's ruling was not considered to extend beyond the kindergarten through twelfth grade range. Similarly, more recent court cases have not supported a ban on ability testing with minority students (Reschly, Kicklighter, & McKee, 1988).

One recurring issue concerns the qualifications of the LD specialists to administer the standardized tests in this component, an issue with no easy solution since ethics and territoriality seem confused. The Chancellor's Office asserts that appropriate training is required as a requisite for a specialist to administer *any* measure used in the decision-making process for students. This training is evaluated both in awarding the credential in learning disabilities and in permitting specialists to verify that a student is eligible for services. Moreover, individuals requesting to participate in the training on the eligibility model have three additional steps. They must supply documentation of their test training (i.e., coursework, workshops, and practicum experiences), complete an examination covering the tests on which they have been trained, and submit their first three college evaluations for review by Chancellor's Office staff (Mellard & Halliday, 1988).

Component 5–Processing Deficit

Rationale. The LD definition assumes that the student's disability is due to a neurological dysfunction; however, this dysfunction is only presumed and evaluated indirectly. In addition, this dysfunction is assumed evidenced by the student's difficulties in acquiring, manipulating, integrating, storing, or retrieving information in the manner in which most students perform these tasks. One or several of these processes might be impaired and is considered to account for the specific academic deficits. The Processing Deficit component is completed to verify that the student's difficulty is evidenced in one or more of these factors. However, the presence of this factor, just as with the other eligibility components, is not in itself sufficient to indicate a learning disability.

The practitioner can consult tables developed for this component and thus can avoid calculations, except for completing one subtraction operation.

Procedures. A number of options are available in evaluating this component. These alternatives are calculated from the following procedures:

- *Wechsler Adult Intelligence Scale–Revised* (Wechsler, 1981) (primary) or,
- *Woodcock-Johnson Psycho-Educational Battery*, Part I (Woodcock & Johnson, 1977) (primary) or,
- *Academic Attribute Survey* (Mellard, 1986) (secondary) or,
- *Processing Deficit Checklist* (Chancellor's Office, 1986a) (secondary)
- Professional Certification

The primary procedures yield a number of scores which might be used. In evaluating the component, the magnitude of the absolute difference in scores is of interest, since the comparison is not directional. For the WAIS–R, the following discrepancy comparisons may be evaluated for a processing deficit: Verbal Scale IQ minus Performance Scale IQ, Freedom from Distractibility minus Verbal Comprehension, Freedom from Distractibility minus Perceptual Organization, or Perceptual Organization minus Verbal Comprehension. For the WJ I, the following comparisons might be used: Broad Reasoning minus Oral Language, Broad Reasoning minus Perceptual Speed, Broad Reasoning minus Memory, Oral Language minus Perceptual Speed, Oral Language minus Memory, or Perceptual Speed minus Memory. The result of this subtraction operation is compared

to the standard error of the difference (SED) value for that particular score comparison.

Two secondary procedures are also available: the AAS (Mellard, 1986) and the *Processing Deficit Checklist* (Chancellor's Office, 1986a). Since the AAS is most likely available from the Intake Screening component, this procedure does not require additional assessment. The rationale for including the AAS as a secondary procedure in the Processing Deficit Component is that much of the instrument's content concerns procedural and strategic knowledge. These types of knowledge are frequently associated with cognitive processing deficits (Gagne, 1985; Mayer, 1987) and learning disabilities among college students (Kanter, 1986; Patton & Polloway, 1982; Putnam, 1984).

The *Processing Deficit Checklist* was developed as an observational and self-report procedure for documenting those behaviors which are clinically associated with adults who have learning disabilities. An important distinction between the AAS and the *Processing Deficit Checklist* is that the former is a self-report and external documentation, e.g., neurologist's report, and the other two parts are based on repeated student observations by the examiner. The three parts permit specialists to integrate information from a variety of settings, e.g., interviews, formal testing, diagnostic testing with curricular materials, and classroom observations. The comprehensive quality of the measure works against its frequent usage. Time constraints limit its utility as well.

Criterion. The criterion score for the WAIS–R (Wechsler, 1981) along with the WJ, Part I (Woodcock & Johnson, 1977), is a statistical criterion. Kaufman's (1979) distinction between educational and statistical significance was important in establishing the criterion level. The educational significance concerns the frequency with which a score of a particular magnitude occurs in the general population, i.e., the proportion of the population that earns such a score. On the other hand, statistical significance concerns the likelihood that a given score could have occurred by chance. Or, stated in the form of a question, is the difference between the two scores reliable? Since instructional impact or educational interpretation of the calculated difference scores was questionable, a statistical criterion was chosen. The concern was that since these difference scores had limited or undemonstrated validity, a loose criterion was considered more appropriate than one which presumed educational significance. As a consequence, the chosen statistical comparison was the SED.[1] This criterion was not intended to eliminate many students.

For a student to meet this component's criteria, the difference between the two scores compared must meet or exceed this SED criterion, which is calculated based on the student's age and the particular scoring comparison completed. If the difference score is equal to or greater than the criterion value, the component has been met.

The criterion for the AAS is a standard score criterion. If this secondary procedure is used, the student must earn a score equal to or less than 81.

The criterion for the PDC is based on the repeated observation of particular behaviors in a number of settings.

Remarks. This component is important to distinguish LD students from other students who are judged to have average to above average ability and who are also underachievers. Clinical experience suggests that the distinction is important between these two groups of students. Documentation of the specific processing deficiency has value for goal setting, prevention, research, training, and instructional planning (Adelman & Taylor, 1986). However, the procedures and criteria of this component deserve particularly close scrutiny.

In practice, most LD specialists complete more than one comparison for a student using information from either the WAIS–R (Wechsler, 1981) or the WJ, Part I (Woodcock & Johnson, 1977). These multiple comparisons are largely due to confusion regarding interpretation of the particular factor or cluster scores and their application to instructional difficulties. While particular profiles of LD students have been reported in the research literature (e.g., Rourke, 1985; Vogel, 1986), sampling, criterion, subtype, and instructional issues have not been carefully evaluated (Adelman & Taylor, 1986; Keogh, 1987; Senf, 1986). One avenue for addressing these related issues would be to conceptually integrate the scoring patterns with work in cognitive psychology. The concepts and applications of cognitive psychology are represented by Gagne (1985) and Mayer (1987), and in cognitive models of instruction by Crank (1985) and Deshler, Schumaker, and Lenz (1984a, 1984b).

Component 6–Aptitude-Achievement Discrepancy

Rationale. The most commonly agreed-upon characteristic of the student with learning disabilities is lack of achievement at a level one would expect. This component's procedures identify those academic areas in which the student's achievement is significantly less than that of peers with the same abili-

ty level. This difference from expected or predicted achievement reflects the tangible, negative impact of the learning disability.

The Aptitude-Achievement Discrepancy component is evaluated by comparing a student's predicted achievement in a given area, e.g., reading, math, or writing, with the actual achievement score in the same area. If the discrepancy or difference between the two scores, predicted achievement and actual achievement, is greater than 92% of other students with the same age and aptitude score, the criterion for this component is met.

As with the other eligibility components, a variety of reasons might account for a student's meeting this component. Some of the more probable reasons are: (a) the student has not had appropriate instruction, (b) the instruction received did not match the content of the achievement test, (c) the student's education has been interrupted such that the inconsistencies lowered achievement, (d) the student's language differences impeded performance on the achievement measure, (e) the multiple comparisons made among ability and achievement scores established significant differences due to chance, (f) the discrepancy was due to some other disability, e.g., emotional disturbance, mental retardation, or some combination of all these factors and others not listed (Mellard, 1987; Reynolds, 1984–1985). Each of these factors is likely to increase the likelihood of the student's evidencing an aptitude-achievement discrepancy that would meet the criterion of this component. Thus, while the determination of a significant aptitude-achievement discrepancy is necessary for verifying a learning disability, its presence alone is an insufficient condition.

Procedures. Completing this component may not require additional assessment if previous components have been completed. Often the required information is available since scores from aptitude and achievement tests are used. While standardized test results are most frequently the procedures used, the LD specialist may also use Professional Certification procedures. The following list includes the tests and possible scores available:

- Measures of Aptitude—*Wechsler Adult Intelligence Scale–Revised* (Wechsler, 1981) (primary)
  Suitable scores: Verbal, Performance, or Full Scale scores or Verbal Comprehension or Perceptual Organization factor scores
  Woodcock-Johnson Psycho-Educational Battery, Part I (Woodcock & Johnson, 1977) (primary)
  Suitable scores: Reading, Mathematics, Written Language, or Broad Cognitive aptitude scores
- Measures of Achievement—*Wide Range Achievement Test* (Jastak & Jastak, 1978) (primary)
  Suitable scores: Reading, Arithmetic, or Spelling subtest scores
  Woodcock-Johnson Psycho-Educational Battery, Part II (Woodcock & Johnson, 1977) (primary)
  Suitable scores: Letter-Word Identification, Word Attack, Passage Comprehension, Calculation, Applied Problems, Dictation or Proofing subtests
- Professional Certification

Three formulas are involved in forming the aptitude-achievement discrepancy,[2] but for the practitioner, no calculations are required. The practitioner uses a set of tabled criterion values which are indexed for the student's age and particular aptitude and achievement scores. The student's earned achievement score is compared to the tabled criterion value to determine if the discrepancy has been met.

Criterion. In this model, the consensus among stakeholders was that if the size of the discrepancy occurred in 7% or less of the college population, the discrepancy would meet the criterion. The criterion level was set with the consideration that discrepancy scores themselves include some error in measurement, i.e., unreliability, which is reflected typically in establishing a confidence interval around a score.

Remarks. A number of formulas has been offered to evaluate aptitude-achievement discrepancies and to calculate a criterion score. Many of these alternatives have been extensively reviewed (Cone & Wilson, 1981; Mellard, Cooley, Poggio, & Deshler, 1983; Reynolds, 1984–1985). Of those formulas which are technically correct, the choice depends on one's conceptualization of learning disabilities and the characteristics one ascribes to the population (Mellard, 1987).

In practice, a number of aptitude-achievement comparisons are made. While these multiple comparisons may be considered appropriate in light of a desire to be comprehensive, multiple comparisons also increase the likelihood that one or more of the comparisons may meet the component's criteria. In response to this threat of a false positive error, LD specialists are encouraged to preplan their comparisons to reflect the student's particular area of low achievement.

Component 7–Eligibility Recommendation

Rationale. The Eligibility Recommendation component is the last of the components in evaluating a

student. In this component the LD specialist analyzes and synthesizes all of the information obtained in the previous components to determine the best explanation for the student's performance. No additional assessment instruments or cutoff scores are prescribed for making the eligibility determination. This component is important as another formal validity check in the eligibility model, and because of the emphasis on determining resources or instructional approaches beneficial to a student, e.g., counseling, academic advisement, tutorial services, vocational rehabilitation, and remedial coursework.

This component is completed for all students who initiate the eligibility process. Since the eligibility components are organized as a hurdle model, the student must successfully satisfy the criterion for each component in order to be eligible for services. Even if the criterion for another component is not met, this seventh component must be completed. The eligibility process yields one of two outcomes; eligible or ineligible for services. However, while the ineligibility classification might be helpful information for a student, it is insufficient for solving the present achievement problem. In completing this component, the LD specialist has the opportunity to review the assessment results with the student, indicate willingness to assist the student, and share information related to improving the student's achievement.

The procedures in the eligibility components are not perfect when considering four indices: reliability, sufficiency, objectivity, and validity. This situation is not unique to educational assessments and decision making. The fallibility of these instruments, the influence of competing values, and the multiple opportunities for the clinician's judgment in the eligibility process have possible consequences of yielding erroneous conclusions. Yet, this situation is no different from other, comparable disciplines—the physician's medical diagnosis, the policy analyst's policy recommendation, or the business woman's marketing strategy. In each instance, the decisions are weighed against some standard of expected risks and benefits.

The criterion or cutoff scores set for the learning disability eligibility components were chosen to provide a balance between false positive and false negative errors, i.e., the risks and benefits of incorrectly including or excluding a student on a component. Since the agencies and participants reasoned that the worst error to make was a false negative, the cutoff scores were chosen accordingly. The consequence is that the procedures yield significantly more false positives than misses. As a consequence, not all students meeting the first six eligibility components may be learning disabled.

Using this model, students judged eligible for the LD programs have met the specified criteria for *each* of the components, and accordingly, the college is entitled to state reinbursement for providing added services. Alternatively, if the student does not meet one or more component's criteria, the student may still receive services in the local college's LD program, but associated costs are borne by the local college. This outcome occurs infrequently for a number of reasons, e.g., costs, demand on services from student meeting the criteria, concerns of possible discrimination, and students' benefits.

Procedures. Four steps have been defined for the clinician in this component: (a) collect and summarize the results of the previous assessments, (b) evaluate the results for their sufficiency, reliability, objectivity, and validity, (c) consider alternative explanations for the student's performance in addition to a learning disability, and (d) conclude which alternative explanation is most appropriate.

Criterion. Although great effort was directed to ensure the eligibility model's accuracy, all students meeting the six components' criteria are not necessarily learning disabled. Other explanations could account for the student's meeting the component's criteria, e.g., an inconsistent educational experience, an emotional disturbance, an acquired brain injury, a poor match between previous instructional emphasis and the assessment instrument, the effects of medication, and errors in the instruments. Thus, the LD specialist is confronted with two questions in the Eligibility Recommendation Component: "Is this student's performance best explained by learning disabilities?" If not, "Where is this student best served?"

Remarks. This seventh component emphasizes the role of the clinician. As suggested, all students meeting the previous six components' criteria are not necessarily learning disabled, though they frequently are experiencing achievement-related difficulties. Until the quality of the six preceding components can be improved or other important information can be added in the model, the component will remain largely a clinical task. Thus, a number of implications in research, training, policy, and service delivery are obvious. Like the other components, the Eligibility Recommendation must be examined for its functional use, reliability, and validity. This component is quite suitable for incorporating decision-aids (Arkes, 1981, 1988) for the professional's judgments, that is, identifying traps leading to erroneous judgments and strategies for improving judgments.

Implementation of the Eligibility Model

This eligibility model was implemented in October, 1987 across the state. In addition to developing the eligibility model, a variety of other activities have also been completed. A thorough description is inappropriate for this article, but a cursory, partial listing of the supporting activities can be given. Implementation has incorporated: (a) 3-day training programs for all certificated LD specialists on the model's components, procedures, and criteria; (b) regularly scheduled review and in-service training; (c) organization of an advisory group composed of LD specialists to establish a regional communication linkage among colleges and the Chancellor's Office; (d) implementation of a campus visitation process for providing requested on-site technical assistance; (e) bulletins from the Chancellor's Office for communicating policy and responses to technical questions regarding the eligibility model and related issues; (f) monitoring procedures of the model's effects on the age, gender, and racial characteristics of the LD program's students; (g) validity studies of the program's outcomes; and (h) development of software to assist with the scoring, record-keeping, and reporting activities. As the listing indicates, avenues and frequency of communication among the colleges and Chancellor's Office staff have been established to assist in changes resulting from implementation.

Some Concluding Remarks

The implementation of this model has posed some unique challenges. For those colleges which previously were not using any standardized assessment, the model was quite different. Other colleges had used an extended battery of tests, most of which lacked adult norms. For those colleges this model streamlined the eligibility process and cut costs. A major difference is that now, a student attending any of the colleges with LD programs will complete the same eligibility model—the same seven components—and have an *Intake Screening and Eligibility Record* (Chancellor's Office, 1988b) booklet on file. At the same time, college to college variations will also exist in the procedures and criteria. This situation is largely due to training and staffing.

Various activities have been completed or are scheduled to assess validity related issues. Practitioners and administrators have reported that the eligibility model has increased objectivity and consistency of student assessments, and this is generally considered positive for the student (Jorgensen & Mellard, 1988). These features facilitate transition planning whether the transition is to another community college, a state university (e.g., California State University at Sacramento), a university (e.g., University of California at Los Angeles), or an agency such as vocational rehabilitation. On the other hand, someone might question whether the model's specification imposes inflexibility which results in stereotypical treatment of a student. That is, regardless of the presenting problems, a student gets the same battery of tests as anyone else. On the contrary, the model permits flexibility. The LD specialist has the opportunity on any of the components to use Professional Certification procedures. This option was included to fully acknowledge that each student presents some unique challenges and must be considered individually. When the typical primary or secondary procedures are invalid, the LD specialist uses Professional Certification procedures so that each component can be assessed in the manner most appropriate to the student.

The college's eligibility model operationally represents a "field-based" LD definition and eligibility model (Adelman & Taylor, 1986; Chalfant, 1984; Mellard & Deshler, 1984). The definition and model place a heavy emphasis on the educational aspects of learning disabilities as manifested in academic-related tasks. Etiological, psychological, vocational, and neurological aspects are deemphasized. Moreover, the model's attempts at increased objectivity, consistency, and reliability are not to be confused with the validity of its outcomes—classifying students for LD services. Validity investigations, both empirical and qualitative, have been initiated concerning the eligibility and service delivery models (e.g., Chancellor's Office, 1987; Jorgensen & Mellard, 1988), and other activities are planned. Future evaluation research will examine two topics: possible bias in the eligibility model and outcomes of curricular models. One aspect of the model's outcomes, which is being examined yearly, is eligibility rates among gender, age, and racial groups in the college's population. The eligibility rates for the 1987–1988 academic year were described by Mellard (1988) as fitting well with a parity model except for two groups, Asian students and students over 55 years old. These two groups were underrepresented in the referral population. Subsequent efforts are examining these disproportions.

Validity questions notwithstanding, other issues have presented themselves. The problems are not unique to the colleges in many respects and have been reviewed in comments regarding the elementary and secondary schools' LD programs (e.g., Chalfant, 1984; Keogh, 1987). These issues include such topics as: the need for multi-disciplinary team decision making; ensuring examiner's competencies in assessment; providing a variety of efficacious interventions; shortages of staff and space; availability of preservice training programs; integrating the LD

program, staff, and students into the college curriculum; generating appropriate referrals; and providing quality transition to other settings. This last issue concerning transition deserves further comment given its current national emphasis.

The community college system is working cooperatively with California's other postsecondary segments. The goal is that students receiving services in one system will also be eligible in other segments. Other assessments would be necessary, but they do not have to focus on the eligibility question. An agreement on this issue is close to administrative approval. A similar memorandum of agreement is being developed with the Department of Rehabilitation. A likely outcome is that this agreement will emphasize the sharing of student data. In many respects the definitions differ and thus complete reciprocity is less likely. The students from California's high schools pose a unique set of challenges. In the K–12 setting, students commonly considered as having a mild handicap, e.g., learning disability, mental handicap, or behavioral disorder, are grouped into learning-handicapped classes without a particular categorical designation. Needless to say, students are particularly troubled to find that the high school, postsecondary, and Department of Rehabilitation programs are not equivalent. Greater attention will be needed in facilitating the students' transition to any of the postsecondary settings. This issue was a major point in the Association for Children and Adults with Learning Disabilities' position paper (1989) regarding eligibility for services across settings.

SUMMARY

This article has briefly described a model implemented in California's community colleges for assessing students to determine eligibility for LD programs. The adopted educational model may be considered prototypical for other agencies or organizations. However, wholesale adoption of the specific model by others would be a mistake. The model was designed for the context of the community college system. As that system changes, it will also necessitate changes in the eligibility model. For example, technological (e.g., new test instruments) and conceptual changes (e.g., knowledge of learning disabilities, processing deficits, and adaptive behavior) will also necessitate alterations in the eligibility model. Regardless of these changes, the assessment of whether a student meets a component's criterion will always include a decision made by the LD specialist. The eligibility model specifies a set of standardized normative and informal assessment instruments to assist the specialists in these considerations. This model is one example of a multiyear effort by a postsecondary system to assist students encountering a variety of academic- and vocational-related challenges. Continuing efforts will evaluate its validity.

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[1]The formula for calculating the standard error of the difference (SED) is:

$$SED = (1.96)(SD)(2 - r_{xx} - r_{yy})^{1/2}$$

where: 1.96 = the *z* score for setting the 95% confidence interval, SD = the standard deviation of the test scores; r_{xx} = the reliability of one test score measured by the internal con-

sistency coefficient; r_{yy} = the reliability of the second test measured by the internal consistency coefficient.

[2]Given the controversies involved in choosing discrepancy formulas, those formulas used in this model are provided. The formulas assume that the tests have a mean = 100 and a standard deviation (SD) = 15. The first formula is used to calculate the predicted achievement score:

$$Ach' = r_{xy}(\text{Apt. score} - 100) + 100.$$

Apt. score is the student's earned aptitude score, and r_{xy} is the correlation coefficient between the particular aptitude and achievement tests being used.

The discrepancy is formed by subtracting the student's predicted achievement score (Ach') and obtained achievement score:

Discrepancy = Obtained achievement score − Predicted achievement score.

The discrepancy score is compared to a calculated criterion value:

Criterion = (*z* score) (SD) $(1 - r_{xy}^2)^{1/2}$.

In these calculations r_{xy} is the correlation coefficient between the particular aptitude scale and the achievement scale. The *z* score corresponds to the chosen alpha level; in the colleges' eligibility model the chosen *z* score was 1.5. The standard deviation (SD) of the test scores is 15.