

VOCATIONAL EVALUATION: WHAT DIRECTION

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ABSTRACT: After providing a rationale for the importance of work in our society, the history of measurement as utilized in vocational evaluation is traced through the early pioneers of psychometric testing and personnel selection. This historical review focuses on the departure of rehabilitation from the traditional guidance movement and emphasizes the roots of that movement and the differences. The current practice of vocational evaluation in various settings is discussed with particular emphasis on legislation, the diversity of settings, and the effect of reduction in funding for social and medical services. Lastly, the paper predicts future directions for the field of vocational evaluation.

The purpose of this paper is to look at the place of vocational evaluation of individuals with disabilities in the overall framework of the history of the testing movement, expound on current pressures on practice and predict some logical future directions for this expanding field. To begin that journey, one must first look at the importance of work in the American society.

Has it not ever seemed odd that we believe so strongly in the concept of everyone working that we insist that the most severe of the mentally ill, retarded, or physically impaired be called up to work duty? While doing this, we have claimed that it is for the good of the disabled to work whether they think so or not. Max Weber in his classic text on The Protestant Ethic and the Spirit of Capitalism explained that this American embrace of work is a function of the Protestant Ethic of the founders of this country who felt that work was a demonstration of the calling of God. He stated that "the fulfillment of worldly duties is under all circumstances the only way to live acceptably to God. It is the will of God and hence every legitimate calling has exactly the same worth in the eyes of God (p. 81)." Weber goes on to point out that this "Calling" as demonstrated by enthusiasm to work is one of the key tenants of the Protestant Ethic that has so permeated the American culture that it has underpinned the concept of Capitalism and made that concept work in America. What it has meant for us in the public sector is that we are empowered to carry out this cultural imperative with the disabled. We are in essence the arm of Society and the Protestant ethic in assisting the disabled in reaching their calling. That is the basis of our job, but how did we adopt the methods that we utilize? To

understand that requires a basic understanding of the history of psychological measurement.

HISTORY

If you accept the notion that one of man's basic drives is to find order out of the chaos in which he finds himself, then the concept of trying to measure things to monitor changes or cause and effect is understandable. Measurement is one cornerstone on which scientific discovery rests. It is the basis of statistical treatment and of much of what we believe as truth. Early measurement of humans was often done with practical tasks by physicians, physiologists, and biologists. For example, 19th century psychiatrists worked to discover practical tasks from the noninstitutional world which would distinguish normal from abnormal subjects. Such things as observed reasoning and persistence of effort were utilized. Chronbach (1984) credits the early work in psychological measurement to a late 19th century interest in the development of the sciences which resulted in Wundt opening his psychological laboratory in 1879. The purpose was to discover quantitative psychological laws comparable to those in physics. He was then not concerned with individual differences but with general human behavior principles.

Wundt's work was in opposition to Alfred Binet, another researcher, whose work in pre 20th century France was to study individual differences. Binet was head of a commission charged with determining a method of truly identifying the retarded in order to make appropriate school placements. In trying to develop a measure to differentiate brighter from duller children, Binet tried all sorts of measures including digit recall, cranium size, mental addition and even palmistry. He became pessimistic regarding the practical possibilities of testing when his attention was shifted away from studying the

parts to a look at the whole which resulted in his assembling an assessment procedure guided by accumulated data rather than isolated trait data (Wolf, 1973).

In the same period, Munsterberg's experiment with motormen in utilizing a work sample as a selection test is considered the beginning of research on tests for personnel selection (Ghiselli, 1973) and the first use of a work sample in job selection. Thus, three different approaches to the study of human behavior were prompted by a need to discover universal laws of human behavior, individual differences from testing, and personnel selection techniques from work samples. These situations are still reflected in the current work in psychology.

The testing movement, however, followed the path set by Binet in its attempts to predict from various measures of human traits. This was evidenced at the start of World War I when leading psychologists developed the Army Alpha classification test which measured simple reasoning, ability to follow directions, arithmetic, and information. Later, Spearman, a British psychologist, sought to isolate a general learning element and the field proliferated single ability measures which Nadolsky (1971) has characterized as the MicroAnalysis era of vocational assessment due to the focus on the individual trait. Chronbach (1984) has suggested that by 1940, psychology became convinced that due to the variety of single ability tests, this concept of predicting from single abilities was insufficient in explaining and predicting human behavior. This was later supported by Ghiselli (1966) who comprehensively reviewed studies on single trait tests as predictors and found a coefficient of correlation of .19 with job proficiency criteria. He later updated that review with one on Occupational Aptitude tests as predictors and found a grand mean validity coefficient in all studies of .39 for training criteria and .22 for job proficiency. These were on measures such as intelligence, mechanical comprehen-

sion, spatial ability, motor abilities, perceptual accuracy, and personality (Ghiselli, 1973). That concept of single traits as predictors lost favor in the 1940's, however, the results of that early work is still evident in individual trait tests such as the Purdue Pegboard and tests which cluster the scores of various traits such as the General Aptitude Test Battery.

Before World War II, interest had developed in utilizing other methods of assessment including what Nadolsky (1971) labeled the MacroAnalytic techniques observing persons in their environment, i.e., studying the entire functioning person. In Rehabilitation settings this was a much used technique of the sheltered workshop movement. In these work places, work was thought to be therapeutic and persons were assessed by their goodness of fit to the setting. This concept gained favor in Rehabilitation after World War II when the proliferation of sheltered workshops to serve the disabled and immigrating Europeans needed an assessment focus. It did not gain wider acceptance until later after the rise of behaviorism in the 1960's.

Several occurrences led to the departure of Rehabilitation from the general psychological and personnel selection testing movement. One was a growing dissatisfaction of rehabilitation personnel in using tests with the disabled. They not only did not provide assistance in the guidance process, but they often discriminated against the disabled in the use of speeded tests and inappropriate norms. Another was the passage in 1954 of the Hill-Burton Act which provided bricks and mortar monies for building Rehabilitation facilities. As stated later by the then Director of Alabama Cripple Children and Rehabilitation Services, Freddy Wise, the 50's were a time to build buildings and worry about programming later (Wise, 1972). This surge of building led to a proliferation of Rehabilitation facilities in need of programs. The advent and development of the TOWER work sample system first marketed in 1954 filled a void

and became the basis of the standard vocational evaluation process of the time. Rehabilitation facilities used to providing therapy services saw a bonanza of service availability by sending their Occupational Therapist to the six week TOWER training and offering evaluation services. This worked well for a few years until Occupational Therapy moved in the direction of medical services and abandoned vocational evaluation.

The banner of work evaluation with the disabled was next taken up by a ragtag group of recruits with backgrounds ranging from education degrees to high school degrees who were hired on and taught vocational evaluation on the job. This results in an emphasis on doing what your neighboring rehabilitation facility would let you steal until you could become TOWER trained, if trained at all. The result was a combination hodgepodge of evaluation methods from standardized trait tests and copied work samples to homemade tests which mimiced the work done in the sheltered workshop. Through all of this was the belief that if a client was watched participating in simulated or real work, good assessment results would follow. It was in this atmosphere that evaluators eagerly pursued a few new developments such as the Singer System for Occupational Exploration which was developed for job corps projects and the JEVS work sample which was finished for the Department of Labor to use with the disadvantaged.

In 1973, the Rehabilitation Act of that year placed emphasis of rehabilitation services directly on the severely disabled which were being served primarily in rehabilitation facilities. This had the effect of reemphasizing vocational evaluation services as the key starting point in serving this population. At the same time several states, most notably Arizona, altered their state worker's compensation laws resulting in the provision of mandatory rehabilitation services to these workers. Companies such as Valpar developed to fill that need and to provide tools to assist in

the process. Likewise, the disabled were not ignored in the educational system with PL 94-142 providing impetus for the testing for retention and placement of disabled children. Similarly, vocational education special needs funds were set aside for culturally disadvantaged and handicapped. Both of these reforms in educational legislation and in worker's compensation legislation have led to the greater utilization of vocational evaluation methods and techniques in school and private practice settings.

While the guidance and screening testing of the disabled was proceeding in one direction, the entire testing movement was coming under legal scrutiny in personnel decision making based on test results. The landmark case of *Griggs vs. Duke Power* focused attention on the consequences of a selection process if tests have an exclusionary impact. It paved the way for federal courts to look at the Equal Employment Opportunity Commission's Guidelines on Employee Selection Procedures as the standard by which selection procedures should be judged (Sherman & Robinson, 1982). The EEOC was established as the federal advocate for groups that might be discriminated against. Most of its work has been related to testing in personnel selection. Vocational evaluation in rehabilitation has escaped conflict with the EEOC due to the guidance nature of its decisions and its use of content valid procedures. However, in the personnel arena, its decisions have changed the nature of test usage in areas such as state merit systems and private business hiring practices.

In conclusion, testing of the disabled has developed from the roots of modern psychological testing but departed in the use of work samples and real work activities as part of the overall assessment strategy. Even with those departures, the field has retained the use of traditional ability tests even though they have lost favor in the psychological community due to their poor record of prediction ability. The field has been shaped and influenced heavily through legislative

initiatives which have provided critical scrutiny of testing as a method of employee selection and through new or revised laws which have defined new settings of practice. In the next section, the result of those directions along with other influences will be discussed as it relates to current practice.

CURRENT PRACTICE

Current practice in vocational evaluation has been affected by additional legislation, diversity of settings for practice, and the reduction of funding in all aspects of the social and medical services. While legislative changes in the 1970's have made vocational evaluation of the disabled attractive to more settings in the past decade, the most recent changes indicate a mandatory assessment process in the vocational placement of special needs students. As Nadolsky (1985) noted in his presentation for the first Issues Forum, a field does not professionalize without a broad base and it appears that vocational evaluation is gaining that base. Evaluation and those performing it have diversified from the days where the only job openings were found in the public rehabilitation sector, and, the field is much the better off for that diversity. This has also presented difficulties.

Problems have arisen in the role strain experienced by those trained for other occupational specialties such as the rehabilitation counselor, special educator, vocational educator, school guidance psychologist, occupational therapist, and veteran's administration counseling psychologist. They have a loosely defined new job description placed on them after years of professional preparation in related areas with different functions. Not only do they have to accept this new label and question its authenticity, but they have an entirely new list of job duties to explore and often learn. Yet those fields are determined to have a piece of the assessment pie and should bring their

unique skills to the problems at hand. The problems of territoriality brought by diversely prepared professionals entering the field of vocational assessment are numerous. First is the struggle for ownership which is often fought along lines of certification and accreditation issues. Thus, school systems are reluctant to accept Certified Vocational Evaluators from the Commission on Certification of Work Adjustment and Vocational Evaluation Specialist and remain in favor of those with teaching certificates. Others such as Hohenshil (1974) and Levenson (1984) see the vocational assessment process fitting within the training of the "vocational school psychologist". In much of the literature oriented to the school population, a common thread exists of the uselessness of the rehabilitation based evaluation for school system needs. This territoriality is also seen in the fight for which professions will qualify to be the vocational specialist in certification requirements of the Commission of Accreditation of Rehabilitation Facilities and the Joint Commission on Accreditation of Hospitals.

A second problem with diversification has to do with the fragmentation of knowledge and numbers when different organizations representing different sectors splinter into unique evaluation oriented organizations. This trend can be seen in the formation of the Vocational Evaluators in the Private Sector organization of Southern California and the recently formed vocational evaluation organization within National Association of Vocational Educators of Special Needs Persons. Other organizations have been altered to reflect a growing interest in vocational evaluation. For example, a sizable portion of the programming of the Division on Career Development is devoted to vocational evaluation as are articles in recent issues of the American Journal of Occupational Therapy. Unfortunately, most vocational evaluators probably do not belong to more than one organization which has resulted in the

assessment wheel being reinvented several times. The resulting fragmentation of numbers has presented the most difficulty, however, in that any of the organizations which specialize in vocational evaluation have been limited to few individuals. Therefore, while the diversification of vocational evaluation has an overall positive impact in broadening the base of the profession, it has had the negative impact of increased fragmentation of the field and increased competition for few assessment dollars.

With new markets for evaluators has come new pressures for the assessment process to change. Most notable of these changes has been the push for ever shorter evaluation. At one point, vocational evaluators thought little of having over ten clients per day, all day, for a period of weeks and in some cases, months. This model was shown, however, to be cost effective in the State of the Art study of VEWAA a decade ago (VEWAA, 1975) by having vocational evaluation be a third order or phase of assessment. It appears that model worked so well that it has pushed vocational evaluation to the level of first order assessment in some systems. With evaluators in the private sector charging up to \$80.00/hour for their services and school based evaluators facing hundreds of students per year, the pressure has been to reduce the number of client contact hours with assessment often measured in hours rather than weeks. Although this change has often reduced daily loads, it has caused a quantum leap in expectation on prediction from test results.

To accommodate the interest in quicker testing, work sample manufacturers have abandoned work samples and fallen back on GATB imitator trait tests and computerized job search as the method for the 1980's. This has allowed the rapid testing and job title identification methods to be in vogue as a complete vocational assessment, even though a wealth of accumulated research show aptitude tests used alone are poor predictors of job

performance. It is particularly interesting that the field of psychology has abandoned trait tests in favor of behavioral models, yet vocational evaluators have been caught up in a revisit to trait testing models, even in the face of evidence that they do not believe in the results. In a telling article, Murphy and Ursprung (1973) performed an in-depth qualitative research analysis on an urban and rural rehabilitation evaluation program. On one of their more interesting findings, Murphy and Ursprung reported the evaluators studied were surrounded by an aura of technical-clinical sophistication, however, the evaluators felt that their instruments and procedures were not sufficiently discriminating for decision making purposes. They placed their trust instead in an ideological notion that disabled people could only be successful if they were motivated. The concept of motivation was the key determiner of recommendations. The really disquietening part of that was that motivation was characterized by a number of behaviors which represented compliance.

In support of the notion that tests are not necessarily the best methods we use, Anthony and Jansen (1984) in a review of literature on predicting vocational capacity of the chronically mentally ill found six studies which together indicated that intelligence, aptitude, and personality tests are poor predictors of future work performance for this population. This finding is reminiscent of Ghiselli's work. They did find evidence that the best clinical predictors of future work performance were ratings of a person's work adjustment skills from a workshop or sheltered job site setting. This may support Tom Brandon's contention (Brandon, 1984) that time may be the vocational evaluator's best ally. We may be doing the field and our clients a disservice when we overshorten the evaluation process. As an example, in one Virginia setting serving high school special education and special needs students, the

evaluators spend two to three weeks in assessment and their recommendations are well received by vocational instructors. Such specifics as use of tools and ruler reading skills were found helpful as instructional level locaters by the teachers. In another setting in Birmingham, the evaluator is charged with giving an aptitude battery and running a job search as their evaluation method for the same population. She spends about four hours with each student, seeing several at one time, feeds her results into the computerized report generator and sends that to the school system. As far as she knows, those reports are filed in the students' central file and not used. She does, however, do a volume business. The point to be made is that on the current scene, more of us are adopting a process which we may not believe in and which objective data indicates does not work. It does not make sense in the future to return to long term assessment but we may be better served to swing that pendulum back toward that direction.

The third most notable pressure affecting current practice has been the reduction of federal funding for social services. This has had the impact in public sector rehabilitation of forcing programs into a cutback or diversification of their referral source stance which has had a positive impact on broadening the base of the field. In education and private practice markets, an immense reduced federal funding does not appear to have had impact. However, it has had a profound effect on the job availability and duties in some specialties such as rehabilitation counseling and occupational therapy. For example, almost twice as many evaluators in Thomas' (1985) study of VEWAA members reported degrees in Rehabilitation Counseling rather than Vocational Evaluation which reflects the depressed job market in rehabilitation counseling compared to the active one in vocational evaluation. With occupational therapy, the results of federal initiatives to reduce hospital costs has left many O.T.'s needing additional

treatment or services for which they can charge. Some see vocational evaluation, a market they left thirty years ago, as a natural one beginning with physical capacity evaluation which insurance companies will pay for to primary vocational assessment and work hardening, i.e., work adjustment. In recent moves, the Joint Commission on Accreditation of Hospitals has declared standards for the mandatory inclusion of vocational rehabilitation services to allow hospitals to become accredited with a rehabilitation emphasis. Occupational Therapy would like to see themselves in that role. Further, the American Occupational Therapy Association has asked the Commission on Accreditation of Rehabilitation Facilities to broaden the requirements of the vocational specialist to include occupational therapy. It might be expected that as the federal funding pie continues to shrink and the third party pay funding possibilities continue to grow, vocational evaluation will continue to be battered by fights for territorial claim. In the long run, these pressures, changes, and diversifications will shape the field and will be viewed by those remaining as good. They do signify a new era approaching rapidly and point to fundamental restructuring of our ideology and methods pointing to growth in vocational evaluation in becoming a profession in the future.

FUTURE DIRECTIONS

The future of vocational evaluation can be predicted from directions currently being set within the profession as well as by viewing ways within the American culture to which the field should respond. It can be expected that changes will occur due to the impact of technology in the field, the increased professionalism of vocational evaluation, a further diversity of evaluator settings, and the development of new models of vocational evaluation.

While numerous articles in the past have discussed the role and impact of technology in the American culture and

specifically on the field of vocational evaluation, it is likely that today's vocational evaluators have hardly begun to feel that impact. However, this field has long thrived on technological advancement and acceptance of improved technology. For example, it was not surprising that McCray and Blake Moore (1984) in their national survey of rehabilitation facilities found that the service area most likely to use computers was vocational evaluation. As programs which assist the evaluator become available, this field should continue to lead the way in acceptance and use of those programs producing what may be called the technical evaluator. An interesting phenomenon has occurred in that the vocational evaluator of the 1980's has had at her disposal an increasing amount of access to data to the point that McClanahan (1985) has estimated that a vocational evaluator can look at over 12 million bits of occupational data before making recommendations. It is likely that this trend will continue to develop with the technical evaluator having the opportunity to oversee an increasing amount of job related and person related data which will need to be synthesized and should form the basis of ever increasingly accurate predictions. This movement will be fueled by the lack of adequate universities to educate enough vocational evaluators to fulfill the expanding need over the next 20 years. Therefore, the technical evaluator of the near future will have a role more in overseeing and developing processes and will spend less time in direct client contact. In other words, the future evaluator will have less client contact and more machine contact. The personnel slack, however, will be taken up by machine generated processes and by increased use of bachelor trained floor personnel. It can be expected that most of the tasks that evaluators find tedious, time consuming, or too immense to tackle will be done in the very near future by a computer. As can be seen today, computer formatted tests are being offered as replacement for most paper and pencil test. As is

noted in the Apticom, not only can computers be used to be the means of testing, but they can also be used to score tests, to report results and to make recommendations. It is not too difficult to test for aptitudes; however, it is still difficult to observe behavior without people involvement. Computers, however, can be used to assist in directing that process and in keeping track of results and synthesizing those results. The bairn of evaluators, report writing, should be entirely taken over by the use of computer programs to generate reports within 5 years. Program evaluation software is currently available and is expected to be in widespread use within the near future as will be programs which sample ability on tests and predict maximum performance, store client records, provide occupational exploration experiences, direct evaluation plans, write work adjustment program plans, provide computer assisted instruction in work readiness, and monitor behavior observations. These are just the beginning programs that should be out before the end of the decade for which there is a need. Beyond that it can be expected that the whole evaluation/decision making process would be examined closely and will be supplanted in many instances by computer expert systems which should do a better job of making vocational predictions based on complex formulas with statistical validity.

With further expansion and development of the knowledge-base of vocational evaluation will come increasing professionalism of the field. Long noted as a field partially controlled by the rather inadequate tools and techniques available to it, the future in vocational evaluation belongs to the informed evaluator who can design a process which can be proven to meet the need. It is expected that more universities will want to be involved in the training in this specialty, and that the training will be done in a variety of home based knowledge areas from psychology to medical related programs. The

benefit of having the best trained evaluators will be primarily in the research available to field personnel and improved job tenure trends in stabilizing the field. Thus, Saakowski (1969) saw that vocational evaluators tended not to stay in their jobs past two years while more recently, Thomas (1985) found that evaluators were more likely to have been in their careers for an average of six years. This trend will continue to develop as the status benefits in a true career ladder develop over the next decade. Another important inroad to the developing professionalism would be contributions made by those coming out of such fields as psychology, personnel management, education, and engineering and bringing with them knowledge bases and a uniqueness of perspective which should provide a pluralistic enrichment of the field as a whole.

This diversity of backgrounds should also in the future be reflected in a widening group of vocational settings in which to practice. Those settings can be predicted today by looking at all settings in which work is likely to be important. For example, it can be expected that once entering the school system markets with special populations, there will be a move to offer vocational evaluation services to regular education students as a part of the guidance and counseling services in school systems. The private practice setting has been one of rapid growth for vocational evaluators and should continue to expand as vocational evaluators move more into the mainstream of employment related litigation with the disabled, divorced, and others needing a reading on their vocational future. It can be expected that a tremendous growth area for vocational evaluation will be in medical settings as the availability of third party insurance pay develops in hospitals. Therefore, when Blue Cross-Blue Shield begins paying for vocational evaluation services in a typical hospital setting, a clamour will be on in various fields to provide that service. While some ser-

vices may be open for the general population on a private fee basis, the largest potential area of new business appears to be in personnel selection. Thus, the technology and tools of the evaluator should be incorporated into both initial selection procedures and in promotion procedures in many mainstream industries due to the tools and techniques of the field meeting federal guidelines for content related testing. In this same light, there may be an increased interest in the relatively successful workfare programs for the welfare recipient which based part of their success on the use of vocational evaluation to place people in adequate training and employment programs. Again, where there is a need for vocational screening, vocational evaluators will port their service. Of all the areas which offer potential expansion, none looms so large in the future of vocational evaluators as that of a vocational evaluation with the increasing geriatric population. Thus, as we develop more time to spend in other than monetary gain activities and, as our population incorporates more retired persons, it can be expected that the tools and techniques of our service can be equally well applied in developing plans for recreational and nonpay activities for those populations.

As mentioned earlier, we have in current practice backed up to the use of shorter and shorter evaluations with more reliance on aptitude testing. It is likely in the future that we will see reactions to that so that more time is spent exploring work personality and better testing methods will be developed which will rely on improved computer generated tests and in the knowledge gained from the behaviorism movement. It can be expected that locator tests on a computer will be used in which initial questions will locate the person on a scale of ability which will then cause the computer to open up a number of additional questions which offer finer and finer discriminations of abilities so that individuals of a wide range of capability will be better

measured with this testing procedure. The knowledge from behaviorism will give us methods of changing people which should greatly influence the behavioristic diagnostic services which will be incorporated into the future of the vocational evaluator's tool box. It can also be expected that there will be more of an emphasis toward fitting that person to the environment rather than the current emphasis of changing the entire world to meet the needs of disabled people. For example, we will be using the current work undergoing resulting in the improved understanding of brain functioning to provide chemical and other measures of boosting the IQs of retarded and improving learning capabilities of those with specific learning disorders. It could be expected that we will use increased technology as aides to disabled people to provide them with improved mobility and sensory functioning. Therefore, part of the job of the vocational evaluator may be to match a person and his disabilities in the rehabilitation sector to the appropriate technology to basically negate those disabilities and then to do job screening and predictions.

It is extremely encouraging to be in a field which has for 40 years been slowly developing and of little interest to the general public and to see it come alive and take off in so many directions as to find a number of professionals laying claim to the knowledge and rights to practice its expertise. That trend has started since the early 1970's and should gain increased strength and momentum through the end of the 20th century. While in a number of professions the concept of today's professionals becoming tomorrow's technicians might hold true, this field should find that it incorporates technology into the number of settings and different models but evolves into a professional discipline with the necessary career ladder benefits and remuneration to make it an exciting place to be.

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