Assessment and Diagnosis

Current Vocational Assessment Models for Students With Disabilities

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The author addresses the importance of vocational assessment for students with disabilities, discusses the legislative and governmental impetus for the development of vocational assessment programs in the schools, and presents several current vocational assessment models. The transdisciplinary vocational assessment model developed by the author, school-based models that have been developed in four states, and a traditional rehabilitation-based model are presented.

Vocational assessment is designed to provide individuals with disabilities with information that can assist them in making career decisions. For the purposes of this article, the terms career assessment, vocational assessment, vocational evaluation, and work evaluation are considered synonymous, although distinctions have been made among them in the professional literature. Although the purpose of all of these processes is to generate information that can be used to assist individuals in making decisions regarding occupational functioning, differences have largely to do with the professional group involved in the process, the setting in which the process occurs, or the instrumentation or methodology used to complete the process.

A variety of definitions of the vocational assessment process have been proposed. Vocational assessment has been defined as the following:

A comprehensive process that uses work, real or simulated[,] as the focal point of assessment and vocational exploration, the purpose of which is to assist individuals in vocational development. Vocational evaluation incorporates medical, psychological, social, vocational, and economic data in the attainment of the goals of the evaluation process."

(Vocational Evaluation and Work Adjustment Association, 1975, p. 86)

It has also been defined as the following:

A comprehensive process conducted over a period of time, involving a multi-disciplinary team. . . with the purpose of identifying individual characteristics, education, training, and placement needs, which provides educators the basis for planning an individual's program, and which provides the individual with insight into his or her vocational potential. (Dahl, 1980, p. 1)

The process of vocational assessment for individuals with disabilities originated within the field of vocational rehabilitation and was originally designed to determine who was eligible for services provided by state and federal rehabilitation agencies and to determine what services an individual needed to be placed in competitive employment settings (McCray, 1982). Partially as a result of legislation, and partially as a result of a national trend toward the inclusion of vocational and career education as an integral part of secondary education, educational personnel have slowly integrated vocational evaluation procedures into educational settings.

This integration was not without problems. Although the general goals of the rehabilitation-based and school-based assessment processes were similar, differences in the age and nature of the populations served, the training and backgrounds of personnel involved in assessments, and practical and logistical factors associated with the setting in which the assessment was to be conducted all contributed to difficulty in integrating rehabilitation-based methodology into the school setting. Hence, schools were forced to modify and adapt traditional rehabilitation-based assessment procedures to meet their particular needs and characteristics.

Currently, school-based vocational assessment programs involve a variety of personnel and primarily target disadvantaged students and students with mild and moderate disabilities for services. The evolution of school-based programs can partially be linked to federal legislation designed to reduce the high unemployment rate that exists among individuals with disabilities. Among the school-age population, students with disabilities are at particularly high risk of not securing and maintaining satisfying and productive employment following the completion of school. Historically, individuals with disabilities have been overrepresented among this country's unemployed and underemployed persons (Bell & Bergdorff, 1983; Bowe, 1980). Rusch and Phelps (1987) have reported that 67% of Americans (in this article Americans refers to people in the United States) with disabilities who are between 16 and 64 years of age are not working. Studies in Florida (Fardig, Algozzine, Schwartz, Hensel, & Wrestling, 1985), Washington (Edgar, 1987), Colorado (Mithaug, Horuchi, & Fanning, 1985), Vermont (Haszadi, Gordon, & Roe, 1985), and Nebraska (Schaloock & Lillie, 1986) have indicated that the employment rate for individuals with disabilities ranges between 45% and 70% depending on the severity of the disability and geographical location (rural, urban, metropolitan).

More recent data corroborate these findings, but suggest some encouraging trends as well. D'Amico and Marder (1991), in a longitudinal study that included a nationally representative sample of youth with disabilities out of school at least 1 month and no more than 2 years,
reported that 52% of youth with disabilities were employed in 1987. This employment rate, however, increased to 67% in 1989. Employment rates increased in almost all disability categories. Employment rates, however, also varied by disability category. Although 67% of learning-disabled individuals were employed in 1989, only 48% of emotionally disturbed and 56% of mildly and moderately retarded individuals were employed during this year. Approximately 10% of multiply handicapped youth were reported to be employed (Marder & D’Amico, 1992). In all disability categories other than learning disability and speech impaired, the employment rates of youth with disabilities was significantly lower than was the employment rate of nondisabled youth (Marder & D’Amico, 1992).

To combat this problem, considerable legislation has been passed in the last 10 to 15 years designed to improve the vocational and career assistance provided to individuals with disabilities. The Vocational Rehabilitation Act, the Education of the Handicapped Act, the Vocational Education Amendments Act, and the Career Education Incentive Act have combined to provide federal funding assistance to assist individuals with disabilities prepare for the world of work. More recently, the Carl D. Perkins Vocational Education Act and the Individuals with Disabilities Education Act have contributed to the development of school-based vocational assessment services for students with disabilities.

In 1984, the Carl D. Perkins Vocational Education Act (P.L. 98-524) amended the Vocational Education Act of 1963. The Perkins Act requires that information about vocational education opportunities be provided to parents and students no later than the beginning of the ninth grade or at least 1 year before the student enters the grade in which vocational education is offered. The act also requires that information about eligibility requirements for enrolling in vocational education programs be provided to parents and students and that once enrolled in vocational education, students receive an assessment of interests, abilities, and special needs and other special services designed to facilitate transition from school to postschool employment or training.

In October 1990, P.L. 94-142, The Education for All Handicapped Children Act, was amended and was renamed the Individuals With Disabilities Education Act (IDEA). In addition to reauthorizing and expanding many of the provisions of P.L. 94-142, several new programs were added including special programs on transition services designed to assist students in making a successful transition from school to work and community functioning. Under the law, plans for a student’s transition from school to work and community living must be initiated by the time the child is 16 years of age.

LEVELS, TECHNIQUES, AND DOMAINS OF ASSESSMENT

As Lowman (1993a) suggested recently in the Journal of Counseling & Development, much of what passes for vocational assessment is inadequate. It is clearly poor practice to conduct a “vocational assessment,” which assesses only one domain (such as vocational interests) or uses only one assessment technique (such as a written test) (Lowman, 1993a). Additionally, there are many professionals who are entrusted with the responsibility of conducting vocational assessments who are clearly inadequately trained to do so (Lowman, 1993b). Although some may argue that instances of such practice are rare (Spokane, 1993), my experience suggests that, in the past, such practice was more common in the schools than many would admit. Contemporary school-based vocational assessment models were developed to improve on the vocational assessment services provided to students with disabilities.

Currently, many vocational assessment programs based in the schools are multilevel programs. At each level, the assessment process has different purposes, uses a variety of assessment techniques and strategies, and is designed to gather many types of information. Different professionals are responsible for several aspects of the assessment, and assessment responsibilities are assigned based on a professional’s knowledge and expertise. Programs usually consist of either two or three levels of assessment. As summarized by Anderson, Hohenshil, Buckland-Heer, and Levinson (1990), Level I assessments begin during the elementary school years; focus on an individual’s needs, values, interests, abilities, interpersonal skills, and decision-making skills; use vocational and career exploration activities; and have the goal of building self-awareness. Level 2 assessments generally occur during the middle school or junior high school years; focus more specifically on an assessment of vocational interests, vocational aptitudes, work habits, and career maturity; use interviews, observations, and standardized norm-referenced assessment instruments; and have the goal of continuing to encourage career exploration and assisting individuals in making tentative choices regarding educational and career goals. A Level 3 assessment generally occurs during the high school years, often uses more experientially based assessment devices like work samples and situational assessment, and focuses on the specific training one needs to obtain postschool education or employment. Level 3 assessments are also designed to determine what skills an individual may need to live independently in the community.

A variety of techniques are used to gather information in vocational assessment programs. Interviews, observations, and written tests are commonly used and are techniques with which the reader is probably most familiar. Additionally, performance tests, work samples, and situational assessment are often used. Performance tests are manipulative tasks that minimize use of language. They are usually designed to assess specific abilities related to the performance of a job. For example, a performance task may measure manual dexterity (an ability related to the performance of many trade and technical occupations) by requiring a student to assemble a series of nuts and bolts (Anderson, Hohenshil, Buckland-Heer, & Levinson, 1990).

Work samples are actual samples of specific occupations that allow individuals to experience or “sample” specific job tasks. For example, an automotive work sample might require an individual to change a tire or tune a carburetor; an occupational foods work sample might require an individual to prepare and serve a meal, and so forth. Usually, work samples consist of demonstration, training, and assessment phases. The task is first demonstrated to the individual being assessed. The individual is then trained to perform the task. Finally, the individual performs the task while being observed and evaluated. Individual performance is compared with industrial and age-based norms, and interest and motivation to perform the task are assessed. Situational assessment techniques are designed to determine an individual’s interests, aptitudes, and work habits in a real or simulated work situation. Students are placed in a real or simulated work setting and are evaluated by peers or supervisors through use of observation, interviews, and rating scales. For example, a student who is interested in a career in food services might work in a school cafeteria under the supervision of a cafeteria worker. The student’s work would be evaluated by the cafeteria worker to assess aptitude. The student might be interviewed by a guidance counselor, teacher, or psychologist following the experience to assess the student’s interest. Situational assessment techniques are best used in combination with other assessment techniques when used to assess interests and aptitudes.

A comprehensive vocational assessment incorporates assessment of psychological, social, educational-academic, physical-medical, and vocational functioning. Figure 1 identifies the specific information within
each of these domains that should be gathered. For a more detailed description of the various assessment techniques mentioned here (including a discussion of the advantages and disadvantages for each of these techniques), and a thorough discussion of the domains that should be assessed as part of a comprehensive vocational assessment, readers are referred to Levinson (1993). For a review of various tests that can be used to assess vocational functioning in particular, readers are also referred to Kapes and Mastie (1988).

ASSESSMENT MODELS

In the remainder of this article, several vocational assessment program models using the aforementioned techniques are discussed. First, school-based models that have been developed in North Carolina, Texas, Virginia, and Pennsylvania are presented. Next, because school systems sometimes contract with rehabilitation agencies to have vocational assessments conducted, a traditional rehabilitation-based vocational assessment model is presented. This is followed by a discussion of a model that focuses on the services, agencies, and employment opportunities that exist in the local community: the interdisciplinary vocational assessment (TVA) model.

SCHOOL-BASED VOCATIONAL ASSESSMENT MODELS

A North Carolina Model

The North Carolina Department of Public Instruction has developed a model that incorporates the assessment of vocational interests, academic development, learning styles, vocational aptitudes, worker characteristics, and special needs and includes a counseling component (Thomas & Coleman, 1988). The three phases consist of a pre-vocational evaluation (Phase 1), a vocational assessment (Phase 2), and a vocational evaluation (Phase 3).

The pre-vocational evaluation (Phase 1) is administered in the eighth grade or is provided to any student at any grade level who is suspected of having problems with daily living skills or job-seeking skills. The skills and behaviors assessed during the pre-vocational evaluation include basic self-help skills (like grooming and hygiene), interpersonal skills, academic skills, job acquisition skills, and work habits.

The second phase (vocational assessment) occurs during the 9th, 10th, and 11th grades and is provided to 12th-grade students who demonstrate vocational indecision. It is designed to assess the student’s achievement, intelligence, personality, interests, aptitudes, and work values using standardized tests and work samples. This phase of assessment occurs just prior to the student’s enrollment in a vocational training program. The purpose of the assessment is to determine what curriculum modifications need to be made to optimize the student’s chances for success in the training program.

When the previous phases have been inadequate in identifying and meeting a student’s vocational needs, a Phase 3 evaluation is recommended. Because these students are likely to have already been afforded the school-based services available to them, the Phase 3 evaluation focuses on the postschool educational, vocational, and support services that the student may require.

A Texas Model

Texas has developed a three-level model similar to the North Carolina model just discussed (Texas Education Agency, 1985). A student entering vocational programs during the 7th or 8th grade is provided with a basic vocational assessment during the first year of participation in the vocational education program. A student planning to enter a vocational program in high school is provided with a basic vocational assessment in the year prior to entry into the program. Students who participate in vocational programs at the 7th- and 8th-grade levels but do not enroll in vocational programs until the 10th or 11th grade are afforded an additional vocational assessment during the year prior to entry into vocational education at the high school level. The following areas are included in the assessment: basic academic skills, sensory and motor skills, learning preferences, vocational skills and aptitudes, career awareness and interest, and work habits.

Level I assessment summarizes all preexisting information relevant to vocational planning and involves data collection and interpretation.
rather than additional testing. Cumulative and confidential records are reviewed to gather information like grades, attendance, academic achievement, discipline, and health. The Level 2 assessment involves an assessment of vocational interests and vocational aptitudes using psychometric tests. A Level 3 assessment is conducted when school personnel cannot identify long-range goals for students or cannot place them in a vocational program based on the information gathered from the first 2 levels of assessment. This additional assessment may use work samples and situational assessment techniques.

### A Virginia Model (Virginia Special Education Consortium [VSEC])

The VSEC assessment program is based on a two-phase model advocated by the Virginia Department of Education (VDE) that I developed in consultation with school district administrators and the state department of education personnel. The VSEC model integrates the vocational assessment and special education triennial reevaluation processes. Federal regulations require that students in special education programs be reevaluated once every 3 years or sooner if necessary. Many of the professionals involved in this reevaluation process are the same professionals who are involved in the vocational assessment process, and much of the same information that is gathered as a result of this evaluation must also be gathered as part of a comprehensive vocational assessment. As Levinson and Capps (1985) have noted, integrating these two processes has the following advantages: (a) It provides for a time- and cost-efficient assessment process, reduces redundant information gathering, and conserves personnel time; (b) the special education reevaluation process provides a framework for the multidisciplinary cooperation that must exist in a comprehensive vocational assessment program; and (c) integrating the vocational assessment and special education reevaluation processes ensures a holistic and comprehensive assessment of the student (i.e., vocational assessment will not be completed in isolation, but will be combined with psychological, educational, social, medical, and other data to provide a comprehensive picture of the student).

VSEC’s interfacing of the vocational assessment and special education reevaluation processes is described in Figure 2. A Phase 1 vocational assessment is conducted at the time of a student’s triennial special education reevaluation (or initial special education evaluation used to identify the student as one with a disability) in the sixth, seventh, or eighth grade. All students who are identified prior to their ninth-grade year as having a disability are thus guaranteed to be provided with a Phase 1 vocational assessment. The assessment is jointly conducted by teachers, counselors, psychologists, vocational evaluators, nurses, and other school personnel and uses interviews, observations, and standardized tests.

A Phase 2 assessment is conducted during the 9th, 10th, or 11th grade on referral only and is conducted at a regional vocational assessment center staffed by vocational evaluators. This assessment, which is structured after a traditional rehabilitation-based model, is conducted over 4½ days. The Phase 2 assessment is designed for students who need additional evaluation or who might need an assessment comprising more work-oriented experientially based assessment devices. The assessment uses work samples, situational assessment, work behavior observation, and, to a lesser extent, psychometric testing.

### A Pennsylvania Model (Midwestern Intermediate Unit)

Midwestern Intermediate Unit IV (MIU) is a regional, special education cooperative that provides special education services to 27 school districts and three vocational schools in three suburban-rural counties in Pennsylvania. The model integrates the career education, career exploration, and vocational assessment processes and consists of three phases. Phase 1 occurs during the elementary school years (K–6) and consists of career awareness activities interspersed with some initial data-gathering activities. Background and demographic information on a student are gathered during Grades 1 to 5, and the student is provided

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**Figure 2**

Phase 1 Vocational Assessment (All Students)

**Special Education Triennial Reevaluation**

**Assesses:**
- Intelligence
- Achievement
- Social & Emotional Functioning
- Adaptive Behavior
- Career Maturity
- Interests, Aptitude, Work Habits

**Utilizing:**
- Interview
- Observations
- Paper/Pencil Tests

Grade:
- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th

Phase 2 Vocational Assessment (Upon Referral)

**Special Education Triennial Reevaluation**

**Assesses:**
- Same Areas as Phase 1

**Utilizing:**
- Same Technique as Phase 1 and
- Work Sample
- Situational Assessment
- Job Try-Outs

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with opportunities to participate in activities designed to increase understanding of jobs, acquisition of work attitudes and social skills, and the development of a positive self-concept. A comprehensive psychological-multidisciplinary team evaluation is completed during the sixth-grade school year for all students with disabilities. Following the completion of this evaluation, a team staffing is conducted that includes the student’s parents. The MU model integrates the vocational assessment and special education reevaluation processes in a manner similar to the Virginia model just described. The special education reevaluation and vocational assessment are conducted simultaneously during the sixth and ninth grades.

Phase 2 occurs during Grades 7 to 9. This phase consists of career exploration activities that are provided to students through guidance classes, industrial arts classes, home and family living classes, shop classes, and home economics classes. The basis for these exploration activities is a formal vocational assessment that is also initiated during this phase. During the eighth and ninth grades, interests and aptitudes are assessed using traditional psychometric instruments, and a pre-vocational skills checklist is used to measure self-help skills, social and interpersonal skills, and other work-related behaviors. A comprehensive psychological-multidisciplinary team reevaluation is again provided to students in the ninth grade.

Phase 3 occurs during Grades 10 to 12 and emphasizes postschool planning. Checklists are completed by instructors to monitor the student’s progress. Services provided by the Office of Vocational Rehabilitation or the Bureau of Vocational Services are used if placement decisions need to be reconsidered or additional assessment needs to be initiated.

VOCATIONAL REHABILITATION MODEL

As indicated previously, school systems will sometimes contract with vocational rehabilitation agencies to provide vocational assessment services. This may be cost effective for school systems that do not have the resources necessary to establish an assessment program of their own. An example of a rehabilitation agency that provides vocational assessment services for school districts is the Hiram G. Andrews Vocational Rehabilitation Center in Johnstown, PA.

The Hiram G. Andrews Vocational Rehabilitation Center, Johnstown, PA

The Hiram G. Andrews Vocational Rehabilitation Center is a comprehensive vocational rehabilitation facility that offers vocational training in 36 areas ranging from semiskilled to technical levels including 2-year college-level programming in accounting and drafting. The vocational evaluation program is a 2-week, three-track, multidisciplinary process that involves four vocational evaluators, a master’s-level vocational counselor, a licensed clinical psychologist, and three counseling assistants. Figure 3 illustrates the overall evaluation program. Upon their arrival at the center, students are provided with an orientation, and the purpose and nature of the evaluation are explained. Previously gathered psychological, educational, and medical information on the student is reviewed and combined with physical and reading assessments to plan an individual evaluation program for the student. Based on the physical and reading assessments, the student is placed in one of three evaluation tracks: high verbal, low verbal, and individualized. Although the domains assessed in each of these tracks are similar, the methods used to conduct the assessment differ. Although the high-verbal and low-verbal tracks both use group-administered assessment procedures, the latter uses assessment techniques that require little reading and that focus on occupational alternatives that are more appropriate for those who possess limited verbal skills. Students whose special needs preclude the use of group-administered tests are provided with one-to-one assessment in the individualized evaluation track. A multidisciplinary staffing is conducted to synthesize assessment results and to develop an Individualized Written Rehabilitation Plan (IWRP) for the client. The IWRP is a plan developed between a rehabilitation counselor and a client that designates services and techniques that will be used to assist the client.

Once the student leaves the center, a vocational evaluation report is produced that summarizes the results of the evaluation and provides recommendations for programming. This report is then sent to the student’s school for use by counselors and teachers. Although staff at the rehabilitation center do not have routine contact with school personnel, they are available for consultation should the school staff have any questions about the evaluation report. In some cases, rehabilitation staff members are invited to serve on school multidisciplinary teams that are responsible for the development of individual education plans or transition plans for students who have been evaluated.

TRANSDISCIPLINARY VOCATIONAL ASSESSMENT

I (Levinson, 1993) have developed a general school-based vocational assessment model termed transdisciplinary vocational assessment (TVA), which incorporates the involvement of local community agencies in the assessment process. TVA is defined as the following:

A comprehensive assessment conducted within a school setting whose purpose is to facilitate educational and vocational planning to allow a student to make a successful adjustment to work and community living. The assessment is conducted by educational, community agency, and state agency personnel, in cooperation and consultation with the student’s parents, and incorporates an assessment of the student’s psychological, social, educational/academic, physical/medical, and vocational functioning. (Levinson, 1993, p. 21)

This model involves both school- and community-based professionals in the planning and development of programs and in the gathering and use of assessment data. Although many school-based vocational assessment programs are “multidisciplinary” in nature (involve a variety of educational professionals within schools), the transdisciplinary model includes community and state agency personnel in the development and implementation of the assessment program.

Four phases that embody two levels of assessment are included in the TVA model. Phase 1 involves the planning, organization, and implementation of the assessment program. Both community agency and school personnel are involved in this planning. Phase 2 involves an initial Initial Level 1 vocational assessment. These data are used to tentatively identify viable vocational training options or occupational goals for students, residential living options for the student, curriculum modifications that might be necessary for the student to achieve success in training, school services that the student may require, and community services that the student may need to make a successful transition from
school to work and community living. Phase 3 consists of specific vocational training and, if necessary, a Level 2 vocational assessment (should additional information be needed for planning). A revised educational-vocational plan can be developed for the student based on the Level 2 assessment, and modifications in training can be initiated. Phase 4 involves placement in a job, a postsecondary institution, or a residential living facility. Follow-up and ongoing support (if necessary) designed to increase the probability of successful placement is provided as part of this phase. Figure 4 depicts the TVA model.

**SUMMARY**

The nature and type of vocational assessment program established in a particular locality will vary depending on several factors. Although the program models described in this article all share similar characteristics, each was developed with particular needs in mind. The actual implementation of any one of these models in different localities will most probably result in a slightly different assessment program being established. That is, the implementation of any model must take into consideration the available resources, the characteristics and expertise of available personnel, the population targeted for services, the nature and availability of local community services, and the type of vocational placement options available in the local area. Because these factors will vary from one locality to the next, the nature of the assessment program in each locality will vary as well. Readers interested in establishing a vocational assessment program would do well to review these and other models, identify a model most congruent with the prevailing philosophy of local professionals and the existence of local resources and needs, and then undertake the task of modifying the model to “fit” local conditions.
FIGURE 4
REFERENCES


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