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Diagnosis of Learning Disabilities in Postsecondary Institutions

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Abstract

This report summarizes results of a survey conducted to determine which instruments are being used in the diagnostic process at a postsecondary level to assess students' learning strengths and weaknesses and determine the presence of a specific learning disability. In addition, characteristics of diagnostic programs at postsecondary settings were reviewed and the authors offer suggestions about improving diagnostic procedures.

Individuals with learning disabilities are attending college in increasing numbers. In the past, many of these individuals were encouraged to enroll in vocational programs or were not assisted in pursuing higher education. However, it is now recognized that students with learning disabilities can successfully pursue education beyond high school.

The growing number of programs have raised many issues such as how to best integrate individuals with learning disabilities into higher education. Support programs for these students have evolved with many philosophical differences and varying types of support services.

One of the services offered by some colleges is diagnostic testing. Institutions that have programs that provide this service frequently evaluate students experiencing academic difficulty who have never previously been diagnosed as having a learning disability. At some institutions, all incoming freshmen with learning disabilities are reevaluated to assess students' current levels of functioning. Levinson (1986) suggested that one of the major purposes of the educational components of college learning disabilities (LD) programs should be assessment and identification. Very little, however, has been written about the diagnosis of learning disabilities in college students. Few writers in recent literature have described or prescribed a test battery appropriate for assessing these students. Mangrum and Strichart (1984) reported that there is not a standard set of tests used by college learning disability programs, but they did list frequently used tests. Scheiber and Talpers (1985) described some assessment tools typically used in a test battery for college students. Hoy and Gregg (1986a) supported the notion of a

comprehensive psycho-educational evaluation and discussed the components of such a procedure.

Research is extremely limited in the area of diagnosing college-age students as having learning disabilities. Epps, Ysseldyke and McGue (1984) found that among college-age students in their study, school personnel were unable to diagnose learning disabled students reliably. Aaron and Philips (1986) found that dyslexic college students have poor mastery of grapheme-phoneme conversion skills. Other characteristics such as slow reading and poor spelling have also been noted. Hoy and Gregg (1986b) discussed the usefulness of the *Woodcock-Johnson Psycho-Educational Battery* (Woodcock & Johnson, 1977) cluster scores. They suggested that these scores should not be interpreted at face value and that the pattern of cluster scores should be examined before confirming a deficit or strength. Limited research about the diagnosis of college-age students reflects the recency of the field, and stands in contrast to the abundance written about the diagnosis of learning disabilities in children.

This project was designed to investigate the diagnostic testing component offered by college LD programs. The purpose of the study was to survey postsecondary schools to determine what instruments are used to document the presence of a learning disability. It was determined by the authors that the results of the survey could provide useful descriptive information about the state of the art in the diagnosis of learning disabilities in adults in higher educational settings.

Method

Participants

Thirty-five college programs that provide support services for learning disabled college students and have a diagnostic component volunteered to participate by completing a survey. One staff member was asked to complete the survey for each institution.

Instrument

The questions asked on the survey were developed as a result of the authors' interest in improving diagnostic assessment on the campus where they work. The current literature was reviewed, conference sessions pertaining to service provision for learning disabled students in postsecondary settings were attended, and diagnostic reports sent to the authors by other postsecondary learning disability service providers as well as school psychologists in high schools were examined. In order to explore diagnostic assessment strategies in greater detail, the survey was developed and was composed of several sections. Part one dealt with demographic information relating to size of the institution, type of the institution, and type of degrees granted. Part two included questions regarding assessment instruments used to determine performance in these areas: intelligence/auditory processing, written expression, reading, reading comprehension, mathematics calculation, mathematics reasoning, visual perception/processing, and others.

Another portion of the survey contained questions relating to components of the diagnostic program such as staff involved in assessment, documentation required for previously diagnosed students, fees assessed for a psycho-educational evaluation, and screening procedures used prior to the initiation of psycho-educational assessment.

Procedure

Few college support services for students with learning disabilities offer a diagnostic component. To solicit participants, an announcement was made in *Latest Developments* (Canton, Fall, 1987), a publication for the learning disabilities special interest group of the Association on Handicapped Student Service Programs in Postsecondary Education (AHSSPPE). This announcement requested that one person in programs with a diagnostic component volunteer to fill out the survey. Eleven institutions agreed to participate. In addition to these respondents, the executive director of AHSSPPE, Jane Jarrow (personal communication, January, 1988), offered to provide information on programs that have a diagnostic component. A brief explanatory letter and the survey were sent to 65 programs. Thirty-five were returned for a 53% response rate.

Data from the survey were compiled to provide an overview of assessment instruments used in diagnosing individuals with learning disabilities in postsecondary programs, with the intent of generating descriptive information regarding which instruments were used most frequently.

Results

A variety of types of postsecondary institutions responded to the survey including institutions with less than 1,000 students to those with over 30,000 students. Technical schools, junior colleges, community colleges, 4-year private and 4-year public universities were all represented.

Although 35 surveys were returned, the section on the survey dealing with the types of tests used was not completed by every respondent. Four of the respondents (11%) did not indicate the types of tests used, noting that they did not offer diagnostic assessment services on their campuses. Table 1 includes information regarding the percentage of responding institutions (N=31) that cited specific test names for the categories assessed as well as the percent that did not provide this information. All respondents who actually filled in the survey items dealing with the types of test used reported that an intelligence/ability test was administered. Many of the respondents, however, did not assess all the specified areas.

Table 1

Percent of Institutions Responding According to Type of Response by Assessment Area

Assessment Area	Type of Institutional Response*	
	Provided Test Names	No Response
Intelligence/Ability	89%	0%
Oral Expression	66%	23%
Listening Comprehension	69%	20%
Written Expression	75%	14%
Reading	80%	9%
Reading Comprehension	78%	11%
Mathematics Calculation	80%	9%
Mathematics Reasoning	69%	20%
Visual perception/Processing	69%	20%

*11% did not fill out the portion of the survey requesting types of tests used.

Tables 2 through 6 summarize results regarding those tests used according to the major areas of assessment. As indicated in Table 2, all except one of the respondents reported using the *Wechsler Adult Intelligence Scale-Revised (WAIS-R)* (Wechsler,1981) or WAIS alone or in combination with other ability tests to assess intelligence. One respondent used the *Woodcock-Johnson Psycho-Educational Battery (WJPEB), Part I*.

Table 2

Tests Used to Evaluate Intelligence/Aptitude

Tests	Number of Institutions Using a Test (N=31)
WAIS-R	11
WAIS	2
WAIS-R/RAVENS	3
WAIS-R, WJPEB	8
WAIS-R, Harvard Speed Alphas	1
WAIS-R, Stanford Binet, RAVENS	1
WAIS-R, or WISC-R, RAVENS,PPVT-R	1

WAIS-R, WJPEB, RAVENS, TONI	1
WAIS-R or WISC-R	1
WJPEBI	1

Given the wide array of responses, tests and informal methods used to evaluate language skills (oral expression, listening comprehension, and written expression) are summarized in Table 3. To assess oral expression, approximately 19% of the respondents used the *WJPEB*, Part I another 23% assessed oral language during observation in an interview. Approximately 26% of the 31 respondents did not respond to this portion of the survey, suggesting that oral expression is not being assessed by nearly one fourth of this sample group. In the area of listening comprehension/auditory processing, approximately 23% of respondents did not report any assessment. Among those who did conduct assessment in this area, very little consistency was evident in terms of the tests used.

In the area of written expression, approximately 16% of the respondents did not provide any specific tests used. Twenty-three percent of those responding reported using a writing sample or dictated essay as the only means of assessing written expression. Many (48%) used a combination of tests, and 45% used some type of informal writing assessment either alone or in combination with one or more tests.

Table 3

Tests used to Evaluate Language and Communication Skills

Apraxia Battery
Auditory Skills Battery
Brown-Carlson Listening Comprehension
Test Clinical Evaluation of Language Functions-Diagnostic Battery
Carrol-Sapon Auditory Discrimination Tests
Detroit Tests of Learning Aptitude (DTLA)
Dictated paragraphs
Goldman-Fristoe-Woodcock Test of Auditory Discrimination
Illinois Tests of Psycholinguistic Abilities (ITPA)
Informal notetaking
Informal reading inventory
Informal writing inventory
Lindamood Auditory Conceptualization Test
Malcomesius Specific Language Disability Test
Modern Language Aptitude Test (selected subtests)
Morrison-McCall Spelling Scale
Peabody Individual Achievement Test (PIAT)
Peabody Picture Vocabulary Test (PPVT)
Spache Diagnostic Reading Scales
Test of Adolescent Language (TOAL)
Test of Written Language (TOWL)

Wechsler Adult Intelligence Scale-Revised (selected subtests)
 Wepman Auditory Discrimination Test
 Wide Range Achievement Test (WRAT) & WRAT-R
 Woodcock-Johnson Psycho-Educational Battery (selected cluster scores)
 Woodcock Reading Mastery Tests

Achievement tests used for reading and reading comprehension are listed in Table 4. The category, "reading," was selected to denote reading in a broad sense. Approximately 32% of the institutions used the *Woodcock-Johnson Psycho-Educational Battery (WJPEB)* either alone or in combination with other tests to assess reading. About 23% used the *Stanford Diagnostic Reading Test (SDRT)*, and 19% used either the *Woodcock Reading Mastery Test* or the *Nelson Denny Reading Test*; however, there was a wide variety of other tests used as noted in Table 4. Reading comprehension tests were also varied, but the *WJPEB, Part II*, was the assessment tool most often mentioned. In most instances, a combination of reading tests were used to assess comprehension.

Table 4

Tests Used to Evaluate Reading Skills

Reading	Test Usage Frequency
Stanford Diagnostic Reading Test (SDRT)	7
WJPEB	10
WRAT-R	5
Woodcock Reading Mastery Test	6
Nelson-Denny Reading Test	6
Informal Reading Assessments	5
Tests reported used in combination with above:	
Stanford Test of Academic Skills (TASK)	
Slosson Oral Reading Test (Blue Form G)	
Davis Reading Test	
Test of Reading Comprehension	
Spadefore Diagnostic Reading	
PIAT	
Gray Oral Reading Test	
Diagnostic Tests of Language Skills	
Reading Comprehension	Test Use Frequency

WRAT-R/WRAT	5
Woodcock Reading Mastery Tests	5
WJPEB II	12
Stanford Diagnostic Reading Test	8
Nelson Denny Reading Test	6
Informal Reading Assessments	5
Tests reported used in combination with above:	
PIAT	
Davis Reading Test	
TORC	
DTLS	
Test of Academic Skills (TASK)	
Gray Oral Reading Test	
Ekwell Assessment of Word Attack Skills	
Spadefore Diagnostic Reading	

As indicated in Table 5, fewer tests were selected to assess math reasoning and math calculation. The *WRAT/WRAT-R* alone and in combination with other tests was used by 48% of the respondents, and approximately 58% used the *WJPEB, Part II*, for math calculation. For math reasoning, 61% used the *WJPEB, Part II*. Apparently respondents were in much stronger agreement as to testing instruments in these two areas.

Table 5

Tests Used to Evaluate Math Skills

Math Calculation	Test usage frequency
WRAT/WRAT-A (Combined with other tests or alone)	15
WJPEB II (Combined with other tests or alone)	18
Key-Math (Combined with other tests)	3
Stanford Diagnostic Math Test	3
Other tests used in combination with above:	
Informal Math Inventory PIAT	
Criterion Reference Tests	
WAIS-R	

Test of Academic Skills (TASK)	
Buswell John	
Kaufman Test of Educational Achievement (K-TEA)	
Descriptive Tests of College Board Math	
Math Reasoning	Test usage frequency
WJPEB II (Combined with other tests or alone)	19
WRAT (Combined with other tests or alone)	6
WAIS-R Arithmetic	5
Stanford Diagnostic Math Test	3
Other tests reported being used in combination with above:	
Informal Math Inventory	
Key-Math	
Math SAT Score	
Numerical part of Harvard Alphas	
PIAT	
K-TEA	
Buswell John	
RAVENS	

Tests used to assess visual perception/processing (See Table 6.) were limited in number. Although the *Bender Gestalt* was mentioned most frequently, many more assessors used subtests from batteries such as the *WJPEB* and *WAIS-R* rather than an assessment tool specifically designed to measure visual perception/processing.

Table 6

Tests Used to Evaluate Visual Perception/Processing

Test	Test Usage Frequency
Bender-Gestalt (Used alone or in combination with other tests)	10
WAIS-R Subtests (Used alone or in combination with other tests)	9
WJPEB Subtests (Used alone or in combination with other tests)	8

Beery Test of Visual Motor Integration	3
Did not respond	7
Other tests reported being used with above tests:	
Draw-A-Person	
Malcomesius	
DTLA-R	
Benton Visual Retention Test	
RAVENS	
John Money Road-Map Test	
Digit Symbol Modality Test	
Trailmaking Test	

The survey included a question about additional tests used, and a variety were mentioned. Among these were several personality measures such as the *Minnesota Multiphasic Personality Inventory*, *Rorschach*, *Thematic Apperception Test*, and the *Rotter Sentence Completion*. One respondent mentioned the *Free Food Recall*, *Finger Tapping* and *Buck Time Appreciation*. Some respondents appear to have an entire library of tests from which to choose; others reported two or three basic tests.

According to the survey, approximately 25% of the campuses appear to be approaching diagnosis using a team of three or more individuals; another 25% use a team consisting of two members. However, in 40% of the responding institutions, a single person is making the diagnosis. The educational backgrounds of those participating in diagnosis vary significantly, but all are from fields that include education, psychology, clinical psychology, counseling psychology, school psychology, neuropathology, rehabilitation counseling, speech/language pathology, special education, reading, and learning disabilities. Approximately 48% of the evaluators have educational training at the master's level; 46% are either at the Ph.D. level or working on a doctorate; and 6% are at the bachelor's level.

The survey results indicate confusion, inconsistencies, or uncertainty in assessing both international students and those students with emotional illness. Forty-eight percent of the respondents indicated that students identified as having an emotional illness are often referred to campus mental health centers. Thirty-five percent of the programs reported that they do not evaluate international students; 16% reported that they use the same procedures as with other students, and 13% use bilingual evaluators.

The diagnostic learning disabilities programs in this sample have very similar requirements to qualify students for the use of services. All respondents require some type of documentation for individuals coming into the programs with a previous diagnosis, and for the most part, similar types of documentation are required including a psychoeducational assessment and/or an educational plan from the previous school. A

few schools ask that specific tests be administered, and many programs have a time limitation on when the psychoeducational evaluation is performed. Some programs require that evaluations be completed within the past 2 years, while others require that documentation be no older than 5 years. The majority require that documentation be no more than 3 years old.

Most schools (80%) have a screening procedure for applicants requesting the use of services for students with learning disabilities. Of those having a screening procedure, a personal interview is an important component of the process. Other components used at various campuses include informal writing samples, in-house academic testing and a review of educational, medical, and family backgrounds.

No additional charge is required for psychoeducational evaluations in 75% of those schools responding to the survey, although 19% did not reply to the question concerning fees. One institution reported a sliding scale fee not to exceed \$200.00. Another reported a \$600.00 fee for in-state students, and an \$800.00 fee for out-of-state students.

Discussion

This survey has presented a current overview of diagnostic tools used for postsecondary students with learning disabilities. Disability support service personnel need to periodically evaluate their procedures in order to make any necessary changes in the assessment process and to provide quality services to the growing number of students being served. There is a need to continually examine this process as well as the diagnostic tools used.

The survey results provided descriptive information about which diagnostic assessment tools are being used to diagnose a learning disability in a sampling of postsecondary institutions across the nation. Furthermore, the survey revealed additional descriptive information about the characteristics of the learning disabilities programs that assess students. It was found that many of these institutions are using the same tests or similar tests. When compared with the assessment tools reported to be in use on college campuses by Mangrum and Strichart (1984), little or no changes appear to have been made. There continues to be a need for development of additional assessment tools specifically designed to diagnose learning disabilities in the adult population.

Several critical problems were noted when evaluating the survey results. In some instances, assessment tools are being used that are not necessarily relevant to diagnosing learning disabilities. For example, the *Minnesota Multiphasic Personality Inventory (MMPI)* and the *Rorschach* were mentioned. Both of these measures are used to assess personality. According to Shertzer and Linden (1979), the *MMPI* was designed originally for diagnosis and treatment of psychopathology. One can speculate that such tests are being used to rule out emotional illness as the primary reason for learning problems.

In several instances, the tests used were not normed on adult populations. For example, according to DeStefano, Linn, and Markward (1987), the *Kaufman Test of Educational*

Achievement (K-TEAI) is designed for children in grades 1 through 12. The *Key Math Diagnostic Arithmetic Test* was normed on students from grades kindergarten through seven. Neither test appears to be appropriate for college-age students.

Some respondents reported assessing a particular area using a test not designed to assess that area. One respondent reported using a writing sample to assess oral language, and two respondents used the *Peabody Picture Vocabulary Test-Revised (PPVT R)* which according to DeStefano, Linn, and Markward (1987) is a measure of receptive language. Thirteen percent of the respondents reported using the *WRAT* to assess reading comprehension. DeStefano et al. (1987) reported that the reading portion of this test involves recognizing and naming letters and pronouncing printed words. A reading comprehension component is not included in this test.

Forty-eight percent of the respondents are not assessing all areas pertinent to the diagnosis of a learning disability. Twenty-six percent did not respond to the survey items requesting information about the assessment of oral expression, and 23% did not respond to listening comprehension, mathematics reasoning, and visual perception. It is quite possible that these areas are not consistently being assessed.

All 31 of the respondents reported using some measure of intelligence. Given the sampling on Table 2, the *WAIS-R* is the intelligence test of choice used to diagnose learning disabilities in the programs that responded. That fact that all respondents used an intelligence measure may be an indication that assessors feel that an indicator of intelligence is essential in the diagnosis of learning disabilities.

The above are only a few of the difficulties associated with the diagnosis of a learning disability at the postsecondary level. The choice of assessment tools used may be a reflection of the lack of tools available at the postsecondary level. It may also reflect a search for what is appropriate for this age level as well as the relative newness of this field.

Several implications are apparent for service providers in colleges that provide diagnostic testing for students suspected to have learning disabilities. There appears to be a need for more thorough and consistent assessment practices. The fact that only about half the respondents reported assessing all areas critical to a learning disability diagnosis indicates that areas of learning disabilities may be overlooked when making a diagnosis and that assessment practices vary considerably. Some respondents listed numerous tests to assess each area of achievement, whereas others omitted many areas and/or used the same test and only one test to assess numerous skills. For example, one respondent used the *WAIS-R* to assess intelligence; the *WRAT* to assess reading, reading comprehension, math calculation, and math reasoning; and the *Bender-Gestalt* to assess visual perception. Oral expression, listening comprehension and written expression were not addressed. In contrast, another institution listed 67 tests used to assess learning disabilities! A standard battery does not exist; each assessment is individualized based upon the presenting and observed problems of the student.

Service providers are not clear about whether they should test international and emotionally ill students, nor are they certain about how to test these individuals. Evidently many service providers are placed in the position of assessing an international student's ability to speak English as a determining factor in proceeding with assessment for learning disabilities. The use of interpreters, bilingual test administrators, and standard tests designed for traditional students are all options service providers have used, but they are not options with which they are satisfied. In contrast, service providers appear to have fewer options with students who have emotional illnesses. They either choose to assess these students as traditional students or refer them to mental health centers. No clear answers emerged about either the international or emotionally ill student.

The results of the survey varied considerably from one institution to another. Due to this variability, there is very little collaboration in the area of diagnosing students in postsecondary settings. There is variety in the tests used, variety in what areas need to be assessed, in whom to test, and in whom should be responsible to make a diagnosis.

In considering the survey results, many diagnostic issues became apparent. The following suggestions for resolving these issues cannot begin to address all the problems; however, they do constitute a beginning toward refining the diagnostic process at the postsecondary level.

1. A national task force could be developed to thoroughly review assessment practices at the postsecondary level. One important contribution that this task force could make is to consider a valid and workable definition of learning disabilities for the postsecondary population.
2. A "best practices handbook" on diagnosis could be developed by qualified professionals. Possibly an organization such as the Association on Handicapped Student Service Programs in Postsecondary Education could publish and distribute such a handbook.
3. A multidisciplinary team should make the decision when determining whether or not an individual has a learning disability. A team approach would increase the likelihood of a more comprehensive assessment and an appropriate diagnosis.
4. New assessment instruments based upon research principles should be developed to evaluate the postsecondary adult population. Clearly, placement teams make assessment judgments under conditions of uncertainty (Fagley, 1988). Perhaps this will always be the condition when diagnosing individuals with diverse characteristics. However, additional reliable and valid assessment tools designed for adults would make the job easier and more objective.
5. Research in the area of adult diagnosis should be promoted and conducted.
6. There should be regular meetings for service providers who are involved in the diagnosis of learning disabilities in postsecondary settings. Collaborative opportunities are essential for growth in this new field. Some of the following issues could be discussed:
 - a. tests appropriate for use in diagnosing learning disabilities in college-aged students;

- b. the sharing of information about new tests; and
- c. strategies for diagnosing international or emotionally ill students.

The field of postsecondary assessment for learning disabilities is essentially in its infancy. Now is the time to make decisions as to how this field will evolve, grow and mature. Hopefully, these decisions will be made with input from individuals from many disciplines. It is now time to plan systematically for quality growth.

References

Aaron, P. G., & Philips, S. (1986). A decade of research with dyslexic college students: A summary of findings. *Annals of Dyslexia*, 36 (44-66).

Carlton, P. (1987, Fall). Survey opportunity. *Latest Developments*, 3.

DeStefano, L., Linn, R. & Markward, M. (1987). *Review of student assessment instruments and practices, Revised*. Champaign, IL: Board of Trustees of the University of Illinois.

Epps, S., Ysseldyke, J. E., & McGue, M. (1984). I know one when I see one: Differentiating L.D. and non-L.D. students. *Learning Disability Quarterly*, 7(1), 89-101.

Fagley, N. S. (1988). Judgmental heuristics: Implications for the decision making of school psychologists. *School Psychology Review*, 17(4), 311-321.

Hoy, C., & Gregg, N. (1986a). Learning disabled students. *Journal of College Admissions*, 112, 10-14.

Hoy, C., & Gregg, N. (1986b). The usefulness of the Woodcock-Johnson Psychoeducational Battery cognitive cluster scores for learning disabled college students. *Journal of Learning Disabilities*, 19(8), 489-491.

Levinson, E. M. (1986). School psychology and college learning disabled students: Training and service possibilities. *Psychology in the Schools*, 23(3), 295-302.

Mangrum, C. T., & Strichart, S. S. (1984). *College and the learning disabled student* Orlando, FL: Grune & Stratton.

Scheiber, B., & Talpers, J. (1985). *Campus access for learning disabled students*. Washington, DC: Closer Look.

Shertzer, B., & Linden, J. D. (1979). *Fundamentals of individual appraisal: Assessment techniques for counselors*. Boston: Houghton Mifflin Company.

Wechsler, D. (1987). *Wechsler Adult intelligence Scale-Revised*. New York: Psychological Corporation.

Woodcock, R. W., & Johnson, B. (1977). *Woodcock-Johnson Psychoeducational Battery*. Allen, TX: DLM Teaching Resources.