VOCATIONAL EVALUATION AND CAREER ASSESSMENT PROFESSIONALS JOURNAL

Fall 2016
Volume 11
Number 2


VECAP

VOCATIONAL EVALUATION

AND CAREER ASSESSMENT PROFESSIONALS JOURNAL

PROFESSIONAL JOURNAL OF
VOCATIONAL EVALUATION AND
CAREER ASSESSMENT PROFESSIONALS

FALL 2016
VOLUME 11
NUMBER 2

Published twice a year. Annual institutional rate: U.S. $120. Prices are subject to change without notice.

Publishing, Subscription, and Advertising Offices:

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VECAP MISSION

The Vocational Evaluation and Career Assessment Professionals (VECAP) is a nonprofit organization originally founded in 1967 to promote the professions and services of vocational evaluation and work adjustment. Formerly known as the Vocational Evaluation and Work Adjustment Association (VEWAA), the name was changed in 2003 to better reflect the focus of the organization as well as emphasize the independent status of the organization. This group has no affiliation with the National Rehabilitation Association (NRA) or the NRA/VEWAA.

The VECAP organization is committed to advance and improve the fields of vocational evaluation and career assessment and represents the needs of the professionals who provide those services. Its scope of services encompasses individuals who need assistance with vocational development and/or career decision-making.

VECAP's membership comprises professionals who provide vocational evaluation, assessment, and career services and others interested in these services.

VECAP members identify, guide, and support the efforts of persons served to develop and realize training, education, and employment plans as they work to attain their career goals.

For membership information, visit VECAP.org.

EDITORIAL

Welcome to the Fall 2016 edition of the VECAP *Journal*

The Yin and Yang of Vocational Evaluation

As vocational evaluators (VE), we are concerned with the routine of record keeping and the importance of practicing ethically. Both are fundamental to our practice. One way to conceptualize these two different yet critical components is to apply the concept of yin-yang, which was first studied in the third century BCE by Chinese philosophers. The basic principle is that "all things exist as inseparable and contradictory opposites" (Cartwright, 2015) with examples listed in Table 1.

Table 1

Partial Listing of Yin and Yang Traits

Yin	Yang
Feminine	Masculine
Black	White
Dark	Light
Transformation	Creativity
Passive	Strength
Even numbers	Odd numbers
Provides spirit to all things	Provides form to all things

Note: From Cartwright (2015).

We do a lot of paperwork that involves routine work with written documents such as forms, records, and letters. Paperwork in the digital age has been reconceptualized as e-paperwork that involves routine work with documents such as forms, spreadsheets, and emails (Lefurgy, 2012). Regardless of your preference for either term, paperwork or e-paperwork, you still must perform the routine tasks of recording observations, documenting services, writing reports, managing your calendar, and the other administrative responsibilities that we do as professionals.

In contrast, we strive to practice in an ethical manner because as autonomous VEs, we want to do the right thing and as compliant professionals, we adhere to our code of ethics (CoE). The CoE requires a different level of thinking and monitoring; like a computer's operating system, the CoE is running in the background as we practice. The PVE's CoE has nine major guidelines that comprehensively cover every aspect of what we do, from the relationship we form with a client to confidentiality to our business practices. Some of us may be dual-credentialed and have more than one code of ethics (e.g., CVE, PVE, or CRC), which adds to our operating system.

How do we reconcile paperwork and the CoE? These are two seemingly contradictory yet critical components? Which one is the yin and which is the yang? Is document management dark or light? Does the CoE provide spirit or form to vocational evaluation? Which is passive and which is strength? In order to help you make this decision, examine both of the articles in this edition of the journal. Dr. Robert Campbell posits the utility of electronic health records and how they enhance service delivery. He uses case examples, including artist Martin Ramirez, to illustrate the importance of efficient and effective records. The other article by Drs. Sherman and Chapin examines the CRC, CVE, and PVE codes of ethics and compares the CRC and CVE codes. In addition, Sherman and Chapin provide a history of our profession's development and make recommendations for ways to improve our CoE. The answer to the yin-yang question is left to you to answer for yourself.

In addition, we continue the serialization of the book *Vocational Evaluation and Assessment: Philosophy and Practice* by Dr. Stephen Thomas, who has granted VECAP the rights to publish his text. It was first drafted in 1997 for use in the Introduction to Vocational Evaluation course and only available through the East Carolina University bookstore. This issue of the *Journal* presents *Chapter Four: Research in Support of Vocational Evaluation* and *Chapter Five: Initial Considerations for Practice*. In order to acquaint the new reader (or reacquaint those readers who know him) with Dr. Thomas, a short interview by Matt McClanahan introduces this work.

We extend a big VECAP WELCOME to Ralf Schuster, who is joining us as managing editor. He is currently a PhD student in the Department of Addictions and Rehabilitation Studies at East Carolina University.

We are proud of this edition and welcome your responses or comments.

Steven R. Sligar
Co-Editor

Nancy Simonds
Co-Editor

Qu'Nesha S. Hinton
Ralf Schuster
Managing Editors

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CONTENTS

The Vocational Rehabilitation Professional and the Electronic Health Record

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Abstract

This article discusses the advantages that an electronic health record has over a paper-based system. The aim is to highlight the problems associated with the use of paper case files and how this medium limits the cognitive decision-making abilities of the vocational rehabilitation professional. The eight core functions of the electronic health record are introduced with the discussion focusing on how these features can stimulate the productivity and efficiency of the vocational rehabilitation professional when it comes to managing his or her caseload. The core functions include health information and data, results management, order management, decision support, electronic communication and connectivity, patient support, administrative processes and reporting, and population health. Finally, the discussion will center on the socio-technical aspects related to the use of the electronic health record and the impact it will have on the day-to-day tasks of the vocational rehabilitation professional and community practice program. Aspects discussed include hardware and software; clinical content; the human computer interface; people; workflow and communication; internal policies, procedures, and culture; external rules, regulations, and pressures; and system measurement and monitoring.

Keywords: electronic health records, information management, documentation

The Vocational Rehabilitation Professional and the Electronic Health Record

Client files stored using paper can be susceptible to several problems. One such problem is accessibility. The following is a short example of how this problem can have a negative impact on a client.

Chuck Cee is a veteran with a mild case of Asperger's disorder and a recent diagnosis of Attention Deficit Hyperactivity Disorder. Chuck is good with his hands and has experience building houses and multi-story buildings. Currently out of work, Chuck is responding to a call he received from his vocational rehabilitation counselor about the availability of a job in a nearby town. When Chuck arrives at the satellite office of the community rehabilitation program sponsoring his counselor, he notices the door is locked and the offices are dark. Using his cell phone, Chuck calls the home office, which is an hour's drive from his current position, to inquire as to the whereabouts of his counselor. Chuck is told that his counselor is ill and he will have to wait an unknown amount of time until his counselor is able to return to work. Chuck is also informed that the home office cannot provide him with assistance because they do not have access to his paper case file, which is kept under lock and key by his counselor at the satellite office. Despondent, Chuck returns home, wondering if he has missed an opportunity to secure gainful employment. In this anecdote, we witness firsthand two problems inherent in the management of client case files: accessibility and quality of service. When client case files are inaccessible, important decisions are delayed, diagnostic tests repeated, and productivity declines. The purpose of this article is to discuss the electronic health record (EHR) system or

electronic case management, as known by vocational rehabilitation professionals (VRP), and how this tool benefits the field of vocational rehabilitation. This article will begin with an evaluation of the problems inherent with paper records, which will lead to a discussion of the benefits of the electronic health record system.

Problems with the Paper Record

Before diving into a discussion of the electronic health record, the limitations of the paper record need to be clarified. Discussion of these limitations will highlight some of the benefits of using an electronic system to manage client case files. Paper records complicate efforts at data storage and management along seven dimensions. The seven dimensions or issues to be discussed include legibility, completeness, availability, decision support, data collection and analysis, manageability, and communication (Pories, 1990). In recognition of the numerous professionals (e.g., vocational evaluator, rehabilitation counselor, assistive technology specialist) who may interact with a case record, the term vocational rehabilitation professional (VRP) is used to avoid redundancy.

Legibility. Legibility is the most common problem associated with paper case files. The VRP can hurriedly record in client records indecipherable case histories, diagnostic tests results, and progress notes, making it difficult for colleagues to read. When case files are shared with other agencies, chances are high that after they have been faxed, photocopied, or sent through the mail, the receiving party will have a hard time reading the documentation.

Completeness. A paper case file contains a great deal of information describing the client's physical, psychological, work, and communication status. Due to its very nature, a paper record cannot control what information is recorded in the case file and what information is left out. Missing information from the client record, such as work skills/behaviors, can affect how quickly the client can be given a new employment opportunity. Incomplete case files can lead to problems of efficiency and productivity for VRPs working in a community rehabilitation program.

Availability. A common cry among staff at a community rehabilitation center is, "Who has Charlie Cee's file?" When a paper case file is missing or buried under a mound of clutter on the desk of a VRP, the client's best interests are not being served.

Active Decision Support. A paper record does not have the ability to prompt the VRP to have the client complete his or her Wide Range Achievement Test or the Wechsler Adult Intelligence Scale. Moreover, the paper record does not remind the VRP to make sure to document that the client has been asked if s/he needs an interpreter during an initial counseling session. Finally, paper records cannot record whether the VRP has followed proper protocols and guidelines when performing an intake assessment of a client.

Data Collection and Analysis. Imagine that a director of a community rehabilitation program wants to identify the most common disability treated at the facility. More importantly, the director wishes to determine the types of job placements individuals with this disability receive. How difficult would it be to retrieve this type of information using paper records? The

answer is very difficult, because a VRP or staff member would have to abstract the information by hand from each case file within the facility. Furthermore, if a VRP wanted to create a chart or graph showing changes in a client's Wide Range Achievement Test results over the course of a year, the professional would have to abstract the data from the case file and create the chart by hand. Analyzing data stored in paper client files is time-consuming and cumbersome.

Manageability. Managing paper case files can be problematic for several reasons. For example, many paper files consist of printouts placed in a manila folder held together with a binder clip. Other iterations of case files consist of a manila folder with tabs used to separate documents into subject areas such as demographics, work history, psychological history, academic history, test results, and communication skills. Reports, progress notes, and test results can be placed in files haphazardly and out of order, making it difficult for the VRP to find the needed information. The ultimate problem with managing paper records is storage. Case files can be stored in filing cabinets and then locked in a file room in an effort to keep data contained in the files private and secure. Ultimately, managing paper case files can be both resource- and task-intensive because the process requires money, space, and time.

Communication. A paper file can be viewed as a work in progress with new information such as test results, psychological profiles, income reports, health assessments, and work skills inventories being continuously added. When multiple VRPs are involved with the client, whoever has the current case file may not have the most up-to-date information. Inaccurate or out-of-date case files do not communicate the most relevant information about the client. Moreover, communication is further diminished when the case file is either missing or located in a stack of files on the desk of a VRP. To provide the best possible service to their clients, VRPs need the most accurate and up-to-date information available.

This concludes the discussion on the limitations of the paper record. In the next section, the electronic health record (EHR) will be introduced, with the focus centering on the components of the EHR and the potential impact this tool can have on the way the VRP collects, stores, and manipulates client information.

The Electronic Health Record

According to the National Alliance for Health Information Technology, an electronic health record (EHR) is "an electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization" (Wager, Wickham Lee, Glaser, 2013, p. 136). To gain a better idea of the tasks that can be performed using an EHR, the Institute of Medicine (1997) defined a set of core functions that all EHRs should be able to execute. The eight core functions include health information and data; results management; order management; decision support; electronic communication and connectivity; patient support; administrative processes and reporting; and reporting and population health. Moving forward, to develop familiarity between the language used by health information technologists and VRPs, the terms electronic health record and electronic case management system will be used synonymously.

Health Information and Data. An EHR will capture and store information on client demographics, medications, allergies, clinical narratives, progress notes, and historical health data. More importantly, an EHR can be configured to meet the specific data storage needs of the VRP. For example, if the client is blind, an individual blind registry identification number and date of registration information can be stored within the EHR. Moreover, an EHR can be set up to store important client travel information (e.g., alone, with sighted guide, cane, public transportation, with guide dog, at night/day, with wheelchair).

What separates an EHR from the paper record is the ability to store client information as structured data. Structure is applied to data using standardized classification codes, such as the *International Statistical Classification of Diseases* (ICD-10), and the ability to store data in fields within the records of individual clients. Data stored using a structured format provides the VRP with the ability to generate lists of patients with a specific illness or who have a specific characteristic or trait. For example, if a community rehabilitation program wanted to know how many clients were diagnosed with type 2 diabetes (ICD-10: E11.9) and traveled using a wheelchair. Data stored in a structured format provides the VRP with the ability to generate a report listing all the individuals who match the stated criteria. Moreover, having data in a structured format allows community rehabilitation programs to create dashboards that provide up-to-date client information to the VRP. For example, a dashboard could be created that lists all the clients who need to take the Wide Range Achievement Test examination, which, in the end, can improve quality of service and help the VRP become more productive and efficient.

Results Management. The EHR provides the capability to store, manage, and manipulate the results of any number of tests taken by the client. For example, the EHR affords the ability to store results from the Career Ability Placement Survey, the Career Occupational Preference System, the Career Orientation Placement and Evaluation, and the Wide Range Achievement Test diagnostic tests. Furthermore, when the results of these tests are stored as structured data, the VRP can create graphs and charts showing how client scores have changed over a select period.

Order Management. Generating orders for diagnostic tests poses several problems. One persistent problem is the legibility of orders written by hand on a piece of paper. A second problem is monitoring whether an order has already been placed, and third, preventing the generation of duplicate orders. An EHR eliminates all three of these problems because all orders are generated electronically and tracked within the system, therefore preventing the generation of the same order twice. Coupled with the results management function, the order management feature provides VRPs with a real-time source of data regarding the results of the tests that have been taken and those still to be administered. This capability can enhance the diagnostic and treatment process, and, in matters concerning employment or housing, find a solution that meets the needs of the client.

Decision Support. When working with a client, a common assumption among professionals is that the information gathered is objective and the thinking processes used are logical and valid. However, under the constraints imposed by typical working conditions, decisions are made when resources are limited, time is of the essence, and workarounds are employed. Croskerry (2005) notes that professionals do not have the luxury to sit back and think

deeply about the problem at hand; they must be able to "think on their feet and go with intuition" (p. 244). Therefore, to adapt to any given situation, professionals will employ *cognitive dispositions to respond*, which, according to Croskerry (2003), are the "way a professional responds in predictable ways to a given situation" (p. 776). At times, these responses can lead to a positive outcome for the client; at others, the outcome is negative. For example, one of the most pervasive cognitive dispositions to respond is *confirmation bias*, where a professional only looks for evidence that confirms or supports the initial diagnosis. Groopman (2008) describes the story of a young woman who constantly threw up after eating, suffered from chronic abdominal pain and nausea, and had trouble maintaining her body weight. After hearing her initial complaints, the doctor quickly diagnosed her as bulimic. This led to second and third opinions because both physicians, after reading the initial diagnosis in the patient's record, concurred, which is an example of another type of CDR known as *diagnosis momentum*. A diagnostic label attached to a patient tends to stick with the patient until extraordinary actions intervene. In this case, a physician refused to read the patient's by that time voluminous medical record, choosing instead to listen to the patient and order adequate tests, concluding that the correct diagnosis was celiac disease. Several factors can influence which CDR a professional uses to respond to a given situation. Those factors include fatigue and sleep, team factors, affective state, ambient conditions, past experience, patient factors, and violation producing factors. Out of those factors, the two having ramifications for the VRP are affective state and patient factors.

Affective Dispositions to Respond

Just as there are cognitive dispositions to respond, there are affective dispositions to respond (ADR). According to Croskerry (2005), an ADR is "an emotional dysregulatory influence that affects a professional's decision making ability" (p. 246). The most influential sources of ADRs are *fundamental attribution error*, *countertransference*, and *patient factors*. An example, with relevance to vocational rehabilitation, is the case of Martín Ramirez.

Martín Ramirez

Martín Ramirez was born in Mexico and, to find work, migrated to the United States in 1925, leaving behind his wife and four small children. Homeless and out of work in 1931 during the Great Depression, Ramirez was detained by police in Stockton, California, and after a dubious interrogation and psychological assessment, he was confined to Stockton State Hospital and later DeWitt State Hospital. Both of these hospitals were state mental institutions, and this is where Ramirez would spend the remaining years of his life. At the time of his transfer to DeWitt State Hospital, Ramirez began to display an extraordinary ability to create intricate and detailed drawings depicting his former life in Mexico. Soon colleges and universities started displaying his work, and after his death in 1963, his drawings were the center of national and international art exhibitions (Espinosa, 2015).

Fundamental Attribution Error

During the time of Ramirez's institutionalization, the majority of individuals confined to California's state mental hospitals were migrants. Espinosa (2015) notes, "migrants were more likely to be labeled 'mentally ill' because of their strange appearance, lack of language skills,

and cultural habit" (p. 58). This form of thinking represents the ADR *fundamental attribution error*, where individuals are judged more on their dispositional characteristics rather than their situational characteristics. This helps to explain why, after his first clinical assessment, completed without the aid of a Spanish interpreter, Ramirez was labelled "insane" and committed to Stockton. This type of thinking also represents the CDR known as *framing effect*, where professional thinking influences the way the problem is framed. From both a cognitive and affective point of view, because Ramirez was a migrant, the only viable option was confinement to a mental institution because he was mentally ill. In subsequent clinical assessments, the diagnostic label (*diagnoses momentum*) given to Ramirez was *dementia praecox*, which at that time was a term for *schizophrenia*. Beginning with the exhibition of Ramirez's work at colleges and universities in California, the press and other media labeled his art the work of an "insane patient, or "schizophrenic," all of which represents the CDR *diagnosis momentum*. Two other sources of ADRs are at play in this case: the first, *countertransference*, which deals with the feelings a professional may have for the client, and second, *patient factors*, namely, the gender and race of the patient.

The case of Martin Ramirez is important because it clearly illuminates how professional decision-making is subject to error. To guard against such thinking, and to prompt and guide the thinking of the VRP, decision support tools, found in electronic health records, provide cognitive and affective support to the decision maker.

Decision Support Tools

The most common decision support tools found in electronic health records are alerts, professional practice guidelines, and templates. An alert can be a prompt or reminder that draws a professional's attention to a specific aspect of patient care. Alerts can be either passive or active. Passive alerts are messages that appear in the client's record that prompt the professional to consider performing a specific action or preventive service. However, if the professional so desires, the prompt can be ignored. An active alert requires the professional take some type of action in response to the alert. In the case of Martin Ramirez, a passive alert could be a reminder that because Ramirez is a Mexican who cannot speak English, a Spanish interpreter should be provided. With an active alert, the professional is asked to provide Ramirez with a Spanish interpreter, and the professional will not be able to move forward in the record until he or she verifies the recommended action was taken. Furthermore, part of the active alert may also require that all documentation be recorded in both English and Spanish, to protect the rights of the client, and to make sure the record is portable. Another type of alert can prompt the professional's metacognitive thinking while documenting a patient case. When a decision is reached regarding the client, a prompt can be activated asking the professional if all the possibilities involved in the case were considered. This simple act of stopping professionals and having them think about what they are doing in terms of the client's case can have a positive impact on the decision-making process.

Professional Guidelines

Professional guidelines can be used to make sure professionals follow proper protocols when providing services to clients. For example, when helping a client find a job or when

performing job readiness assessments, VRPs can program the guidelines and the electronic health record system can monitor how well each professional follows specific guidelines. This will help ensure that clients receive standardized service while enhancing the productivity and efficiency of the VRP.

Templates

A template is another decision support tool, based on a workflow analysis of how VRPs performs their day-to-day duties. A template can be developed that walks the VRP through a process, such as a job readiness assessment, making sure all of the necessary information is collected and asking all the appropriate questions to adhere to both internal and external practice guidelines. A template is a tool that can be used to make sure all the appropriate information is collected so that a specific process can be performed, managed, and monitored.

Electronic Communication and Connectivity

The most recent addition to the EHR is the patient portal. A patient portal is a tool patients can use to view portions of their electronic health record, send secure electronic mail messages to their provider, review the results of their most recent diagnostic tests, pay their bills, and review educational information. For VRPs, a patient portal can be used to stay in touch with their clients. Using a patient portal, VRPs can exchange secure electronic mail messages with their clients; provide them with updates to job opportunities; alert them to tasks that must be performed, such as the completion of diagnostic tests; and provide them with educational materials that enhance and sharpen their skills. In the case of Charlie Cee, even though his counselor was not able to come to the office, if the counselor was using an electronic health record, chances are great that he would be able to communicate with Charlie using the patient portal. The counselor would be able to share information about a job opportunity with Charlie, who could then take action in an effort to secure gainful employment. Patient portals are a tool that can enhance the effectiveness and efficiency of the VRP, while allowing them to provide quality service to their clients 24 hours a day, seven days a week.

Patient Support

Many patients who have chronic conditions such as diabetes, hypertension, and heart disease require constant monitoring through use of home care devices such as heart monitors, blood glucose meters, and blood pressure monitoring devices. These devices can attach directly to the patient's electronic heart record through the patient portal, and provide constant updates to doctors and other health care professionals monitoring specific physiological indicators. These devices allow health care professionals to keep a close watch on patients to make sure they do not suffer from a life-threatening episode or fall behind in performing their daily health care monitoring activities. For the VRP, patient support can come in the form of devices such as Job Access with Speech, which is a software program that reads information found on a computer screen to a visually impaired client. Another device designed to help people who are visually impaired is Orbital Camera (ORCAM), which is a set of glasses with a small camera mounted on the side. The ORCAM will process and read the information found on the computer screen back

to the client. Other devices to support client use of the electronic health record include special computer workstations for persons who are disabled.

Administrative Processes and Reporting

An EHR can perform administrative functions such as scheduling appointments, generating bills for patient encounters, creating and submitting electronic claims for reimbursement, and generating reports regarding overdue accounts. VRPs can use the EHR to schedule appointments with clients and other counselors, when necessary; bill clients for services rendered; send electronic claims to third party payers; and generate letters to providers to substantiate a client's disability, work tolerance, and limits. The VRP can also use the EHR to generate electronic authorizations for services and payment approvals.

Reporting and Population Health

The EHR can help the VRP generate reports to be shared with local, state, and federal agencies. Examples include expenditures by case, region, and office; individuals receiving certain services; authorizations and payments made per service provider; and expenditures per individual service. Moreover, the EHR can generate reports that provide a snapshot of the population served by the VRP or community rehabilitation program. Examples include a list of clients with certain disabilities (blind, cognitively impaired), disease type (diabetes, hypertension, stroke), and services rendered (job placement, independent living).

Interoperability

An EHR by definition must "conform to nationally recognized interoperability standards" (Wager, Wickham Lee, Glaser, 2013, p. 136) in order for it to be considered fully functional. By interoperability, at a very basic level, we mean that an electronic health record system is able to share information with another electronic health record system. Therefore, even if two community rehabilitation programs are using EHR systems developed by two different vendors, if those systems are interoperable, they will be able to share client data in a seamless manner, similar to the way in which an individual can withdraw money from another bank's ATM. The issue of interoperability takes on greater importance when a community rehabilitation program must share information with a federal or state rehabilitation agency. In instances where the electronic health record systems of both agencies are not interoperable, the community rehabilitation program must abstract the data from its system, place the data in a format that can be recognized by the receiving system—which can be a time intensive process—and then transmit the data to the recipient using an agreed-upon format such as a paper, CD-ROM, or electronic file. With the aid of interoperability, local community rehabilitation programs and state and federal agencies can develop, on the fly, snapshots of the populations of disabled people being served and the services being rendered.

This concludes the discussion on the key features of the electronic record. In the section that follows, the focus will turn to the socio-technical aspects related to the use of electronic health records. VRPs or administrators from community rehabilitation programs must carefully

consider these properties because they can have a profound impact on the successful implementation of an EHR system.

The Socio-Technical Aspects of Technology

Sittig & Singh (2010) created a socio-technical model for the "design, development, implementation, use and evaluation" (p. 2) of information technology systems. The model contains eight dimensions, which can be used by VRPs to evaluate the impact an electronic health record can have on their practice. The eight dimensions include hardware and software computing infrastructure; clinical content; human computer interface; people; workflow and communication; internal organizational policies, procedures, and culture; external rules, regulations, and pressures; and system measurement and monitoring. In what follows, each dimension will be discussed as it relates to the use of an EHR by a VPR or community rehabilitation facility.

Hardware and Software Computing Infrastructure

The key question to ask within this dimension is "what software and hardware are needed to ensure optimal system performance" (Sittig & Singh, 2010, p. 4). The answer goes well beyond the standard response of workstation with monitor, keyboard or mouse, as the VRP must consider questions regarding data storage, network functionality, Internet access, and what operating system to use. More importantly, consideration must be given to what happens if the power goes out or if Internet connectivity is lost. Once a VRP adopts an electronic format for handling client case files, the VRP must carefully consider how important data will be entered into the system, managed, maintained, and most importantly, how that data will be kept safe from natural and environmental disasters, and the occasional computer hacker.

Clinical Content

Every profession has a unique way of identifying and classifying service activities that occur within the field. For example, in health care, patient illnesses and treatment can be classified using systems such as the *International Statistical Classification of Diseases* (ICD-10) and the *Systematized Nomenclature of Medicine* (SNOMED). Using ICD-10 to record that a patient has diabetes mellitus without complications the code E11.9 would be used. To describe the client in full detail, the electronic health record must make use of the classification systems, vocabularies, and nomenclatures that the VRP is most comfortable using. Additionally, these codes will also be used to generate decision support alerts, document demographic data, and support administrative functionality such as billing, reimbursement, and pre-authorization.

Human-Computer Interface

Currently, humans can use sight, touch, and sound to interact with the interface that allows them to store, manipulate, and access data within an EHR. The interface developed for an electronic health record is based on a human-computer interaction model, which is a direct manifestation of how the developer of the program envisioned how end-users would use the application. A successful interaction model will match the workflow that VRPs use to perform their job when working with clients. If the VRP's workflow does not match the human-computer

interaction model, modification to either the interface or the workflow must occur. This is one reason that before an EHR is purchased, workflow analysis must be performed to enhance and streamline the current workflow, and to insure that the human-computer interface can be configured to allow the VRP to achieve higher levels of efficiency and productivity when using the new system.

People

The most important consideration within this dimension is how the EHR helps users think, and how it makes them feel. If the EHR hinders VRPs' ability to think and makes them feel inadequate or inefficient when performing their job, then chances are that the system has not been appropriately designed.

Workflow and Communication

Because vocational rehabilitation involves a team of VRPs working together to help a client, then the EHR must enhance communication and workflow. As mentioned above, if there is a mismatch between the workflow of the VRPs working with a client and the EHR application, changes will need to be made.

Internal Organizational Policies, Procedures, and Culture

Whether the party considering acquisition of an EHR is an individual VRP or a community rehabilitation program, there are going to be structures, policies, and procedures that will affect other dimensions in the socio-technical model. For example, decisions will need to be made about how much money will be budgeted for the new system. Internal policy will also determine how the new system will be backed up, and whether client data will be stored locally or in the cloud. Finally, the new system needs to enforce organizational policies and procedures; for example, secure user login and remote access to the system from home.

External Rules, Regulations, and Pressures

A VRP or community rehabilitation program considering the implementation of an EHR will be constrained by external rules, regulations, and pressures. Standards such as the Health Insurance Portability and Accountability Act (HIPAA), the Health Information Technology for Economic and Clinical Health (HITECH) Act, and most importantly of all, the Commission on Accreditation of Rehabilitation Facilities (CARF) guidelines will influence how the electronic health record system is used on a daily basis. Whether the records are paper or electronic, CARF (2016) requires that a complete record be maintained for each person served. Furthermore, written policies and procedures must be in place to keep those records, secure, confidential, and compliant with local and state laws, and provide accurate time frames for services rendered.

System Measurement and Monitoring

When implementing a computer application, the importance of measuring and monitoring program effectiveness cannot be overstated as regards helping a VRP or community rehabilitation program meet stated goals and provide clients with the services they need. In

general, four specific functions should be monitored once a new electronic health record is in place. Those functions include availability, use, effectiveness, and unintended consequences.

Conclusion

The goal of this article is to show how an electronic health record could be used by a vocational rehabilitation professional to manage important client information. An EHR can help the VRP track important client information; generate reports to be shared with local, state, and federal agencies; provide decision support; and afford a means for keeping in closer contact with the clients. The use of an EHR will make VRPs more productive and efficient while performing their day-to-day tasks.

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Enhancing the Vocational Evaluator Ethical Code and Guidelines by Comparison with the 2010 Commission on Rehabilitation Counselor Certification Code of Professional Ethics

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Within the rehabilitation profession, national certifications serve to protect the public from unqualified individuals and serve as a basis for assuring that practitioners have the knowledge, skills, and experience necessary to practice. Certification organizations hold their certificantes accountable to written, peer reviewed standards and have codes of ethics or guidelines by which the certificants must abide. These organizations require continuing education so that those who are certified can stay current in the field. The primary credentials for those practicing within the field of rehabilitation as rehabilitation counselors and vocational evaluators are certification as a Rehabilitation Counselor (CRC) or Vocational Evaluator (CVE), and registration as a Professional Vocational Evaluator (PVE). The history of these credentials is explored and a comparison of their respective codes of ethics and guidelines are made.

Keywords: PVE Guidelines, CVE Code of Ethics, CRCC Code of Ethics, vocational evaluation.

Enhancing the Vocational Evaluator Ethical Code and Guidelines by Comparison with the 2010 **Commission on Rehabilitation Counselor Certification** (CRCC) Code of Professional Ethics

Vocational evaluation emerged during the latter half of the 20th century as a professional specialty in response to a demand for improved assessment measures for people with disabilities within the field of vocational rehabilitation (Hamilton & Shumate, 2005). Several studies (e.g., Coffey, 1978; Hamilton, 2004; Hamilton & Shumate, 2005; Leahy & Wright, 1988; Newman, Waechter, Nolte, Boyer-Stephens, 1998; Sankovsky, 1969) examined vocational evaluators' competencies and role and functions. Two of these studies (Hamilton & Shumate, 2005; Leahy & Wright, 1988) found that there were six distinct areas of competency unique to vocational evaluation (VE). Those areas included 1) Assessment Planning and Interpretation, 2) Vocational Counseling, 3) Assessment Administration, 4) Job Analysis, 5) Case Management, and 6) Personal Adjustment Counseling (Leahy & Wright, 1988). A later study in 2005 by Hamilton and Shumate updated those six key roles and functions of vocational evaluators to be 1) Analysis/Synthesis of Assessment Data, 2) Behavioral Observation and Evaluation Techniques, 3) Case Management, 4) Occupational Analysis, 5) Vocational Counseling, and 6) Professionalism. Sligar and Betters (2012) suggested that there may be differences in how vocational evaluation is perceived and practiced or that roles and functions of vocational evaluators may have changed over time. The Leahy and Wright study found that while 73% of vocational evaluators had masters' degrees, only 17% reportedly had a major in vocational evaluation.

A 2008 study published by the Commission on Rehabilitation Counselor Certification (CRCC) found that only 15% of certified rehabilitation counselors held the job title of vocational

evaluator (CRCC, 2008; Sligar & Betters, 2012). Sligar and Betters (2011) effectively stated why we should look at vocational evaluators and their code of ethics and professional guidelines differently from rehabilitation counselors. "Vocational evaluation was considered a specialty within the field of vocational rehabilitation, neither above nor below rehabilitation counseling, but simply a precise practice governed by a specific philosophy, knowledge base, ethical code, and skill set" (Sligar & Betters, 2011, p. 68). Not all vocational evaluators are rehabilitation counselors. Many vocational evaluators are only meeting with clients a few times for the purpose of completing an evaluation and assessment and are not providing counseling services for clients; thus, many sections in the Code of Professional Ethics for Rehabilitation Counselors (CRCC, 2009a) would not be appropriate for vocational evaluators. Against this backdrop is a vocational evaluation profession that is evolving with numerous changes in federal legislative mandates, a changing employment landscape, service delivery systems legislatively mandated to work together, and a more diverse client population with significant disabilities entering the vocational rehabilitation (VR) and educational systems (Hamilton & Shumate, 2005). Certification and the professional standards of vocational evaluation must be maintained in this changing environment to assure the competency of providers and adherence to the highest ethical standards to protect themselves and the clients they serve. Since codes of ethics evolve over time, examining the evolution of the current codes of ethics within the profession of vocational evaluation can help assure the code's relevancy and assist in developing future codes that are as thorough as the Code of Professional Ethics for Rehabilitation Counselors (CRCC, 2009a).

Historical Perspective

The history of vocational evaluation began in 1965 as a result of a conference held in Warm Springs, Georgia. The committee established a tentative constitution and named the organization the American Association of Work Evaluators (AAWE). In 1966, again at Warm Springs, Georgia, the constitution for the association was approved and officers elected (Hoffman, 2008). The association held three conferences, all in Georgia. Leaders of the association at the time believed that there needed to be a national organization for vocational evaluators, but did not have the resources to create such an organization. That same year, the Executive Director of the National Rehabilitation Association (NRA), E. B. Whitten, was approached to consider the possibility of developing a division within NRA for vocational evaluators. An ad hoc committee was formed in 1966 and in 1967, the name Vocational Evaluation and Work Adjustment Association (VEWAA) was chosen. A formal request for divisional status was submitted to the NRA in 1967 and provisional status was granted. At that time, the process to move to a VEWAA division within NRA began, as did the dissolution of AAWE. At the NRA conference in 1967, VEWAA sponsored its first professional meeting of the newly formed association. In 1968, NRA granted VEWAA full divisional status under its organization and VEWAA's first journal was published that winter. A committee was formed to draft a set of ethical standards and in 1970, the draft was presented to VEWAA members and approved. VEWAA today is still a division of NRA. In 1971, VEWAA began to form state units of the association as a division of NRA. The original ethical standards, published in 1971, covered Responsibility, Professional Competence, Confidentiality, Interprofessional Relationships, Publications, and Consultations (Hoffman, 2008).

The Vocational Evaluation and Career Assessment Professionals Association (VECAP) was borne from VEWAA. As VEWAA grew, other professionals working in the field became interested in joining VEWAA. These professionals (e.g., private practice, Workers' Compensation, education) did not work exclusively with people with disabilities, but included people who were economically disadvantaged and privileged. Because of VEWAA's affiliation with NRA, members had to first join NRA to join VEWAA. Because some members thought this was unfair, in 2000 the membership voted to become a separate entity from NRA. A split occurred in 2003 within the VEWAA organization due to member concerns with the NRA constitution and dues structure and after a struggle to retain the name VEWAA for the new organization (Sligar & Betters, 2011). In 2003, a name change occurred within the group that split off from VEWAA. VECAP is not affiliated with NRA or VEWAA, which is still a division of NRA. VECAP, as outlined on their website, comprises professionals who work in the fields of vocational evaluation, assessment, and career services, as well as others interested in vocational evaluation. VECAP is a non-profit organization and states it is "committed to advancing and improving the fields of vocational evaluation and career assessment and represents the needs of the professionals who provide those services" (VECAP, n.d.a.).

Certifications for Vocational Evaluators

Certified Vocational Evaluator

The Commission on Certification of Work Adjustment and Vocational Evaluation Services (CCWAVES), beginning in 1981, offered three active certifications, one of which was the Certified Vocational Evaluator (CVE; C. A. Chapman, personal communication, September 2016). In 1992, a position statement on vocational evaluation and assessment was developed by an interdisciplinary council that provided statements on the profession of vocational evaluation and assessment (Smith, Lombard, Neubert, Leconte, Rothernbacher, & Sitlington, 1994). Those statements provided the guiding principles for the Certified Vocational Evaluation Specialists (CVE), Certified Work Adjustment Specialists (CWA), and the Certified Career Assessment Associates (CCAA). The guidelines included using a *variety of methods* to complete an accurate assessment of a client, *information verification, behavioral observation,* seeing vocational evaluation and assessment as an *ongoing process* consisting of *integration,* and *collaboration,* and demonstrating *relevance* in the evaluation results (CRCC, n.d.a.).

CCWAVES discontinued the active application and examination process for CVE in 2008 due to expenses continuing to exceed revenues for the credential and a continued decline in certification applications and renewals (Joint Task Force on Alternative Certification, 2009; M. O'Brien, personal communication, September 9, 2008). This decline may be attributed to employers not requiring the CVE for practicing vocational evaluators and the credential being "too elite" (Joint Task Force on Alternative Certification, 2009, p. 5) because coursework and degree granting institutions were not readily available. CCWAVES dissolved on April 1, 2009, at which time maintenance of credentials was turned over to the Commission on Rehabilitation Counselor Certification (Registry of Professional Vocational Evaluators, Inc. [RPVE], n.d.). Individuals can no longer apply for and obtain the CVE credential (RPVE, n.d.), though those who are already certified can renew and maintain their certification by demonstrating their professional development through continuing education credits every five years (CRCC, 2016).

Since the CVE was no longer allowing individuals to apply for this credential, vocational evaluators began exploring the development of an alternative credential, which became known as the Professional Vocational Evaluator (C. Reid & C. A. Chapman, personal communication, October 27, 2010).

Professional Vocational Evaluator

The Professional Vocational Evaluator credential evolved from the development of a task force comprising leadership of VEWAA, VECAP, Stout Vocational Rehabilitation Institute, and the Department of Rehabilitation and Counseling at the University of Wisconsin-Stout. This group met in the summer of 2009 to explore another process for the credentialing of vocational evaluators (C. Reid & C. A. Chapman, personal communication, October 27, 2010) since there was a gap in credentialing that demonstrated vocational evaluators' education and knowledge (RPVE, n.d.). This group conducted an online survey and received support for a new credential for vocational evaluators and agreement that the new credential should be called Professional Vocational Evaluator (PVE; VEWAA, n.d.b.). According to the RPVE brochure (RPVE, n.d.), RPVE is a registry for vocational evaluators who have demonstrated acceptable standards of education, experience, and knowledge. The organization is a non-profit and is managed by a board of directors (RPVE, n.d.). With the creation of a professional also comes the development of codes of ethics and professional conduct.

Codes of Ethics and Guidelines for Professional Conduct

Within the rehabilitation profession, national certifications serve to protect the public (CRCC, n.d.b.) from unqualified individuals and serve as a basis for assuring that practitioners have the knowledge, skills, and experience necessary to practice nationally (RPVE, n.d.). These organizations require continuing education, at various intervals, so that those who are certified can stay current in the field in order to maintain their certification (CRCC, 2016). Certifying organizations hold their members accountable to written, peer reviewed standards and have codes of ethics by which those who hold their certification must abide (CRCC, 2010). A code of ethics "exists to protect and promote the welfare of clients" (Remley & Herlihy, 2001, p. 8), while a code of conduct is "a set of conventional principles and expectations that are considered binding on any person who is a member of a particular group" (vocabulary.com, n.d.). The Codes of Ethics and Professional Conduct for vocational evaluators will be reviewed and compared to the Code of Ethics for rehabilitation counselors. This review is occurring in order to assist vocational evaluators to improve the PVE Guidelines so that these Guidelines keep abreast of the changes occurring in our technologically advanced world.

Code of Ethics for Vocational Evaluation and Work Adjustment Association

The Code of Ethics for the Vocational Evaluation and Work Adjustment Association (VEWAA) was developed during a VEWAA Conference (Hoffman, 2008) with adoption at their September 29, 1970 conference (Nadolsky, 1986). Standards for vocational evaluators and work adjustment professionals were needed because some states were trying to set lower standards for these professionals. The incoming president of VEWAA, Stanley Crow, was tasked with writing a letter to the Governor of Arizona stating that standards for vocational evaluators and work

adjustment personnel had already been set by the Commission on the Accreditation of Rehabilitation Facilities (CARF) and the National Policy and Performance Council of the Rehabilitation Services Administration. The original VEWAA code addressed "the areas of professional responsibility and competence, confidentiality, interprofessional relationships, publication, and consultation" (Cottone, Simmons, & Wilfley, 1983, p. 20). These same ethical areas were addressed on the VEWAA website with a re-adoption date of April 27, 2006 (VEWAA, 2006). There are only a few minor differences between the Codes of Ethics on the VEWAA (2006) and VECAP (n.d.b.) websites. Under the Responsibility section of the Code, VEWAA (2006) expects ethical and competent behavior whether providers are members of the *association* or not and VECAP (n.d.b.) expects these behaviors whether or not a person is a member of the *organization*. Under the Code categories of Professional Competence, Confidentiality, and Interprofessional Relationships, VEWAA (n.d.b.) used the term *rehabilitation process* while VECAP (n.d.b.) used the terms *evaluation and assessment process*. Under Consultation, VEWAA (2006) used *and* while VECAP (n.d.b.) used *however* when discussing accepting consulting assignments and insuring competency.

Certified Vocational Evaluator Code of Ethics and Guidelines for Professional Conduct for the Professional Vocational Evaluator

In April of 2009, a code of ethics was adopted by the Commission on Rehabilitation Counselor Certification for vocational assessment professionals, which includes CVEs, CWAs, and CCAAs. The Code of Professional Ethics for Vocational Evaluation Specialists, Work Adjustment Specialists, and Career Assessment Associates (CRCC, 2009b) will, henceforth, be referred to as the CVE Code. This Code of Ethics for certified vocational evaluators was modeled after the Code of Professional Ethics for Rehabilitation Counselors (CRCC, 2009a). The CVE Code (CRCC, 2009b) consists of a Preamble as well as the following categories: Professional-Client Relationships; Confidentiality; Professional Responsibilities and Competence; Evaluation, Assessment, and Interpretation; Professional Relationships; Research and Publications; Resolution of Ethical Dilemmas; Business Practices; Forensic Applications; and an Addenda. While this code is no longer being updated, it still applies to those individuals who continue to be CVEs.

While the CVE Code of Ethics (CRCC, 2009b) maintains its maintenance mode (RPVE, n.d.), on April 1, 2011, the Registry of Professional Vocational Evaluators adopted the Guidelines for Professional Conduct for the Professional Vocational Evaluator (RPVE, 2011), henceforth, the PVE Guidelines. The PVE Guidelines are the most recent code of conduct for the field of vocational evaluation.

The current Guidelines for Professional Conduct for the Professional Vocational Evaluator (RPVE, 2011) include the following areas: Evaluator-Client Relationships, Confidentiality, Evaluator Responsibility and Competence, Interpretation of Evaluation Information, Evaluator Relationships, Research and Publication, Resolution of Ethical Dilemmas, Business Practices, and Forensic Applications. Unlike the previous code for CVEs (VEWAA, 2006), the PVE code does not start with a preamble (RPVE, 2011). As a point of comparison, the Code of Professional Ethics for Rehabilitation Counselors will be reviewed and then compared to the PVE Guidelines (RPVE, 2011) and the CVE Code (CRCC, 2009b).

Code of Professional Ethics for Rehabilitation Counselors

Rehabilitation counselors can choose to obtain the Certified Rehabilitation Counselor (CRC) credential. The exam, renewal, and enforcement of the Code for the CRC are overseen by the Commission on Rehabilitation Counselor Certification (CRCC). The CRCC has an extensive code revision process where a code revision takes place about every five years. First, the ethics committee establishes a code revision task force that combs through recent codes, looks at the role and function studies of its certificantes, conducts a survey of its members, holds public comment, and develops a draft that is approved by the commission's ethics committee. From there, the draft code goes to the board of directors for approval and then publication. The first code adopted by CRCC occurred in 1987 (CRCC, 2010). The Code of Professional Ethics for Rehabilitation Counselors (CRCC, 2009a), henceforth, the CRCC Code, was implemented in January 2010 (CRCC, 2009a). The CRCC Code is currently undergoing a code revision and the next revision of this code went into effect January 2017 (CRCC, personal communication, October 2016). As with the CVE Code (CRCC, 2009b), which was modeled after the CRCC Code (2009a), the CRCC Code begins with a Preamble. The CRCC Code includes the Counseling Relationship; Confidentiality, Privileged Communication, and Privacy; Advocacy and Accessibility; Professional Responsibility; Relationships with Other Professionals; Forensic and Indirect Services; Evaluation, Assessment, and Interpretation; Teaching, Supervision and Training; Research and Publication; Technology and Distance Counseling; Business Practices; and Resolving Ethical Issues. All parts of this Code are enforceable.

Comparison of Ethical Codes and Guidelines

Ethical codes are developed to govern the conduct of organization members (CRCC, 2010). While the Code of Professional Ethics for Vocational Evaluation Specialists, Work Adjustment Specialists, and Career Assessment Associates (CVE Code; CRCC, 2009b) most resembles the CRCC Code of Professional Ethics (2009a), CVE Code (CRCC, 2009b) is not likely to be revised and only covers those individuals who are in maintenance mode with their CVE credential (RPVE, n.d.). The CVE Code is enforced by the Commission on Rehabilitation Counselor Certification (CRCC, 2012). The ethical guidelines that apply to all new and current PVEs are the Guidelines for Professional Conduct for the Professional Vocational Evaluator (RPVE, 2011). There was no information in the PVE Code or on the RPVE website to indicate whether the PVE Guidelines are enforceable. The introductory statement in the PVE Guidelines state the objective of the Guidelines is "to provide a structure for professional behavior and responsibilities ... and a standard for self-improvement and acceptable ethical conduct" (RPVE, 2011, p.2). As noted in previous paragraphs, professional associations often create or adopt codes or standards of behaviors for their members, and most of these codes adopt either current codes within the profession or general philosophical principles such as the code of ethics located on the VEWAA website, which was readopted in April 2006 (Early, 1989; VEWAA, 2006).

Table 1 shows a comparison of the sections of the CRCC Code (CRCC, 2009a), the PVE Guidelines (RPVE, 2011), and the CVE Code (CRCC, 2009b). While the three codes/guidelines in many cases show similar sections, the specific content under these sections varies considerably. The CRCC (CRCC, 2009a) and CVE Codes (CRCC, 2009b) have a great deal of specific guidance, but in most of the sections in the PVE Guidelines (RPVE, 2011) specific

guidance consists only of a few general sentences. For ease in reading, specific recommendations for changes to the PVE Guidelines will be addressed as each section of the Codes and Guidelines are discussed.

Table 1

Comparison of Codes/Guideline Sections

Code Headings	CRCC Code[a]	PVE Guidelines[b]	CVE-Maintenance Mode[c]
Preamble, Ethical Principles	Yes	No section addresses this	Yes
The Counseling Relationship	Yes	Yes—Evaluator-Client Relationships	Yes
Confidentiality, Privileged Communication, & Privacy	Yes	Yes—Confidentiality only	Yes—Confidentiality only
Advocacy & Accessibility	Yes	No section addresses this	No section addresses this
Professional Responsibility	Yes	Yes—Evaluator Responsibility & Competence	Yes—Professional Responsibility & Competence
Relationships with Other Professionals	Yes	Evaluator Relationships	Yes
Forensic & Indirect Services	Yes	Yes—Forensic Applications	Yes—Forensic Applications
Evaluation, Assessment, & Interpretation	Yes	Yes	Yes
Teaching, Supervision, & Training	Yes	No section addresses this	No section addresses this
Research & Publication	Yes	Yes	Yes
Technology & Distance Counseling	Yes	No section addresses this	No section addresses this

Business Practices	Yes	Yes	Yes
Resolving Ethical Issues	Yes	Resolution of Ethical Dilemmas	No section addresses this

Note. [a] (CRCC, 2009a). [b] (RPVE, 2011). [c] (CRCC, 2009b).

A comparison of the 2010 CRCC Code of Ethics (CRCC, 2009a) and the current 2011 PVE Guidelines (RPVE, 2011) show some stark differences. The 2010 CRCC Code (2009a) includes a Preamble that states that CRCs must provide services within their scope of practice and that the primary obligation is to clients. Within the preamble is a paragraph that discusses the basic objectives of the code, which is to promote public welfare, establish ethical principles, serve as an ethical guide, and serve as a guide for Code violations by CRCs.

Specific standards of practice are described as ethical principles. Kitchener, in his 1984 work, discussed applying ethical principles to the field of counseling psychology. Those principles include autonomy (respect client choice), beneficence (promote client well-being), fidelity (keep stated and implied promises), non-maleficence (do no harm), and justice (treat clients fairly) (Cottone & Tarvydas, 2007; Kitchener, 1984). The CRCC Code includes the aforementioned ethical principles and adds veracity (honesty) (CRCC 2009a).

In looking at the 2011 PVE Guidelines (RPVE), the only introduction is a statement of the objectives of the guidelines. The existing CVE Code of Ethics (CRCC, 2009b) includes a preamble and the first five ethical principles outlined above.

The counseling relationship. In the CRCC Code (2009a), Section A: The Counseling Relationship covered Welfare of Those Served by Rehabilitation Counselors, Respecting Diversity, Client Rights in the Counseling Relationship, Avoiding Harm and Value Imposition, Roles and Relationships with Clients, Multiple Clients, Group Work, Termination and Referral, and End-of-Life Care for Terminally Ill Clients. The PVE Guidelines (RPVE, 2011) address Evaluator-Client Relationships, including respect for clients and avoiding discrimination, state that the primary obligation is to clients, that dual relationships should be avoided, and that evaluators should practice universal design to ensure accurate evaluation results. These statements provide very little specific information about their meaning. Within the PVE Guidelines, Multicultural Issues/Diversity in Evaluations Issues and Informed Consent—Explanation to Clients are addressed under Interpretation of Evaluation Information. PVEs focus on administration and interpretation of test results based on cultural norms and must explain the purpose of the evaluation. The Evaluator-Client Relationships section of the PVE Guidelines (RPVE, 2011) could benefit from enhanced discussion around disclosure, diversity, and specifics about dual relationships with clients, group evaluations, and testing. The CVE Code of Ethics (CRCC, 2009b) has a more extensive section on Professional-Client Relationships and includes discussions on boundaries of services, client choice, sexual relationships, communication of information, and universal design, just to name a few of the enforceable standards of practice.

Confidentiality. Both the CRCC Code (2009a) and the PVE Guidelines (RPVE, 2011) address Confidentiality. The CRCC Code (2009a) Section B contains more specific information

in the following subsections: Respecting Client Rights, Exceptions, Information Shared with Others, Groups and Families, Responsibilities to Minors or Clients Lacking Capacity to Consent, Records, and Consultation. In the PVE Guidelines (RPVE, 2011), under Confidentiality there are four statements that address disclosure, client privacy, and cultural and developmental boundaries, as well as a sentence on obtaining consent for electronic communication. Further, under Business Practices, the PVE Guidelines discuss "confidentiality in creating, storing, accessing, transferring, and disposing of case records in all media" (RPVE, 2011, p. 6). Much more information could be provided to PVEs regarding the handling and storage of records, sharing of information, legal exceptions, working with minors, informed consent, and privacy, which are areas included in the CVE Code (CRCC, 2009b).

Advocacy and accessibility. Advocacy and Accessibility are addressed in Section C of the CRCC Code of Ethics (2009a). Additional information under Advocacy includes addressing Attitudinal Barriers, and under Accessibility, issues of accommodations and Barriers to Access are addressed. The PVE Guidelines (RPVE, 2011) do not include a specific area on these issues, except in the first section on Evaluator-Client Relationships that mentions practicing universal design and using techniques that are accessible to different individuals in order to produce accurate evaluation results. This is an area ripe for additional information for evaluators who hold the PVE credential. The Thirtieth Institute on Rehabilitation Issues (2003) discussed advocacy and accessibility. Vocational evaluators discussed the impact consumer advocacy groups have had on pushing for expedited services from rehabilitation service providers, which includes vocational evaluators. Further, the Thirtieth Institute on Rehabilitation Issues discussed that vocational evaluators provide direct consumer services such as encouraging consumers' self-determination and advocacy. This advocacy often requires the support of the consumer's counselor. Additionally, vocational evaluators have advocated for more realistic work and community based assessment practices. As previously mentioned, universal design for learning has had an impact on vocational evaluation. Universal design for learning is focused on creating "environments and tools that are usable by as many people as possible" (Center for Applied Special Technology [CAST], 2011, p. 3).

Additionally, the Thirtieth Institute on Rehabilitation Issues (2003) discussed accessibility of the evaluation site, the print materials provided to consumers, and using accessible Web development standards (Architectural and Transportation Barriers Compliance Board Electronic and Information Technology Accessibility Standards, 2000). The CVE Code of Ethics (CRCC, 2009b) also does not include a specific section on advocacy and accessibility.

Professional responsibility. Professional Responsibility section D of the 2010 CRCC Code (2009a) deals with Professional Competence, Cultural Competence/Diversity, Functional Competence, Professional Credentials, Responsibility to the Public and Other Professionals, and Scientific Bases for Interventions. The PVE Guidelines (RPVE, 2011) have statements addressing open, accurate, and honest communication, boundaries of personal and professional competence, consultation from legal statutes, codes of professional conduct, and consultation with others as appropriate. Beyond addressing those issues in statements, this area would benefit from more specifics, such as those addressed in the CVE Code (CRCC, 2009b), including continuing education and PVE credentials, diversity competence, impairment, issues of veracity, and use of techniques and assessment instruments that have an empirical foundation.

Relationships with other professionals. The 2010 CRCC Code (2009a) Section E addresses Relationships with Other Professionals. Within that section of the code are Relationships with Colleagues, Employers, and Employees, Consultation, and Agency and Team Relationships. While the PVE Guidelines (RPVE, 2011) do have an area on Evaluator Relationships, there are only two sentences addressing this topic, discussing collaborative relationships and respect for other professionals by acting with integrity. This section of the PVE Guidelines (RPVE, 2011) is in need of further development since vocational evaluators, by the nature of their positions, frequently engage with other professionals, many of whom are not vocational evaluators. The CVE Code (CRCC, 2009b) addresses this topic in its Section E Professional Relationships and touches on many issues regarding involvement with other professionals.

Forensic and indirect services. The CRCC Code (2009a) Section F addresses Forensic and Indirect Services. Within this section Client or Evaluee Rights, information on forensic competency and conduct, Forensic Practices, and Forensic Business Practices are discussed. Forensic Applications can also be found in the PVE Guidelines (RPVE, 2011). The PVE Guidelines in the area of Forensic Applications have two rather lengthy statements. The first sentence discusses the importance of following all applicable rules, regulations, policies, standards of practices, and codes set forth by other organizations. The second sentence discusses practicing within the professional's boundaries of competence. The field of forensic rehabilitation has been expanding in recent year and the PVE Guidelines would serve its certificantes better by a much more expanded forensic section. The CVE Code (CRCC, 2009b) has Section I, which addresses Forensic Applications in a comprehensive manner, and could be used as a guide for this revision.

Evaluation, assessment, and interpretation. Both the CRCC Code (2009a) Section G and the CVE Code (CRCC, 2009b) Section D have specific sections on Evaluation, Assessment, and Interpretation. For the PVE Guidelines (RPVE, 2011), the section on Interpretation of Evaluation Information is the most comprehensive area in the PVE Guidelines (RPVE, 2011). All of the Codes (CRCC, 2009a, 2009b) and Guidelines (RPVE, 2011) discuss informed consent, with CRCC (2009a) addressing this in G.1, the PVE Guidelines (RPVE, 2011) in Interpretation of Evaluation Information, and the CVE Code (2009b) addressing this in D.2. Competence to use and interpret tests, conditions of administration, and test selection show up in all the codes (CRCC, 2009a, 2009b; RPVE, 2011). For CRCC (2009a), the areas are sections on Informed Consent, Release of Information to Competent Professionals, Proper Diagnosis of Mental Disorders, Competence to Use and Interpret Tests, Test Selection, Conditions of Test Administration, Test Scoring and Interpretation, and Assessment Considerations. In the PVE Guidelines (RPVE, 2011), the subheadings in this area include Multiple Techniques, Informed Consent-Explanation to Clients, and Interpretation and Release of Information, which includes information on the Client's Right to Know, Written Release of Information, and Release of Raw Data. Additionally, this subsection of the PVE Guidelines discusses Competence: Use, Selection and Security of Information, which consists of Limits of Competence, Appropriate Use, Accurate Information, Appropriateness of Instruments, Norm Divergence, and Security. This section of the PVE Guidelines (RPVE, 2011) also addresses Conditions of Administration with the subcategories of Administration Conditions, Computer Administration, Unsupervised Test-Taking, and Access to Evaluation Techniques. These areas are also addressed in the CVE

(CRCC, 2009b). The PVE Guidelines (RPVE, 2011) address Multicultural Issues/Diversity in Evaluations and contain sections on test norming, culturally diverse populations, and diversity in assessment techniques. The section on Scoring and Interpretation of Evaluation Results includes an area on Reporting Limitations and Reporting Techniques and Procedures. As would be expected, this is most comprehensive section of the PVE Guidelines (RPVE, 2011) and does cover multiple issues in testing and evaluation. Multicultural Issues/Diversity in Assessment is also covered in the CVE (CRCC, 2009b).

Teaching, supervision, and training. Teaching, Supervision, and Training are Section H of the CRCC Code (2009a). Within this section are areas that include Rehabilitation Counselor Supervision and Client Welfare, Rehabilitation Counselor Supervision Competence, Roles and Relationships with Supervisees and Trainees, Rehabilitation Counselor Supervisor Responsibilities, Rehabilitation Counselor Supervisor Evaluation, Remediation, Endorsement, Responsibilities of Rehabilitation Counselor Educators, Student Welfare, and Cultural Diversity Competence in Rehabilitation Counselor Education Programs and Training Programs. Neither the CVE Code (CRCC, 2009b) nor the PVE Guidelines (RPVE, 2011) addresses this topic. Considering that many educators teach in vocational evaluation or rehabilitation and counselor education programs, as well as supervise employees or students, this is a section that is needed for both current PVEs and those entering the field with the PVE credential. Further, in Hamilton and Shumate's (2005) role and function survey, seven percent of the CVEs who responded worked in university or college settings.

Research and publication. Section I of the CRCC Code (2009a) is about Research and Publication. Topics in this section include Research Responsibilities, Informed Consent and Disclosure, Reporting Results, Publication and Presentations, and Confidentiality. The PVE Guidelines (RPVE, 2011) have a section called Research and Publication, recommending vocational evaluators participate in and be supportive of research and follow appropriate research protocol. Since some PVEs do research and publish in books and peer reviewed journals, this topic deserves more attention in order to provide appropriate guidance in this area. The CVE Code (CRCC, 2009b) has a Section F on Research and Publication, which provides content that could be added to the PVE Guidelines. For example, the PVE Guidelines could discuss the use of an appropriate research methodology, recognition of contributors to the research, veracity in the reporting of research findings, submission, and the peer review process.

Technology and distance counseling. Section J, which deals with Technology and Distance Counseling, was expanded in the 2010 CRCC Code (2009a). This section is not in the current PVE Guidelines (RPVE, 2011) and is referenced in the 2009 CVE Code (CRCC) under Section B: Confidentiality. The focus in this section is on protecting confidentiality of records and Limitations of Electronic Communication. Under the subheading "Limits of Competence" in Section D 5: Competence to Use and Interpret Assessment Instruments, technology assisted test interpretation is discussed. As previously stated, the CVE Code (CRCC, 2009b) will not be revised since the credential is in maintenance mode, for current CVEs (RPVE, n.d.). Technology is expanding rapidly and changes in this area will continue. Vocational evaluators need to stay abreast of technology, including technology-assisted assessments. As paper and pencil tests are replaced with computer evaluations and online assessments, issues of accessibility, confidentiality, and security become important. PVEs are strongly encouraged to include

technology in future revisions of their PVE Guidelines. The CVE Code (CRCC, 2009b) Section B: Confidentiality and Section D.5.a. Limits to Confidentiality can be used as a starting point to update the PVE Guidelines. Consideration could also be given to adding many of the sections the CRCC code (2009a) addresses. Those areas include Behavior and Identification; Accessibility; Confidentiality, Informed Consent, and Security; Technology-Assisted Assessment; Consultation Groups; Records, Data Storage, and Disposal; Legal; Advertising; Research and Publication; Rehabilitation Counselor Unavailability, which could be revised and renamed vocational evaluator unavailability; Distance Counseling Credential Disclosure, Distance Counseling Relationships; Distance Counseling Security and Business Practices; Distance Group Counseling; and Teaching, Supervision, and Training at a Distance. While all of these subsections may not be appropriate for vocational evaluators, many of the subsections should be incorporated into the guidelines for vocational evaluators in today's technologically advanced world. The Thirtieth Institute on Rehabilitation Issues (2003) reported that technology is now used by vocational evaluators to perform such routine tasks such as research, computer based assessments, and video conferencing.

Business practices. Both the PVE Guidelines (RPVE, 2011) and the CVE Code (CRCC, 2009b) along with the CRCC Code (2009a), address the topic of Business Practices. In the CRCC Code, Section K deals with Business Practices and includes subsections Advertising and Soliciting Clients; Client Records; Fees, Bartering, and Billing; and Termination. The CVE Code (CRCC, 2009b) addresses many of these same topics. The PVE Guidelines (RPVE, 2011) under the topic of Business Practices has significantly less information. Much more information should be given to PVEs in addressing business practices. Although having Business Practices in the PVE Guidelines is a good start, the topic of business practices still needs much more development in the guideline in order to assist the Professional Vocational Evaluator.

Ethical issues. The last section of the CRCC Code (2009a), Section L, is Resolving Ethical Issues. The CRCC Code has a number of subsections including Knowledge of CRCC Standards, Application of Standards, Suspected Violations, Cooperation with Ethics Committee, and Unfair Discrimination Against Complainants and Respondents. The PVE Guidelines (RPVE, 2011) have an area titled Resolution of Ethical Dilemmas. This section deals with behavior and incorporation of ethical practice in work, learning and understanding the code of professional conduct and specific standards of practice where the PVE works, and striving to resolve ethical dilemmas, as well as seeking consultation. The resolution of ethical issues is important to professionals. Professional Vocational Evaluators need to understand how to resolve ethical issues and what the process should be in resolving dilemmas. The PVE Registry needs to clarify how their guidelines for PVE professionals are enforced and if there is a grievance process for their Guidelines. More specifics are needed in this area to help PVEs resolve ethical conflicts. The CVE Code (CRCC, 2009b) addresses this topic somewhat in Section E: Professional Relationships. The focus on this section is on resolving ethical conflicts between professionals as opposed to client reported conflicts.

Recommendations

Ideally, a code should be a living document that establishes ethical practices for its certificantes. This article has provided a brief review of the history and evolution of credentialing

of vocational evaluators. It has compared the existing code sections of the current codes in effect for Certified Rehabilitation Counselors, Certified Vocational Evaluators, and Professional Vocational Evaluators.

One of the hallmarks of a profession is regulation of professional credentialing. Standards for a profession need to include education, experience, and knowledge competencies (Leahy, 2012). Members of vocational evaluation organizations came together at a difficult time in the profession's history to develop a registry, the RPVE, and credential, the PVE, to maintain a level of recognized proficiency for current vocational evaluators and those entering the vocational evaluation profession (RPVE, 2011). The RPVE created guidelines for PVEs that became effective in 2011 and that state within the body of their guidelines that "the objectives of the guidelines for professional conduct are to provide a structure for professional behavior and responsibilities for Professional Vocational Evaluators and to provide a standard for self-improvement and acceptable ethical conduct" (RPVE, 2011, p. 2). While this effort was needed due to the CVE credential ending and being continued only in maintenance mode for current certification holders (RPVE, n.d.), the PVE Guidelines should be a beginning effort, as a living document, to provide guidance to PVEs.

Now five years after the PVE Guidelines (RPVE, 2011) became effective, consideration should be given to move those guidelines into a comprehensive code of ethics. The Registry of PVE, VECAP, and VEWAA leadership must come together to embark on another role and function study of those working as vocational evaluators since the last study was published in 2005 (Hamilton & Shumate). These leaders may want to offer an incentive to a graduate student to accomplish this task, similar to the incentive VECAP is offering a graduate student to complete a systematic review of service delivery outcomes from receipt of vocational evaluation and career assessment services (Castiglione, 2016, September 21). Once this is accomplished and the voices of vocational evaluators are heard, development of a specific ethical code needs to be undertaken. Current sections must be revised and expanded to provide truly the ethical guidance needed for PVEs. As previously indicated, some recommended changes were discussed earlier in the comparison of the CRCC Code to the CVE Code and PVE Guidelines.

Needless to say, the relationship a vocational evaluator has with a client may be quite different from the relationship a rehabilitation counselor has with a client, unless the vocational evaluator is serving in a dual role of rehabilitation counselor and vocational evaluator. The suggested changes to the PVE Guidelines should be considered in light of these differences, the most significant difference being the length of the relationship a vocational evaluator has with the client versus a rehabilitation counselor. Thus, do the PVE Guidelines need to incorporate both roles or just the role of a vocational evaluator, since most rehabilitation counselors are also licensed and may have counseling credentials such as the CRC, which provides ethical guidelines for their counseling practice? Future PVE Guideline revisions could focus on the most essential areas discussed. Further, with many companies moving to online testing, the addition of guidelines for online test administration should be added to the PVE Guidelines. Also, with the decrease in available vocational evaluators and financial resources, agencies may need to have vocational evaluations handled online rather than face-to-face. Other areas currently missing, such as use of technology in evaluation, need to be developed. Computer technology is rapidly changing and shows signs of increased use in vocational evaluation. Virtual Reality applications

are a reality today and have application to this field (Berven & Drout, 2012). PVEs need specific ethical guidance, as well adherence to as ethical principles, to provide best practice in today's complex work environments. There also must be mechanisms that allow for grievances by consumers of VE services, as well as an appeals process for grievance procedure outcomes. Sanctions for ethical code violations should be clear to both practitioners and the public.

One suggestion is to combine initially the CVE Code with the PVE Guidelines as a starting point. For example, the reviewers would need to carefully compare Section D: Evaluation, Assessment, and Interpretation of the CVE Code (CRCC, 2009b) with the Interpretation of Evaluation Information section of the PVE Guidelines (RPVE, 2011) as there is overlap in these sections, but some differences. For example, the CVE Code (CRCC, 2009b) has specific headings titled Validity and Reliability, Automated Testing Services, Obsolete Tests and Outdated Test Results, and Assessment Construction. These topics were not found in the PVE Guidelines. Further, under Limits of Competence, technology-assisted test interpretation was not discussed. The Research and Publications section of the PVE Guidelines (RPVE, 2011) also did not include information on disguising data presented in presentations or publications and on making decisions based on test results. Additionally, prior Codes should be reviewed to pull the best information from all codes that have been used by vocational evaluators to create the best PVE Guideline revision possible.

A schedule for periodic review and updating of the code needs to be developed next. Ethics credit hours must be built into professional development requirements for re-certification. To do less is to shortchange professional vocational evaluators and the clients they serve, as well as not move the profession forward, a profession with a lengthy history of much needed service. Yes, these are challenging times and professionals, especially volunteers, are very busy people. However, service to one's profession should be considered an ethical obligation to maintaining one's profession now and into the future.

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Martha H Chapin, PhD, LPC, CRC, CDMS, NCC, is a professor and director of the Rehabilitation Services Program at East Carolina University in the Department of Addictions and Rehabilitation Studies. She has experience in private for-profit and state federal rehabilitation. Her research interests include employment for persons with spinal cord injuries and assessing how positive psychology techniques may be useful to facilitate employment of people with disabilities.

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Interview of Dr. Stephen W. Thomas

Who is the intended audience for this book?

The book is designed for people who have an interest in engaging in vocational evaluation. This is what you might call an introductory text for students, but I also think it's intended for people who are going to be evaluators who really weren't trained in that area.

In this book, you describe vocational evaluation and how it contributes to successful employment outcomes for clients. You also explain the professional role of evaluators, and effective tools and techniques for practice. What was the driving force behind writing this book?

There just wasn't what I would call a definitive text for an introductory course in vocational evaluation out there. I can't think of any other source where you can go to look this stuff up. There are a lot of rehabilitation evaluation books, but nothing for vocational evaluation. So I think that's a good reason for this book to be developed and marketed.

As an expert in the field of vocational evaluation, where do you see the profession headed and what tool or technique would you like to see emphasized in the future?

The market (for vocational evaluation) is still very much alive, well, and needed. I think functional assessment is going to play a very important role because you can involve family members, teachers, counselors, or other individuals who have actually seen the (client) perform things. As evaluators, observing behavior is such a big part of what we do and you can't always give someone a psychometric test and definitively say, "The behavior I saw there is going to be consistent with what would happen in a work environment." Psychometric testing is important, but getting really good behavioral information can be a longer-term process. If you're going to work with people with severe disabilities and make recommendations that maximize their potential, functional assessment is something to consider.

What advice do you have for individuals beginning a new career in vocational evaluation?

I would recommend that they join a professional organization like VECAP or VEWAA, of which Dr. Sligar and I have been members.

And you would also recommend that they read this book?

Yes, that's right.

Interviewer Note: Matthew L. McClanahan, MEd, CRC, has worked as a vocational rehabilitation counselor and as a journalist. He is currently enrolled in the Rehabilitation Counseling and Administration PhD program at East Carolina University.

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Author Biography: Dr. Stephen W. Thomas

Dean Emeritus

ECU College of Allied Health Sciences

At his retirement on October 31, 2014, Thomas was bestowed the title of the first Dean Emeritus at East Carolina University (ECU) by Chancellor Steve Ballard. On July 1, 2003, he became dean of the ECU College of Allied Health Sciences in the Division of Health Sciences. He also served as the interim dean of the College beginning April 16, 2001. Prior to his interim dean position, Thomas was department chair, professor, and a vocational evaluation graduate program director within the Department of Addictions and Rehabilitation Studies at ECU. Prior to his arrival at ECU in 1980, he directed the vocational evaluation graduate program in the Department of Rehabilitation at the University of Arizona, served as a development specialist and instructor in the Materials Development Center, Stout Vocational Rehabilitation Institute at the University of Wisconsin–Stout, and as a vocational evaluator in the rehabilitation center at the University of Texas Medical Branch in Galveston, beginning in 1970.

Within his profession, Thomas has served as president of both the Arizona and North Carolina Vocational Evaluation and Work Adjustment Associations (VEWAA) and of the national VEWAA. He is also the recipient of the Paul R. Hoffman award from VEWAA. In addition, Thomas served as the chair of the Commission on Certification of Work Adjustment and Vocational Evaluation Specialists.

A Houston, Texas native, he graduated with a bachelor's degree in psychology and sociology from Texas Christian University, and master's and doctoral degrees in rehabilitation from the University of Arizona. He and his wife, Melodie, have two married daughters (Darby and Morgan), identical twin granddaughters, a grandson, and a granddaughter.

May 2015

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The following text by Dr. Stephen Thomas is an authorized reprint of *Vocational Evaluation and Assessment: Philosophy and Practice* presented as published in 1997.

Vocational Evaluation and Assessment: Philosophy and Practice

CHAPTER FOUR

Research in Support of Vocational Evaluation

Introduction

Vocational evaluation plays a critically important role in the successful delivery of vocational rehabilitation, transition, and welfare-to-work services to individuals with disabilities and other barriers to employment. Three key areas of research related to service effectiveness support this premise. The three areas include: (a) putting tests, vocational evaluation, and validity into proper perspective; (b) research supporting the effectiveness of vocational evaluation services; and, (c) the impact of education and certification on vocational evaluator competence and the quality of service delivery. Validating vocational evaluation has taken on greater importance in an era of increasing demands for accountability. When programs and services are unable to demonstrate their effectiveness, their continuation is questioned. This chapter will explore selected research on follow-up and program evaluation studies that have generated outcome information critical to supporting the value of vocational evaluation services.

Vocational evaluation has been criticized for lacking validation research that proves its worth (Thomas, Hiltenbrand, & Tibbs, 1997). Research on its effectiveness has been mixed. There are studies that show little if any relationship between evaluation and employment outcome (Caston & Watson, 1990; D. W. Cook, 1978; D. W. Cook & Brookings, 1980; J. Cook & Razzano, 1994; Cresap, 1987; Ferrin, 1991; Kosciulek, 1991; Kosciulek, Prozonic, & Bell, 1995). However, a review of the literature reveals a wider range of studies that demonstrate the value of vocational evaluation to consumers of vocational rehabilitation agencies, school-to-work transition programs, employment training programs, and welfare-to-work programs. Unfortunately, critics of evaluation services have not focused on the variety of studies supporting its effectiveness, and practicing evaluators must see to it that uninformed skeptics become familiar with this research.

Conditions for Outcome Studies

A recognized approach to validating vocational evaluation services is through the process of participant follow-up and program evaluation. Outcome data collected through follow-up of consumers can continuously facilitate three activities: (a) determine the value of a service; (b) provide direction for improving a service; and, (c) guide and support marketing of a service. Refer to the final chapter on program evaluation for further detail on the collection and use of outcome data. There are several important conditions that must be met when conducting a valid outcome study.

Condition 1. The overall validity of vocational evaluation must be looked at globally and not as it relates to individual instruments and techniques. The success of vocational evaluation is

not predicated on the validity of any one instrument but on the collective validity of an aggregate of scores and information from a variety of sources. As a result, the most tangible evaluation variables that can be used to determine the success of the service are the recommendations contained in the report (Peters, Scalia, & Fried, 1993). These can be compared to information in a rehabilitation or transition plan as well as to various training or employment outcomes.

Condition 2. Studies must look at both positive and negative outcome information. It is not enough to determine if recommendations for employment or training do, in fact, lead to success. Studies must also ascertain what happens in cases where placement is not tied to recommendations (i.e., when recommendations are not followed). Comparisons of placement success for referral sources prior to and following the availability of vocational evaluation services, or placement success with and without vocational evaluation, would also be useful measures of its effectiveness. A pre-evaluation, or no evaluation, baseline is needed to determine if vocational evaluation is, in fact, contributing to success. Evaluators must also examine the interaction between the recommendation and the outcome through what are known as false positives and false negatives. A false positive occurs when a recommendation is made for placement in a job or training that is not appropriate and will not result in success (i.e., a positive recommendation is falsely made). When failure occurs, the consumer loses confidence in self, the employer or teacher loses confidence in the referral/placement source, and the referral/placement source loses confidence in the evaluation process. With false negatives, the evaluator recommends against placement in a particular job or training that the consumer is capable of performing successfully (i.e., opportunity for success is lost). It is this false negative decision that creates litigation over testing—when individuals are screened out of jobs or training for which they have the ability. A goal of good outcome research is to minimize the problems associated with making false positive and false negative recommendations.

Condition 3. Outcome studies must look at how extensively report recommendations were used in planning, and if implementation of the plan led to success. Simply comparing outcome (successful or unsuccessful placement) to whether an evaluation was given will provide meaningful information, but it fails to consider the intent and substance of the report recommendations. Some evaluation reports may not recommend employment or training due to the complex nature of the disability and the critical need to address other personal and environmental barriers first. Another problem affecting outcome is the failure of the referral source to use adequately the report recommendations in planning, and to follow through with the plan as developed (Brown, McDaniel, & King, 1995; Gustin & Petterssen, 1978; Kosciulek et al., 1995). In this case, success is contingent upon the willingness, competence, and motivation of the referral source to see to it that the plan is followed as written. In some situations, a lack of resources will also affect adherence to a plan.

Condition 4. Outcome studies must be based on the criteria a referring agency uses for successful closure (e.g., continuous employment for 90 days). Although agency closure criteria should be considered the minimum, follow-up with individuals at least one year after placement could substantiate the lasting benefits of evaluation services.

Condition 5. Follow-up should also determine the impact of evaluation results on quality of life and satisfaction as seen by the consumer, family, friends, teacher, employer, co-workers,

referral source, and other service providers. Improvement in employment factors such as job satisfaction, salary or wage earned, employment benefits, or in lifestyle factors such as living arrangements, transportation, community access, and personal/social networks, can also serve as useful quality of life indicators. This process goes beyond the objective data generated through a typical program evaluation to include more subjective but personally meaningful outcomes acquired through quality assurance studies.

There are two additional problems that affect the accuracy of outcome studies, which rely on follow-up. The first problem relates to when, in the rehabilitation or transition process, the vocational evaluation occurs (e.g., near the beginning or the end of service delivery). Evaluations offered early in a rehabilitation or transition process may relate better to service planning than those offered near the end of the process that can more definitively address placement. Follow-up should consider the types of recommendations made (planning for services or placement) in relation to when the evaluation was provided in the overall process. The second problem unduly affecting outcome is the competence of other providers and the quality of their services in meeting the needs of the consumer and referral source as specified in the plan. For example, if an evaluation recommendation and a rehabilitation plan address a particular need for work adjustment, then the success of adjustment services (and the overall rehabilitation plan) is contingent upon the delivery of appropriate and effective services by competent and caring staff. If these problems can be minimized and all five conditions met, then outcome studies can more accurately determine the effectiveness of vocational evaluation.

Tests, Vocational Evaluation, and Validity in Perspective

One long-standing criticism of vocational evaluation is its reliance on standardized tests that generally have only fair predictive validity. In addition, untrained evaluators may either place too much reliance on test scores or reject tests altogether as having no value in vocational decision-making. Kates and Chan (1993) provided a review of the controversy over the use of the General Aptitude Test Battery (GATB), one of the most widely researched and well normed multi-aptitude test batteries available today. In their discussion of validity, they indicated that earlier predictive validity studies based on supervisor ratings averaged .50 or higher.

The *Coefficient of Determination* (computed by squaring the validity coefficient) can be used to estimate the percentage of variance accounted for by the instrument in prediction. When the validity coefficient of .50 is squared, it reveals that only 25% of the variance was accounted for by the GATB in predicting supervisor ratings. If an evaluator using the GATB wanted to be correct even most of the time (51%), then another 26% of the variance that was not accounted for through the test battery must be identified. If an evaluator wanted to account for 75% of the variance in making an employment recommendation, where can the missing 50% of the variance be found?

In most cases, the missing variance (or information) needed to make a more accurate decision could be acquired through file review, interviewing, behavioral observation, additional testing, and the use of work samples, situational assessment, and community-based assessment. Given the complex nature of both jobs and human beings, information from standardized tests such as the GATB will never be able to predict perfectly. Therefore, test results must be

supplemented with information on education, work history, support systems, motivation, readiness to work, interests and work values, accommodation needs, and disability and cultural issues, to name a few. These pieces of information help fill in the unaccounted variance, and improve the overall ability to make a more accurate employment prediction, beyond that made through the use of one or two test scores alone. Kates and Chan (1993, p. 92) stated, "In the evaluation (counseling) context, the GATB is not used for job placement or as the sole indicator of an individual's potential performance." In a study of the GATB made by the Committee of the National Research Council, they "pointed out the limitations and dangers of using any test as the single determining factor for any type of recommendation" (Kates & Chan, 1993, p. 93).

Instruments and techniques used in vocational evaluation and assessment, in and of themselves, have limited predictive validity. However, when used collectively by a trained evaluator, they account for greater variance and increase the accuracy of decision-making. It is difficult to say how much of the variance is accounted for by these more subjective techniques, and this is where the competence and skill of a qualified vocational evaluator becomes an essential ingredient in their appropriate administration and weighted interpretation. Test validity is critically important and should not be overlooked. Even if the test accounts for a small percentage of the variance (e.g., 16%), it is useful in the comprehensive decision-making process and should not be omitted; it is a good foundation on which to build, and would not have been available had the test not been given. However, vocational evaluation cannot be judged on the validity of a test alone. Subjective factors that go into making accurate decisions must be considered and included if research is to weigh appropriately the value of vocational evaluation services. This is where outcome measures available through program evaluation and quality assurance can account for the missing variance and better ascertain the overall success of evaluation and assessment.

Selected Outcome Studies that Support Vocational Evaluation

Although research on the effectiveness of vocational evaluation is relatively limited, the following studies support the utility of evaluation as a successful planning and placement tool with different populations in a variety of settings. Studies conducted as early as 1958 found vocational evaluation to be effective in successfully recommending appropriate training and job placement (Miller, 1958; Rosenberg & Usdane, 1963). However, for the sake of brevity, more recent studies will be reviewed that relate to current practice in three different settings: rehabilitation, school-to-work transition, and welfare and employment programs.

Rehabilitation Programs. Hallenbeck and Campbell (1975) conducted a follow-up study of 200 vocational rehabilitation clients who had received a four-to-six week vocational evaluation at Vocational Guidance and Rehabilitation Services (VGRS) in Cleveland, Ohio. Follow-up by mail or phone was conducted with individuals four months to one year after completion of the evaluation to compare five different categories of recommendations made in the report to outcome. Results indicated that, "70.5% of the evaluators predictions were on target, 16% were over-estimates and 13.5% were under-estimates. The rate of correct predictions was comparable with (Miller, 1958) study of 74% accuracy, and slightly lower than the 85% accuracy of the Rosenberg and Usdane TOWER study (1963)" (Hallenbeck & Campbell, 1975, p. 26).

Williams (1975) conducted a follow-up study to examine the relationship between evaluator recommendations and placement. Follow-up was conducted on 56 vocational rehabilitation clients evaluated between August 1974 and July 1975, by the Vocational Development Center in Menomonie, Wisconsin. Client status/outcome at time of follow-up was compared to report recommendations to determine correspondence. Findings revealed that in the 68% of the cases where recommendations were followed, 92% of the clients were successfully placed. In the 32% of the cases where recommendations were not followed, only 28% of the clients were successfully placed. The study also cited counselors' reasons why recommendations were helpful or were not followed.

Ward-Ross (1985) reviewed the vocational evaluation reports and Individualized Written Rehabilitation Programs (IWRPs) of 56 closed cases of the North Carolina Division of Vocational Rehabilitation Services, to determine the extent to which counselors used the reports in the planning process. Cases were randomly chosen from a group of vocational evaluations completed in three different evaluation settings during a three-month period in 1982: vocational rehabilitation agency offices, regional rehabilitation hospitals, and rehabilitation facilities. The degree of recommendation utilization in planning was compared to closure status to determine if there was a relationship. The study found that recommendations were followed in 82% of the cases, which is significant beyond the .001 level. In addition, there was an 83% successful closure rate when recommendations were *followed*, a 67% success rate when recommendations were *followed somewhat*, and a 50% success rate when recommendations were *not followed*. There was no significant difference in the level of success and the setting in which the vocational evaluation was conducted.

Marut and Bullis (1985) conducted a study on the relationship between evaluation recommendations and outcomes of individuals who are deaf. Three questions were investigated, one of which related to the percent of evaluation recommendations followed and employment outcome. Report recommendations of 182 individuals who were evaluated at the Southwest Center for the Hearing Impaired in Texas and the Arkansas School for the Deaf were compared to employment status over one year after completing vocational evaluation. Whether an individual was employed or unemployed was compared to the percent of vocational evaluation recommendations followed (50% or less, 75% or more). It was found that when 50% or fewer of the recommendations were followed only 16.6% of the sample was employed. When 75% or more of the recommendations were followed, 83.3% of the sample was employed. Although the types of recommendations had little congruence with employment outcome, the authors concluded, "that as the percentage of VE recommendations that are followed increases, the relationship between VE recommendations and employment outcomes improves in a statistically significant manner. In other words, the closer the VE report is followed in the habilitation/rehabilitation process, the more likely it is that correct decisions regarding the subjects' employment will be made" (Marut & Bullis, 1985, p. 69).

Kosciulek (1991) conducted a study of the relationship between vocational evaluation recommendations and rehabilitation outcomes for 25 individuals with traumatic brain injuries. Follow-up contact was made at least six months after completion of the evaluation to determine employment status. This was compared to two categories: Category 1, 49% or less of the evaluation recommendations followed; and, Category 2, more than 49% of the recommendations

followed. Using the 2 x 2 chi-square statistic, he found that Category 1 placements were successful 4% of the time, and Category 2 placements were successful 68% of the time ($p < .01$). The more evaluation recommendations were used in planning, the more successful the job placement. Report recommendations in this study were also assigned to one of three different categories: counseling/work adjustment, training (vocational or academic), or job placement. Little direct relationship was found between the type of recommendation and employment outcome. The study suggests that success was not the result of the type of service recommended, but whether most recommendations were followed in the subsequent rehabilitation plan.

Dean, Bond, and Lewis (1991) examined the predictive validity of the McCarron-Dial Work Evaluation System with individuals with multiple disabilities. In a study of 62 vocational evaluation clients in a southern Illinois rehabilitation facility, it was found that the system had a multiple regression correlation of .73 ($p < .0001$) when compared to subjects' 60-day vocational placement level. They also found that when vocational evaluators used other assessment instruments and techniques with this population that the simple regression correlation was .77 ($p < .0001$) between the predicted placement level and actual 60-day vocational placement outcome. The study concluded that the McCarron-Dial correlated well with predictions made by evaluators using a variety of other instruments, and between predicted and actual vocational outcomes. It was also found that the "vocational prediction level relationship to actual 60-day vocational level is less consistent for clients having multiple disabilities and for clients with no competitive work history than it is with clients with no more than one severe disability and for clients with a competitive work history" (Dean et al., 1991, p. 315). Chan, Lynch, Dial, Wong, and Kates (1993) reviewed additional studies that supported the predictive validity of the McCarron-Dial System with placement levels and vocational competency. Research into the predictive validity of commercial work samples (i.e., seven Philadelphia Jewish Employment and Vocational Services [JEVS] work samples) has demonstrated a significant relationship between the level of performance, and successful and unsuccessful employment (Berven & Maki, 1979).

Peters et al. (1993) conducted a follow-up study of 116 individuals with a variety of disabilities. They were referred by public-non-profit and private-for-profit rehabilitation agencies in Wyoming and Colorado, for comprehensive vocational evaluations at the Rehabilitation Services Clinic, University of Northern Colorado. The purpose of the study was to determine the relationship between vocational evaluation recommendations and successful outcomes of individuals from seven different categories of disabilities. The evaluation program recommendations were compared to successful and unsuccessful case closure. A successful closure was defined as an individual being employed, involved in training/education, receiving support services, or working toward a recommended vocational goal. An unsuccessful closure was defined as an individual not being employed or engaged in training/education, not receiving support services, or working on a vocational goal that was *not* recommended.

It was found that competitive employment was recommended in 89% of the cases, training/education in 34% of the cases, and supportive services in 58%. Successful closure occurred in 53.4% of the cases, unsuccessful closure occurred in 19.5% of the cases, and not-eligible-for-follow-up occurred in 27.1%. The not-eligible-for-follow-up category was composed mainly of private cases that were in the process of settling, on medical hold, or waiting for

limited duty release. When the not-eligible-for-follow-up category was omitted from the study, then 73.8% of the cases were closed successfully.

The succeeding table lists the seven disabilities, in descending order by their size in the study, and their percent of success, excluding cases not-eligible-for-follow-up (Peters et al., 1993, pp. 48–49).

Table 1

Percent Sizes in the Study and Percent of Success of the Seven Disability Categories

Disability Type	**Percent Size in Study**	**Percent of Success**
Orthopedic	46	78.0
Neurological	18	50.0
Head injury	11	72.0
Mental (Personality) disorders	9	71.0
Learning disabilities	7	100
Cardiovascular	4	100
Multiple disabilities	4	60.0

Brown et al. (1995) analyzed 587 evaluations provided in 22 public and 11 private not-for-profit rehabilitation settings for the Georgia Division of Rehabilitation Services, during 1992. One of the five research questions, in part, addressed the relationship between evaluation recommendations followed and closure status 26 (successful rehabilitation). The 167 cases closed in status 26 were separated from the remaining 420 cases not closed in status 26. Both groups were analyzed to determine the percent of "hits" (when any one of nine possible recommendations was followed), and "perfect hits" (a perfect match between all recommendations made and recommendations followed). For the 420 cases not closed in status 26:

> A "hit" occurred in 184 (43.8%) of the cases while a "perfect hit" occurred in 25 (5.9%) of the cases. In comparison, of the 167 cases classified as 26-closures, a "hit" occurred in 143 (85.1%) of the cases whereas a "perfect hit" occurred in 40 (23.8%) of the cases. Obviously a strong relationship existed between recommendations followed and 26 closures. This would indicate that those counselors that followed evaluator recommendations have an increased likelihood of successful closure (Brown et al., 1995, p. 96).

The authors noted the lack of congruence between evaluation recommendations made and recommendations followed, which was consistent with findings from related research in the field. Some of the reasons for this discrepancy will be presented in the chapter on report writing.

Montgomery (1996) analyzed the files of 100 vocational rehabilitation clients with chronic mental illness (CMI), living in rural and urban areas of eastern and central North Carolina. A scale was developed using eleven characteristics identified by the literature as influencing vocational success with this population. One or two points were given to each characteristic based on its importance to employment (behavior being the highest–two points).

Each characteristic was assigned to one or more of three evaluation techniques (psychometric tests, work samples, situational assessment), based on its ability to assess the characteristic in question. The total points for an evaluation (36 points maximum) was then compared to 26 or 28 closure status using significance studies. A logistic regression was also employed to determine the probability of predicting employment. The following table represents the probability of accurately predicting success based on the type of technique used.

Table 2

Probability of Accurately Predicting Success with Each Evaluation Technique

Evaluation Technique	Probability of Predicting Success
Psychometric testing	20%
Work samples	50%
Situational assessment	68%
All three techniques	95%

Individually, work samples and situational assessment had a significant relationship to predicting closure status ($p < .05$), whereas psychometric tests did not ($p < .18$). When all three techniques were used to evaluate all 11 characteristics (a comprehensive vocational evaluation), successful prediction was maximized ($p < .0001$). In support of these findings, Anthony and Jansen (1984) report that psychometric testing is the poorest predictor of employment success for persons with chronic mental illness. However, their research found that vocational evaluations, particularly those that used situational assessments, were useful in helping individuals with CMI achieve employment.

Adelmann, Spitznagel, and Saxon (1997) reviewed 161 cases from a Vocational Rehabilitation unit office in Florida, closed between 1994 and 1996. The study examined the relationship between whether vocational evaluation services were offered and closure status (rehabilitated, status 26; not rehabilitated, status 28). The two largest disability groups included 36.6% orthopedic and 32.9% mental illness, accounting for nearly 70% of the cases. A chi-square static revealed a significant relationship ($p < .01$) between receiving a vocational evaluation and subsequent successful outcome. Approximately 76% percent of the clients receiving a vocational evaluation were successfully closed, while only 39% of the clients who were *not* evaluated were successfully closed.

School-to-Work Transition Programs. Evans (1986) conducted a study of vocational class placement and performance success of 138 special needs students in Louisiana Planning Region V, who received a formal vocational assessment from the Region V Vocational Evaluation Center. There were two objectives of the study: (a) to determine the appropriateness of program placement recommendations made the year prior to student placement in vocational programs; and, (b) to determine if there was a difference in performance of students placed in recommended vocational classes compared to students placed in classes *not* recommended by vocational assessment. Vocational teachers were asked to rate those special needs students from the study group who were in their classes, in each of 11 categories. The following table reveals that students who were placed according to the assessment results performed significantly better

than students who were placed in areas other than those recommended in all but two of the 11 categories (Evans, 1986, p. 137).

Table 3

Categories of Assessment Results and Significance Levels of Academic Performance by Students in Vocational Programs

Category of Assessment	Level of Significance
Effort	.01
Attitude	.01
Getting along	n.s.
Taking directions/supervision	.01
Behavior	n.s.
Attention span	.01
Accept boredom	.01
Attendance	.01
Work quality	.01
Overall performance	.01
Grade average	.05

Grosser, Schmitt, and Scott (1993) conducted a follow-up of all students evaluated during the 1989–1990 school year at the PACES Vocational Evaluation Center, in Newport News, Virginia. Evaluations for disadvantaged students lasted approximately two days, while evaluations for special education students lasted four days. A short-term follow-up was conducted using grades obtained in courses and training programs while still enrolled. Long-term follow-up was also conducted to determine what had happened to those students who had exited the school system. Short-term follow-up revealed that in cases where students were placed in recommended areas, 83% were receiving grades ranging from A to C. Further, it was found that for the students *not* placed in recommended programs, only 39% received grades from A to C. Long-term follow-up indicated that in the 33% of the students who could be reached by phone, 86% "were either working in the field in which they were trained or they were receiving further training in the same area that was recommended. Of the students placed in programs that were not recommended only 13% were employed in the field for which they were trained" (Grosser et al., 1993, p. 313).

Welfare and Employment Programs. Spitznagel (1993) analyzed the job placement success of 158 AFDC (Aid to Families with Dependent Children) recipients in two cities in Florida, who received an assessment. The assessment process included interest and achievement testing, and, in one of the two cities, a work sample evaluation. Initial results of the study "indicate that persons who have been tested have obtained more positive outcomes than those previously untested. Results also tentatively indicate that the more depth the testing program has (the use of S.A.G.E. work samples), the better the training opportunities as well as better paying jobs result" (statement in parenthesis added) (Spitznagel, 1993, p. 205). In the last quarter of

1992, placements out of the office using work samples doubled over previous placements made without the benefit of a vocational evaluation (341 compared to approximately 150).

Meade and Hoine (1995) conducted a study of the evolution of the Goodwill Assessment Unit in San Antonio, Texas, in serving participants from the CETA (Comprehensive Employment Training Act) to the JTPA (Job Training Partnership Act) programs. In 1979, the unit created a team-based assessment process of three to five days, to evaluate participants referred by the local CETA program. Prior to that time, CETA was experiencing a disappointing 34% successful completion rate in its training programs. The city commissioned an outside study to follow-up Assessment Unit participants who had been out of the CETA system for one year or longer. The independent study found that "85% of the clients for whom the recommendations of the assessment unit were followed, were employed one year later and were making at least $1.00 above minimum wage at the time of the study. The results indicated that the assessment model was successful and had increased the SDA's outcome by 51%" (Meade & Hoine, 1995, p. 29).

With the reduction in resources, changes in JTPA regulations, and an emphasis on rapid assessments lasting one-day or less, the Goodwill Assessment Unit reduced the length of its evaluation process to one-to-two days. The evaluation was now designed to predict success in employment after completion of on-the-job training. A follow-up study revealed that "Measuring job retention six months to one year later, predictive accuracy was typically in the 90% to 97% range" (Meade & Hoine, 1995, p. 30). The report noted three lessons learned from this successful long-term evolution of their assessment service: (a) invest in competent, professional staff; (b) maintain awareness of the changing characteristics and needs of the population being served; and, (c) use a process model rather than a content model to focus on *how* an individual functions rather than on *what* an individual does.

Impact of Education and Certification on the Quality of Services

In 1966, Stout State University (now the University of Wisconsin–Stout) established the first graduate degree program in vocational evaluation in the United States (Pruitt, 1986). For many years, Auburn University, the University of Arizona, and the University of Wisconsin-Stout were the only three graduate programs in vocational evaluation. With the increased availability of grant funds from the Rehabilitation Services Administration in Washington, D.C., additional universities started new programs. Currently, there are 11 universities that offer graduate programs in vocational evaluation: Auburn University, Boston University, East Carolina University, The George Washington University, Illinois Institute of Technology, Southern Illinois University, Southern University, Springfield College, University of Northern Colorado, University of Wisconsin-Stout, and West Virginia University. VEWAA maintains names, addresses and telephone numbers of the university programs in vocational evaluation. Many universities with departments or programs in rehabilitation and rehabilitation counseling, transition and special education, vocational and career education, and occupational therapy, devote several courses, one course, or sections of a course to vocational evaluation and assessment. Short-term training programs and workshops in vocational evaluation and assessment are offered throughout the country and information on availability can be obtained from VEWAA.

Over the past 10 years, Ann Puryear, a Regional Evaluation Specialist with the North Carolina Division of Vocational Rehabilitation Services (NCDVRS) compared the services provided by vocational evaluators *with* formal training and *without* formal training in the field. In her role as a supervisor with NCDVRS, she monitors the delivery of vocational evaluation services throughout one-fourth of North Carolina. In this capacity she has supervised the work of vocational evaluators who received master's degrees in vocational evaluation from Auburn University, East Carolina University, and the University of Tennessee, and from evaluators who entered the job with no training in the field. Results of this ten-year study revealed that vocational evaluators who were hired with master's degrees in the field "became fully productive and able to work independently of supervision in two-to-three weeks. Individuals hired without a graduate degree in vocational evaluation took two-to-three years to achieve the same level of productivity and independence" (A. Puryear, personal communication, April, 1996).

Another interesting finding of the study was that employees who were graduates of vocational evaluation degree programs had the base of knowledge needed to adapt to new situations (e.g., working with new disability groups, using new instruments and techniques) not possessed by evaluators without the degree. Additionally, it was found that "due to their gaps in learning" (A. Puryear, personal communication, April, 1996) some evaluators without graduate training never learned to fully adapt. Untrained evaluators also tended to leave their jobs more frequently than did masters level evaluators This supports the premise that, as a result of their extensive preparation, masters trained evaluators have a better understanding of and, therefore, a stronger commitment to the field (i.e., they know what is expected; A. Puryear, personal communication, April, 1996).

Although there are no definitive studies supporting the effectiveness of evaluators who were certified in Vocational Evaluation (CVE) over those who were not, the national certification standards are closely related to the curriculum content provided by graduate programs in vocational evaluation.

CCWAVES' 14 Knowledge and Performance Areas (discussed in the Standards chapter in this book) are based on role and function studies of evaluators nationwide, as well as on consultation with university faculty in the field. These areas are routinely included in the curriculums of vocational evaluation graduate programs, as is the CCWAVES Code of Ethics. The assumption is that if *qualified* (appropriately trained and certified) vocational evaluators are given the opportunity to provide well-planned and comprehensive services to consumers, then meaningful, accurate, and highly useful information will result.

Whereas vocational evaluation and assessment can be validated statistically, as demonstrated above, it can also be supported forensically. Vocational evaluators, rehabilitation counselors, and other vocational experts routinely and successfully use vocational evaluation and assessment results in various legal proceedings (e.g., depositions, hearings, trails). The value and acceptance of evaluation results depends, in part, on two things: (a) the skill and experience of the professional in providing a well-planned, thorough, and indisputable evaluation; and, (b) the professional qualifications and certification of the vocational evaluator. Master's-level vocational evaluators who possess a CVE will have little difficulty being qualified as vocational experts,

and authoritatively offering testimony regarding their findings and conclusions (Choppa & Shafer, 1992).

Quite often, criticisms concerning poor evaluation service delivery are the result of inadequately prepared or trained personnel. For example, when administering instruments and writing recommendations, an evaluator who has not been trained to consider the most appropriate learning style of a person with a specific learning disability will more than likely underestimate the individual's vocational potential. The same result may occur when untrained evaluators fail to modify their service to compensate for various problems related to timed testing, poor academics, and possible accommodation needs. Lack of essential knowledge will result in assessments that screen people out of rather than in to appropriate services, education/training, and career opportunities. A vocational evaluation can only be as good as the individual delivering the service.

A two-year study entitled *Evaluation of Vocational Assessment Procedures and the IWRP Process Used by State VR Agencies,* funded by the Rehabilitation Services Administration, responded to the importance of training professionals in vocational evaluation (Hayward, Wine, Thorne, Stoddard, & Wilhite, 1992). A key objective of the study was to identify effective policies and practices of vocational evaluation as applied to IWRP (Individualized Written Rehabilitation Program) development and successful outcome. In general, the results support the importance of vocational evaluation to the vocational rehabilitation planning and placement process. The report of the study recommends training counselors in the use of evaluation, and training of evaluators in improved service delivery methods. Study recommendations conclude that Vocational Rehabilitation "counselors should work more closely with clients in matching job placements to the vocational goal, using vocational evaluation findings as a source of information for planning" (Hayward et al., 1992).

Conclusion

Vocational evaluation has proven to be a useful tool in accurately guiding planning and placement activities. Research suggests that the more evaluation recommendations are used in planning, the greater the chances of success in training and job placement. The effectiveness of evaluation services cannot be fully determined by simply examining the validity of the instruments and techniques used in vocational evaluation. Conducting well-designed follow-up studies to determine what happened to the consumer will provide more factual information on the value of vocational evaluation and what the unit must do to improve services in the future. Certain conditions need to be met in conducting a valid follow-up study, and more rigorous statistical procedures must be implemented in collecting and analyzing data (Kosciulek, 1993). In cases where grants are being written to develop or expand a vocational evaluation service, it is recommended that funds be included to hire an experienced program evaluator who can competently collect and thoroughly analyze the outcome data. Ensuring that vocational evaluators are properly trained and certified will also increase opportunities for improved service delivery.

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CHAPTER FIVE

Initial Considerations for Practice

Introduction

Specific guidelines for the practice of vocational evaluation need to be in place before a service is offered. In particular, issues such as: the populations served; the setting of the evaluation (location); space needs; evaluation goals in relation to length and time of provision; service ratio and caseload; scheduling procedure; and, funding methods should be well established and shared with referral sources and participants through marketing and orientation. These "housekeeping" issues not only affect marketing strategies and pricing of evaluation, but provide focus to staff on why and how the service will be delivered.

Populations and Settings

A recent national study revealed that the most common disability types referred by vocational rehabilitation agency counselors for vocational evaluation are presented in Table 1 (Hayward & Thomas, 1993, p. 336; Hayward, Wine, Thorne, Stoddard, & Wilhite, 1992)

Table 1

Most Common Disability Types Referred by Vocational Rehabilitation Agency Counselors for Vocational Evaluation

Disability Type	Percent of Success
Orthopedic impairments	27.0
Mental illness	19.0
Other	16.0
Mental retardation	15.0
Substance abuse	14.0
Hearing impairment	10.0
Vision impairment	8.0

The percentages are only approximations and may vary by setting, region, and demand. The third highest area, "Other," represents the broad range of different disabilities served that were too small to list separately. Additionally, the study did not indicate the number of individuals with multiple disabilities and dual diagnosis (e.g., mental illness and substance abuse) that are routinely served by vocational evaluators. In past years, vocational evaluators traditionally served individuals who were developmentally and physically disabled, however, increasing numbers of individuals with substance abuse, mental illness, and head injuries are finding their way into the vocational evaluation process.

Populations served in vocational evaluation vary significantly by setting. Vocational assessment and evaluation programs in secondary public schools typically serve special needs students. This includes physically and mentally disabled students (including developmental

disabilities), students earning low grades, potential dropouts, and students experiencing socioeconomic hardship. Community colleges provide assessments to the same populations as secondary schools. In addition, they evaluate individuals who have had a history of unemployment or underemployment, and who are clients of social service agencies (e.g., welfare-to-work) or publically funded employment training programs such as the Job Training Partnership Act (JTPA). Community agencies, colleges, and schools that are unable to provide their own in-house assessments will refer their students/clients to other settings (e.g., vocational rehabilitation, community rehabilitation programs) that offer vocational evaluations.

Vocational rehabilitation state agencies and community rehabilitation programs (formerly known as rehabilitation facilities or sheltered workshops) often hire personnel to provide vocational evaluations. By law, state vocational rehabilitation agencies can only serve individuals with physical and mental disabilities, but this is not the case with community rehabilitation programs. Although facility-based rehabilitation programs have traditionally received evaluation referrals from vocational rehabilitation agencies, they have successfully marketed to public schools, JTPA, social service agencies, corrections, and Workers' Compensation providers (e.g., insurance companies, attorneys, private rehabilitation companies). Many specialized institutions (e.g., correctional facilities, institutions for the mentally retarded or mentally ill) employ vocational evaluators as well, or contract with community rehabilitation programs for the service when not available in-house.

It has become more common for evaluators to serve individuals with disabilities who also have a variety of other barriers to employment. Some of these barriers, and stigmas, include, age, poverty, limited or no formal education (i.e., academic deficits), minority status, cultural difference, criminal record, past history of substance abuse, lack of marketable skills, chronic unemployment or underemployment, lack of motivation or incentive to work, and limited or no English speaking skills. In fact, state and federal vocational rehabilitation agencies and secondary school systems, to name a few, stress the need to serve more severely disabled individuals who often have a multitude of barriers to employment.

Vocational evaluation has long been a part of the medical model. Rehabilitation units in hospitals frequently hire evaluators to work with in- and out-patient referrals made by physicians and other allied health providers, as part of the comprehensive service delivery process. Work hardening centers employ vocational specialists who provide a variety of return-to-work services to industrially injured workers, including vocational assessment and on-the-job evaluation, career exploration and counseling, and job analysis and job accommodation.

Increasingly, vocational evaluators can be found in private practice. Evaluators may set up individual or group practices dedicated solely to marketing vocational evaluation and assessment services to agencies, institutions, and individuals throughout their community and surrounding areas. They may also be part of a private medical practice (e.g., neurologists, orthopedists, psychiatrists), a psychologist's office, or a private rehabilitation company serving industrial injury referrals from self-insured businesses, insurance companies, and attorneys. A growing number of private practice evaluators are serving high school students trying to decide on a college and major, midlife career changers, displaced workers (through outplacement services), and displaced homemakers (e.g., divorcees and widows exploring training and career

options). Some evaluators are assisting companies with screening job applicants and candidates for promotion or transfer, offering ADA consultations, and conducting job analysis.

Evaluators have the ability to control the types of referrals they receive through targeted marketing. For example, if an assessment unit wants to increase referrals of individuals with mental illness, it can direct marketing to rehabilitation counselors with specialized mental illness caseloads and to public and private mental health centers. Likewise, if it wants to de-emphasize referrals of a particular disability, it can eliminate marketing to professionals and agencies that serve that population. As future legislation appropriates financial resources for assessment of previously unserved groups, evaluators can adapt and refine their services and target their marketing to this new population.

Special Needs

There are a number of factors that influence space requirements. The length of the evaluation is one. Short-term assessments lasting a day or less that require very little equipment will need minimal space. On the other hand, long-term evaluations of one or more weeks that rely on the use of work samples and evaluation systems will need more space to house the necessary equipment.

Evaluations that are offered to one or two persons at a time will require less space than those serving four or more persons. However, in situations where a large number of individuals are taking pencil-and-paper tests, the space required *per person* is less (i.e., classroom style seating) than would be required by one individual in an electric wheel chair who would need more room to maneuver and to use assistive devices. The primary issue is how much space is available per person, including the evaluator and equipment, to provide the necessary assessments. Larger, open spaces appear to be better managed, offer fewer distractions, and maximize opportunities for optimum performance. The number of people that can be adequately served and the amount of equipment that is needed is directly related to space requirements. Available square footage will determine the potential for unit growth and expansion in the future.

Several recommendations for the size of a unit have been reported in the literature. Redkey and White (1956) suggest that a minimum of 1,000 square feet of evaluation floor space be made available for every 12 persons, including personnel and equipment. Hiten (1970, in Pruitt, 1986) recommends 300 square feet per evaluee for simulated work stations (e.g., work samples, situational assessments). Pruitt (1986) suggested that units should provide between 100 to 125 square feet per person, excluding floor space for storage of materials, supplies, and instruments not in use. This does not include office spaces, break areas, or conference rooms. If future expansion is projected, it should be taken into consideration when evaluation space is first being acquired.

One important consideration regarding vocational evaluation space is aesthetics. Pruitt (1986, p. 287) states that:

> The vocational evaluation unit should look like a work environment and not like a schoolroom or laboratory. Work samples that belong to the same occupational area or are

technologically related should be placed in close proximity. Even if it does not resemble a work environment, the unit should provide a relaxed, non-threatening, supportive atmosphere that encourages the best possible performance. This is also an important concern for evaluators who will be spending the majority of their working hours in this same setting.

The issue of space can also be applied to fixed and mobile units. Vocational evaluation is most commonly performed in a fixed unit such as permanent office or building space. In this situation, participants come to the unit for the evaluation, except in on-the-job evaluations (community-based assessments) where actual work sites are being used. Furniture, evaluation equipment, and staff offices are geared to the specific type of service being rendered.

Mobile units, on the other hand, take vocational evaluation and assessment services to consumers, thus minimizing their transportation needs. Mobile units are particularly useful in rural areas where services and transportation are limited. They are also a more cost-effective way of delivering services over a broad but sparsely populated geographic area. For example, small school systems that cannot afford to develop and staff assessment units may initiate cooperative agreements to jointly fund a mobile unit that can serve all schools in the participating districts.

The earliest known mobile units were developed in the late 60s and 70s, primarily for use with high school special education students. Marchman (1968) proposed the use of a modified mobile home that could be pulled by a truck throughout the northwestern parts of rural Georgia. The "mobile Work Laboratory" would house standardized tests and work samples and be moved from place to place every seven weeks to evaluate "mentally retarded teen-aged students" who were served by the Division of Vocational Rehabilitation.

In 1970, the Board of Education of Baltimore County (1973) created a mobile vocational evaluation unit 12 feet wide by 48 feet long, to serve "intellectually limited students" within the 10th grade. Along with standardized tests, the TOWER System (a commercial work sample battery) was used as the focal point of this five-day group evaluation. In cooperation with rehabilitation facilities and Vocational Rehabilitation agencies, school systems in other parts of the country, such as Corpus Christi, Texas, also established mobile vocational evaluation units.

There have been, and continue to be, other creative forms of mobile evaluation services, including the use of travel trailers and school buses. A more recent and durable version is the wide-body ground transport, the type used by car rental agencies to ferry customers to and from the airport. Operated in Florida by community rehabilitation programs, these units are designed to be free-standing settings where participants enter through steps or a lift mounted to the emergency exit in the back. There is enough room for an evaluator and two participants. The evaluator uses a cell phone to communicate with the home office and a portable computer to write reports. With today's digital technology, evaluators can now use their cell phone to e-mail or FAX reports completed on a portable computer to the home office or directly to the referral source.

Self-contained mobile units require the evaluator to commute longer distances from work to home, and may necessitate overnight stays in areas too far away for daily commuting. To

minimize evaluator turnover, many fixed units rotate their evaluators into the mobile unit so that no one is permanently assigned to providing mobile evaluations.

Increasingly, trucks, vans, and automobiles are used to transport the evaluator and equipment to sites where the evaluation can be offered in a fixed facility such as a home, satellite office, or available room in a school. Evaluation materials and instruments are transferred from the vehicle using briefcases or a cart and set up in a suitable location. This approach is popular with evaluators who work in fixed units but who must occasionally conduct evaluations out of the office.

Length of Evaluation Services

Although the length of a vocational evaluation service refers to how long a participant is actually in evaluation, it should also include the time needed for conducting file reviews and scheduling, staffing, report writing, and follow-up of each individual. This additional time is often overlooked when evaluation quotas are being considered. However, this section will deal specifically with how long the individual is in the evaluation process. The length of evaluation is quite varied and is referred to in durations of hours, days, or weeks. Short assessments (or screenings) are often described using hours, especially if they last only a half-day or several half days. Longer evaluations may be referred to in days or weeks, especially community-based or community rehabilitation program (facility-based) evaluations. Mason (1984, p. 266) recommended a hierarchical model of vocational evaluation to meet the varied needs of different referral sources. This flexible approach contains the following five models that are based on time, individual needs, and the application of certain tools and techniques.

Specialized Assessment. This lasts from a few hours to two days, and thoroughly evaluates a skill area (excluding behavior). Instruments and techniques used depend on the skill to be assessed. This is reserved for situations where a specific referral question regarding a particular skill is made.

Transferable Skills Assessment. This takes from one to six hours and is used to determine similar job alternatives based on previous work history. It relies on file review, interviewing, and thorough analysis of work history. The technique is used with individuals who have a significant work history and where a formal evaluation is not needed.

One-Day Vocational Assessment. This four-to-seven hour assessment is used to develop a worker profile to search for comparable job alternatives. It may rely on interviewing, standardized tests, some work samples, and limited behavioral observation. It is used with individuals whose reading level is 6th grade or higher, and where behavior and physical functioning is known or is not a significant issue.

Short-Term Vocational Evaluation. This two-to-five day evaluation explores skills and behaviors related to an occupation, or assesses specific behaviors and work tolerances. It uses interviewing, testing, work samples, situational assessment, and/or on-the-job-evaluation (OJE). This is used with individuals who have minimal or no academic skills, and little is known about work interest or potential.

Long-Term Vocational Evaluation. Two to six weeks are needed to determine educational, occupational, and rehabilitation potential with emphasis on behaviors, habits, and work tolerances. It relies heavily on work samples, situational assessment, and OJE to evaluate severely disabled individuals whose learning and behavioral issues require the application of special techniques.

On average, Thomas (1986) found that evaluations across the country lasted approximately 45.3 hours with a standard deviation of 97.5 hours. Given an approximate 6 hours a day in evaluation with one day a week off to write reports, the average evaluation would take nearly two weeks to complete. Rehabilitation settings averaged the longest at 58.4 hours, the private-for-profit sector averaged 38 hours, and the secondary school systems were the shortest at 24.5 hours.

Hayward et al. (1992) conducted a national study of vocational evaluation services provided to vocational rehabilitation clientele who were successfully rehabilitated (i.e., closed in status 26). The following evaluation lengths were reported:

Table 2

Length of Evaluations and their Percentages of Successfully Rehabilitated Clients

Length of Evaluation	Percentage
No model or package administered	41.9
Less than one day of evaluation	11.3
One day of evaluation	13.3
Two to three days of evaluation	7.1
Four to five days of evaluation	3.3
More than five days, up to ten days	3.8
More than ten days, up to one month	10.8
More than one month	6.7
Other	1.7

It is interesting to note that the largest number of evaluations (41%) had no specified time length and was based on the needs of the participant and the referring rehabilitation counselor. The remaining distribution is somewhat bimodal and represents an emphasis on shorter evaluations of three days or less (31.7%; Hayward & Thomas, 1993, p. 334).

Brown, McDaniel, and King (1995) surveyed 34 evaluators working in 22 public and 11 private non-profit rehabilitation settings who conducted evaluations for the Georgia Division of Rehabilitation Services. A total of 587 evaluations completed in 1992 were analyzed. Results indicated that "interviewing, testing, and work sample evaluation" took an average of 6.56 hours (*SD* = 4.26) in the public sector, and 5.16 hours (*SD* = 4.07) in the private sector. These same services took an average of 7.65 hours for individuals with traumatic brain injury (TBI) and even longer for participants with sensory impairments (10.1 hours). The number of days to conduct "workshop/situational assessment" was 7.08 days in the public sector, and 8.23 days in the

private sector. For consumers who were sensory impaired, these same services required an average of five days, and an average of 13.33 days for participants with TBI.

Brown et al. (1995) also reported that the process of "scoring/interpreting tests, analyzing data, and conducting computer job searches" took an average of 2.67 hours for public sector evaluators and 2.16 hours for private sector evaluators. Report writing required an average of 1.68 hours for public and 2.57 hours for private sector evaluations. For over 95% of the sample, the overall process of evaluation (including situational assessment), scoring, interpreting, and report writing was less than two weeks. Combined with the "10 days to provide the referral source with a completed report the *entire process* takes less than one month" (p. 95). If TBI and sensory impaired populations were removed from the sample, the *entire process* would only take two to three weeks.

There are number of factors that influence evaluation length. One such factor is the severity of disability. The more severely disabled a participant, the more time will be needed to evaluate behavior, improvement over time, and appropriate accommodations. Referral questions that ask for information on work-related behavior, stamina and endurance, appropriate accommodations, and extensive career exploration will take longer to answer than a simple need for achievement, interest, and aptitude test scores. The use of work samples, situational assessments, and on-the-job evaluations will take considerably more time than file review, interviewing, and standardized testing. Other factors that can influence evaluation length include client-to-evaluator ratios, evaluation quotas, and the cost of evaluation services. The Commission on Accreditation of Rehabilitation Facilities (CARF) has stressed that vocational evaluation should take as long as necessary to accomplish the goals of that evaluation (i.e., answer the specific referral questions); however, economic realities often force a compromise between the real and the ideal.

Ratios and Caseloads

Many vocational evaluators deal with both ratios and caseloads in service delivery. Ratio refers to how many participants an evaluator is directly working with at one time, traditionally referred to as the client-to-evaluator ratio. If the ratio is 4:1, it means that there are four consumers in the unit with the evaluator. Caseload refers to the number cases the evaluator has active at any one time but not necessarily in the unit at one time. An evaluator in a school system may work with two students each class period (2:1 ratio) over five periods for a total caseload of 10 students. An evaluator in a community rehabilitation program may have a 4:1 ratio and a caseload of 15. The remaining 11 individuals on the caseload could be involved in situational assessments with work supervisors throughout the facility and community. An evaluator in private practice who offers 12 hours of evaluation per person may see two injured workers at a time (2:1), three hours a week on an appointment basis, allowing for the evaluation of all 10 individuals on the caseload over a four-week period.

In units where the evaluator works continuously with everyone who enters, there is a ratio but no caseload. Ratio tends to be more important than caseload. It dictates how large a unit needs to be and how much evaluation equipment is required. It is also a contributing factor to

evaluator burnout, especially if there are more consumers in a unit than an evaluator can effectively serve at one time.

Low ratios (2:1 or less) provide more opportunities for individual attention, and require less space and equipment than do high ratios (3:1 or larger). On the other hand, evaluators with high ratios can observe how participants work around or with other individuals, an important consideration in today's work place that cannot be easily assessed through low ratios. High ratios require better time management and planning skills in order to successfully balance the workload. At the same time, high ratios can provide more variety to the evaluator's job.

The type of instruments used are also a function of ratio. Some tests and evaluation systems require the evaluator to be present throughout the entire administration, limiting their use to settings with low ratios. Some standardized tests and work samples are designed to be administered on a group basis, lending themselves to use with high ratios and even in classes. A variety of instruments is also available that permit the evaluator to leave the participant alone for a period of time, after the directions are given, in order to complete the activity. This gives the evaluator with a high ratio an opportunity to work with other individuals, requiring only periodic observation of each evaluee.

Thomas (1986, p. 150) found that an average of 4.3 clients were vocationally evaluated at one time, with a standard deviation of 3.2. Private-for-profit evaluation had the highest average of 6.3 clients (*SD* = 4.3) vocationally evaluated at one time, schools with 4.6 clients (*SD* = 2.2), and rehabilitation agencies and facilities with 3.9 clients (*SD* = 3.1). The average is often influenced by factors such as the length of vocational evaluation (e.g., the longer the evaluation, the higher the ratio), the cost of evaluation, and the severity of disability (e.g., lower averages for more severe disabilities; p. 150).[1]

Evaluation Quotas

Like most all other human services, vocational evaluation units need to be able to support themselves, or at least demonstrate their value. Therefore, a program evaluation system must be created that sets a goal, or quota, for the number of persons to be served and monitors this progress. Some program evaluation systems target and track the number of individuals evaluated each week or month, while others determine if the daily evaluation ratio is being met. In the latter process, the idea is to fill all available evaluation slots, or openings (e.g., four per day), regardless of how long each evaluation lasts.

Using a creative and flexible combination of length, time, and ratio, evaluators can achieve the same monthly quotas with entirely different processes. As always, the process chosen is dependent, in part, on the severity of the disabilities served, size of the unit, instrumentation, needs of the consumer and referral source, and cost. For example, there are several ways to meet a quota of four evaluations per week. In the first approach, one individual

[1] This paragraph is a re-write of the original text to enhance clarity.

would be evaluated each day (Monday through Thursday), leaving Friday open for staffing and report writing (1:1 ratio). In the second approach, two individuals could be evaluated together for two days (two on Monday and Tuesday, another two on Wednesday and Thursday), again leaving Friday open (2:1 ratio). A third approach would employ a four-day evaluation with a 4:1 ratio, with Fridays dedicated to paperwork. The longer evaluations would permit the use of a wider range of instruments and techniques that would provide greater opportunities for behavioral observation, assessment of stamina, and career exploration. However, higher ratios will require more space and equipment.

Scheduling Methods

There are three methods that can be used, individually or in combination, to schedule consumers into the evaluation process. They include fixed, interval, and appointment scheduling.

Fixed scheduling is the process where a specified number of participants is brought in at one time, evaluated as a group, and exited at the same time. Quite often, referrals that are transported from the same place (e.g., school, correctional facility, institution) are evaluated on a fixed schedule. Some evaluators prefer homogeneity within each group to ensure that no one feels isolated or inferior due to significant differences in performance from the rest of the group. With homogeneous groups, evaluees can be given many of the same things at the same time in a "group evaluation." Heterogeneous populations can be served on a fixed schedule as long as there is a suitable variety of evaluation experiences, and individualized attention is sufficient to address personal concerns about differences in performance.

This is the easiest method of scheduling in that each evaluation period, and the number of available slots, is fixed (e.g., four participants in each one-week evaluation). Once all four slots in a week are filled, then slots in the following week will be scheduled next. Although participants may exit the group evaluation early, no one is placed in the vacated slot until the next rotation.

Interval scheduling is the process where slot vacancies are filled as participants exit. Individuals are not brought in as a group as done in fixed scheduling, but individually, and a constant ratio is maintained. For example, an evaluator may have four slots available at any one time, but evaluees enter and exit slots at different times depending on their individual needs. One person may enter on a Monday and exit on Wednesday, in which case, the vacant slot is filled as soon as possible (Thursday or Friday). Homogeneity of referrals is not as important here since "group evaluation" is not used as frequently as in fixed scheduling. Although the interval method may be more convenient and flexible for the referral source than fixed, the process of scheduling is more complex. In this scenario, evaluators will need to determine the exit date of a consumer early enough to schedule another referral in a timely manner.

Appointment scheduling in vocational evaluation is performed very much like it is in a physician's or dentist's office. Appointments for consumers are made in blocks of time (one or several hours each), and more than one individual can be booked over the same time slot. Appointment scheduling is particularly useful in personal or industrial injury evaluations where

staff will also need to schedule time for job analysis, vocational expert testimony, and visits with attorneys and employers.

Evaluation can be scheduled around other fee-based services. Evaluators in rehabilitation hospitals may need to schedule appointments for clients between other services such as physical therapy, occupational therapy, recreation therapy, and during times when the individual is not fatigued from a strenuous rehabilitation activity. Evaluators in schools may need to schedule student appointments during times that do not conflict with important classes.

Appointments can be scheduled for a single visit to conduct a brief assessment lasting from several hours to a full day, or for a number of different visits over one or more weeks. For example, an evaluator may schedule a participant for five different three-hour visits. In some cases, for ease of scheduling, all of these visits may occur at the same time of day and on the same day of the week. However, individuals can also be scheduled at different times of the day and on different days of the week to sample behavior and functioning over a more diverse time frame.

Combinations of scheduling methods can be used in larger units. One five-evaluator program used fixed scheduling with two evaluators. One evaluator served a group of youthful offenders in the morning, and another evaluator served a group of special needs students in the afternoon. Two other evaluators served referrals from the Division of Vocational Rehabilitation on an interval scheduling basis. The fifth evaluator used appointment scheduling to work with referrals from attorneys, insurance companies, and private rehabilitation companies. Over time, evaluators may wish to try a variety of different scheduling techniques to see which one works best, or to simply vary their routine.

One final issue related to scheduling is the problem of "no-shows." When evaluation quotas and ratios are tied to unit costs, and a consumer fails to show, the loss must be made up by increasing the ratio in the next round. This means that if a one-week evaluation ratio of 4:1 is not met due to a no-show, then the ratio falls to 3:1 for that week. The evaluator will have to serve a 5:1 ratio the following week. Some units around the country have reported to this author that their no-show rate averages around 12%. No-shows can be minimized several different ways:

- Charge a non-refundable processing fee for applications. This technique will encourage follow-up by referral sources to ensure that evaluees show up when scheduled. However, this approach may discourage referrals unless all other evaluation units in the area also charge a processing fee.
- Charge for the first day an evaluee is not there. This approach has the same advantages and disadvantages as the previous bullet point.
- Appoint a staff member (e.g., secretary) to contact participants and/or their referral sources one or two days prior to the scheduled date to make sure they are coming. If not, the next individual on the list can be contacted and scheduled in their place.
- Determine when referrals are low and no-shows are high (e.g., holidays) and strategically plan increased marketing and communication prior to these down times. Consider establishing unit holidays over these down times if marketing efforts fail.

- Project fewer evaluations than would be needed to meet the budget, so that a few no-shows do not need to be made up by the evaluators. If allowed to persist, large and routine no-show rates can create job stress and burnout in staff.

Waiting periods (also known as waiting lists) for evaluation services are the rule and may run from one to two weeks in length. Although waiting lists provide a pool of evaluees to draw from when no-shows occur, waiting periods of more than two weeks may discourage referrals or cause dropouts from the list prior to entry into evaluation. If excessive waiting periods persist, the unit may wish to hire another evaluator.

Funding Methods

There are a number of vocational evaluation and assessment units operated as part of federal or state agencies (e.g., vocational rehabilitation, public schools, institutions) and are, therefore, listed as a "line item" in their budget. As long as evaluation can show reasonable utilization figures, and a change in legislation does not eliminate the service, it will continue to be funded in the budget. However, there are those profit and non-profit evaluation programs, either free-standing or affiliated with a larger organization, that derive income from grants, contracts, and walk-ins. Innovation, expansion, establishment, and service grants are available, usually on a one-year basis, from state and federal rehabilitation, education, social service, and employment agencies to serve specific populations. Although grants are available on a limited basis, they are not always a reliable source of long-term income. The more steady funding opportunities include block funded contracts, fee-for-service or negotiated fee contracts, and walk-ins. The terms used to describe these funding methods may vary from state to state, but the concepts remain the same.

Block-funded contracts are the most desirable funding method since they guarantee referrals and income. In this procedure, an evaluation unit determines how many evaluations it can offer in a year and attempts to "sell" all of the available slots to referral agencies in the community. If a unit needed to provide 200 evaluations in the coming fiscal year to meet expenses, then it will attempt to sell all of these slots before the year begins. It may negotiate the sale of slots to the local vocational rehabilitation office, the local school system, social service agencies, and/or employment services such as Job Training Partnership Act (JTPA). The unit can guarantee that a specified number of slots will be available every month at a fixed price per person to the contracting agency. This price may be slightly lower than a walk-in fee due to the large number of slots being purchased. A price per evaluation is negotiated, along with other conditions of the contract such as report content and turnaround time, number of available slots per month, and length and type of evaluation.

Once all slots have been sold, the need for further marketing can be minimized and more time devoted to quality service delivery. Referring agencies that engage in block funding prefer this method since fees are paid up front in a lump sum and are not taken out of a referral source's service budget throughout the year. On occasion, agencies run out of money before the fiscal year ends, thus restricting what services can be provided. If block funding was used, agencies can still make referrals since the evaluations were pre-paid.

Fee-for-service or **negotiated fee contracts** comprise the second funding method. The evaluation unit annually negotiates an acceptable fee for a specified service, and the unit is paid that rate every time the service is rendered to a referral from the contracting agency. No slots are sold, as in block funding, and no guarantees of referrals are made; evaluations are provided on an "as needed" basis. Evaluation units will attempt to have fee-for-service contracts with as many referral sources as possible in order to increase their referral base. In some states, evaluation units apply to become a "vendor." Their services and fee structures are placed on an approved vendor list so that any state agency, or other entity, can purchase services at the established rate.

Walk-ins are individuals who are self-referred or sent by an agency that does not have a negotiated fee contract with the unit. Although there may be set fees, they can also be based on what the individual or agency specifically wants. In most cases, evaluators do not have contracts to serve referrals from personal and industrial injury attorneys or private rehabilitation, but will have a fixed hourly or daily rate. When a referral is made, the needs of the attorney or rehabilitation specialist and client are discussed and a fee is set. Walk-ins often comprise the smallest number of referrals for most evaluators unless they are in the business of primarily serving personal and industrial injury cases, or the fee-paying general public.

The expression "don't put all of your eggs in one basket" provides the guiding principle for evaluation funding. Many evaluation units will use a variety of funding methods. They will sell as many block funded slots as possible first, and cover the rest through negotiated fees, vendor agreements, and walk- ins. Grants will be used, when available, to purchase new equipment and hire additional staff for the development of new evaluation services or the expansion and upgrading of existing ones. If innovation grants are available to serve a newly targeted population, an evaluation unit may apply for the grant to develop a process of evaluation to meet that need. Once this grant has expired, the service can then be marketed through block funded and negotiated fee contract arrangements.

Funding and marketing are closely tied. For example, a new agency in town may decide to try out your service to see if it can meet their information needs. A walk-in referral is made and the value of the service and report are determined. If the agency is satisfied, then a negotiated fee can be arranged, with the eventual hope that a block-funded contract can be negotiated. If this marketing approach is used, it would be best to request the referral of a dozen or so individuals, before a final assessment of the services' value is made. When only one consumer is referred, the agency may send one of its most difficult cases, which would not be representative of the type of individual it typically serves. A number of evaluations will ensure better coverage of the representative population. As each evaluation is offered, the unit can staff the case and tentative report with the agency to determine if that is what was wanted. If necessary, refinements in the process can be made before the next evaluation. The revised services offered to the last group of referrals will give the agency a truer picture of what the unit can do, and allow the unit to tailor the evaluation service to the agency's specific needs.

Costs of Evaluation

Fees are most often based on hourly or daily rates depending on the length of the service. Evaluation package prices are also used and are based on complexity and length (e.g., a half-day

vocational screening, a three-day work sample assessment). Although there are instances where some evaluators have charged by the instrument (e.g., interest tests, aptitude tests, evaluation systems), this has not been as common a practice as it is with psychologists.

Thomas (1986, p. 150) found that the average **hourly** rate for evaluations at the time ran $35 an hour (*SD* = 19). The private sector was the highest at $50 an hour (*SD* = 10), and rehabilitation agencies and facilities at $35 an hour (*SD* = 17); school systems did not report an hourly rate. **Daily** evaluation fees averaged $62 (*SD* = 66) with the following distribution: schools: $161; private: $88; and rehabilitation: $47. The overall average fee per case was $462 with the following distribution: private: $1,340; schools: $681; and rehabilitation: $418.

Hayward and Thomas (1993, p. 334) found that state vocational rehabilitation agencies paid $335 on the average per evaluation for successfully closed cases (status 26) and $260 per evaluation on unsuccessful cases (closed status 28). It was reported that over half of the evaluations purchased cost under $200. Overall, vocational evaluation accounted for less than 10% of all vocational rehabilitation case expenditures. In a study of 16,005 clients with the Florida Division of Vocational Rehabilitation who received vocational evaluation during the 1991–92 fiscal year, Spitznagel and Saxon (1995) found that the average cost per evaluation was $388.00.

Today, it is not uncommon to find private evaluation units charging $100.00 or more an hour for personal and industrial injury evaluations. To limit costs, some vocational rehabilitation agencies, Workers' Compensation commissions, and private insurance companies now place a cap on fees they will pay for evaluation services. When costs are severely restricted, this has an effect on the length, quality, and thoroughness of the service.

Timing of Evaluation Service Delivery

The goals of evaluation are often dependent on when it is offered in relation to the overall service delivery continuum. Vocational evaluation and assessment offered early in the rehabilitation, education, or transition continuum will focus more on the use of results in planning; while evaluations and assessments offered near the end of the continuum will focus on placement (see process illustration). Mid-point evaluations could be used to monitor progress and modify plans.

The Rehabilitation/Education Process

Assessments given to students in the early grades may focus on planning for remediation and accommodation, and on helping students and teachers choose appropriate courses and curriculums. Assessments offered at the end of school (11th and 12th grades) will focus on transition and placement within the community. Evaluations provided early in the process for vocational rehabilitation and public employment programs will focus on planning for rehabilitation, remediation, training, and job readiness, while evaluations near the end of the process will concentrate on job and community placement. Prior to changes in the Rehabilitation Act, evaluations offered early in the vocational rehabilitation agency process were used to determine client eligibility for Vocational Rehabilitation (VR) services, a procedure no longer

allowed. Today, however, evaluations are given at the end of the VR process to determine consumer eligibility for community programs and services (i.e., do consumers meet the entrance requirements for colleges, for supported employment programs, or for other community programs with established entrance criteria).

In community rehabilitation programs, vocational evaluations offered upon entry will identify a baseline and goal for planning the delivery work adjustment services. Evaluations initiated near the end of work adjustment will address job and community placement options and supports. In industrial injury rehabilitation, evaluations conducted at the beginning of the process will determine if an injured worker will benefit from rehabilitation and if returning to some form of employment will be feasible (e.g., the same or similar job, the same or different employer). Evaluations at the end of the private rehabilitation process will examine employment feasibility, specific employment options, and appropriate accommodations.

Vocational evaluation and assessment does not have to be given once. For individuals with severe and multiple disabilities, and individuals who show rapid and significant change, several evaluations may be needed. An evaluation given in the beginning to recommend work adjustment needs and strategies for a youthful offender may also be re-administered at the end of work adjustment to determine what new interests and potential the individual now has and is motivated to use. See Figure 1 for an illustration of the process.

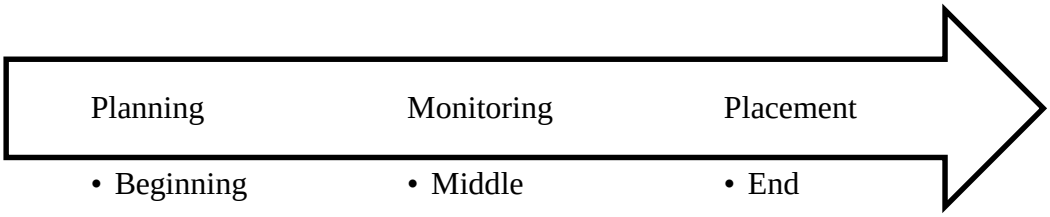

Figure 1. Evaluations of students from early to late grades by vocational rehabilitation and public employment programs.

What Referral Sources Want from Evaluation

Marketing efforts must strongly emphasize that there needs to be a careful balance between what the referral source wants from an evaluation, and when, in the overall process, the consumer should be referred. As illustrated in the previous section, referral sources must understand that evaluations offered early in a rehabilitation or education process can address planning issues much better than direct placement options.

Take, for instance, a counselor who makes a referral for an evaluation early in the rehabilitation process. The referral form requests recommendations for specific jobs that the consumer can and would like to do. The evaluation reveals that the individual is currently unmotivated to work and has poor socialization and work maintenance skills, requiring extensive work adjustment and counseling. In this case, even recommending general areas for employment would not be appropriate until work adjustment services have been rendered. If work adjustment fails to bring about desired changes, job recommendations based on success in adjustment would

be unrealistic. On the other hand, if work adjustment is successful, the consumer may be capable and interested in receiving training or employment at much higher levels than was considered feasible prior to adjustment services.

In this situation, the evaluator has two choices: a) provide two sets of contingency-based recommendations, one set based on a lack of success in work adjustment, another set contingent on success in work adjustment; and b) recommend that the consumer be referred for another evaluation at the end of work adjustment to determine current and realistic employment options. The evaluations that are offered at the beginning and the end of this work adjustment process may have very different outcomes. The accuracy of job recommendations made early in the process are dependent on the appropriateness of planning, the similarity between evaluation recommendations and the plan, and the success of services rendered.

Several recent studies have been conducted into what referral sources want from vocational evaluation. Following is a table (Hayward & Thomas, 1993, p. 337) that provides a ranking of what 900 Vocational Rehabilitation Counselors from 15 states nationwide considered as important purposes of vocational evaluation (counselors could select three responses).

Table 3

Importance of Purposes of Vocational Evaluation

Purpose of Vocational Evaluation	**Percentage**
To determine the client's vocational abilities	72.3
To help determine which services will be needed	45.6
To help develop an appropriate IWRP (plan)	43.9
To determine client's abilities and limitations	36.6
To help make a determination of eligibility*	34.4
To give client a more realistic understanding of self as a worker	29.8
To improve client's likelihood of employment	10.3
Other	0.3

*No longer allowed under the law.

Table 3 tends to indicate that counselors wanted a better understanding of an individual's ability and potential so that this information could be used in planning. The majority of the evaluations in this study were conducted early in the process and would, therefore, have a greater emphasis on planning. Improving the likelihood of employment may not have been rated highly since counselors already expected that the client would be employed, and simply needed help from evaluation to plan a direction.

Lee, Taylor, and Rubin (1994) conducted a study with 120 vocational rehabilitation counselors in a Midwestern state to determine the counselor's perceived value of vocational evaluation information. It was found that the three highest-ranked items by the counselors in the survey group were related to the functional aspects of the consumer (physical limitations, physical capacities, and health/medical limitations). This was not consistent with the evaluator's perception that interest, achievement, aptitude, and skills information were what VR counselors

wanted most. The study also revealed that although counselors consider functional information to be of greatest value from vocational evaluation, they were not always satisfied with what they received. The authors felt the findings suggested that counselors were not receiving sufficient medical information from health care providers for practical decision making regarding rehabilitation potential.

Using factor analysis of a 45-item questionnaire, Taylor and Bordieri (1995, p. 14) identified three areas (or factors) of vocational evaluation information that were considered to be of value to 374 VR counselors in four Midwestern states.

Factor I: Work Personality, Physical and Cognitive Considerations. This area contained evaluation information related to a consumer's work personality and physical and cognitive capabilities.

Factor II: Specific Job Selection Considerations. Included under this factor was evaluation information that assists consumers in identifying optimal vocational choices.

Factor III: Formal Education and Training Considerations. This consisted of evaluation information related to a determination of optimal vocational training and educational opportunities for the consumer.

Counselors in the study indicated that information provided by vocational evaluators on *Specific Job Selection Considerations* (Factor II) was not as "sufficient" for use in planning as the other two factors. Counselors expected more information on specific services that could reduce deficits in consumers' knowledge of vocational limitations, local feasibility of consumers' job options, available training programs in the community, and transferability of the individuals' job skills.

Lombard (1994) and Miller, Hazelkorn, and Lombard (1997) surveyed special populations educators in 70 Wisconsin secondary schools that offered formal vocational assessments. The study found that school personnel used assessment data for the following activities.

Table 4

Percentage of Assessment Data Used for Activities

Activity	**Percentage**
Individual education plan (IEP) development	86.0
Placing students into programs	86.0
Formal transition planning	87.0

Planning appeared to be the primary use of vocational assessment information in the surveyed schools.

Wesolek and McFarlane (1991) analyzed 284 surveys from eight states and the District of Columbia, representing four vocational evaluation referral sources: educators (special education, vocational education, general); proprietary rehabilitation personnel (Workers' Compensation); state rehabilitation agencies personnel; and employment personnel (JTPA, job service). This study of 47 factors examined the perceived needs of vocational assessment information by those who use the results. Following is an analysis of the primary information needs by setting.

Education. Work skills/abilities, communication skills, vocational interests, common sense/judgment, and creativity.

Proprietary rehabilitation. Work skills/abilities, physical limitations, employment/work history, health and medical limitations, training history, physical adaptability, residual functional capacities, marketable skills, and job readiness.

State rehabilitation agencies. Work skills/abilities, physical limitations, employment/work history, health and medical limitations, and residual functional capacities.

Employment services. Work skills/abilities, physical limitations, employment/work history, health and medical limitations, training history, communication skills, common sense/judgment, creativity, marketable skills, job readiness.

The authors concluded that the perceived needs of the two rehabilitation and employment groups were more similar than those of the education group. More specifically, the education referral source had significantly different perceived needs for vocational assessment results. Information on what referral sources want from vocational evaluation will be discussed further in the chapter on report writing.

Rules of Vocational Evaluation

If an evaluation is to be successful, then it must examine more than the vocational needs and potential of individuals. For that reason the evaluation must be holistic, ecological, contextual, and functional. It must be holistic in that the total person should be considered. The broad range of vocational issues related to employment or training options, learning and modification requirements, and interests and temperaments must be supplemented with additional assessments of basic skills and abilities, behaviors, living conditions, family, transportation, personal/social issues, community supports and services, and recreation.

It must be **ecological** in that the environment a consumer will be entering, or returning to within the community, should provide the specific model for the assessment. For an individual with head injury who may have subtle changes in behavior or performance, carefully matching the person with the total environment (whether it be work, educational, living/family, or personal/social, etc.) would provide the best way of determining the barriers that currently stand in the way of success (Parker & Schaller, 1996; Thomas, 1991). The work place (or organizational) culture is an important environmental issue in that worker acceptance is dependent, to a degree, on socialization—a concern for many individuals with disabilities (Szymanski, Ryan, Merz, Trevino, & Johnston-Rodriguez, 1996).

It must be **contextual** in that the background of the evaluee and all functional abilities and limitations must be considered within the context of the situations in which the person will be placed. This is similar in nature to the ecological assessment process but looks at context-specific situations more than total, and sometimes unrelated, environments. For example, the context of the work station (co-workers, supervisors, work demands) at times may be of greater importance than the overall environment of the plant (noise, lighting, employer attitude, etc.).

It must be **functional** in that norm-referenced testing and the isolated measurement of abstract constructs may have little bearing on day-to-day functioning. Any assessment must be able to directly relate performance outcomes to realistic tasks and activities. Content-specific or criterion-referenced assessments can provide meaningful information about how a person will perform or behave in a particular setting.

Vocational evaluation, like the rehabilitation and transition process, should incorporate a **multi-disciplinary approach.** This would include other professionals such as physicians, psychologists, neuropsychologists, occupational therapists, physical therapists, speech therapists, social workers, and teachers, as well as parents/spouses/family members, friends, co-workers, employers (past and future), and the person being evaluated. Deutsch and Fralish (1989) felt that the person being served is an equal member of a total rehabilitation team and should therefore be referred to as a "member" rather than a "patient," in order to give them a sense of ownership and belonging in the process. After all, the most important person in the process is the individual being served. Evaluation requires the involvement of a wide variety of concerned participants, all of whom have valuable information to offer to the **transitional rehabilitation process**.

Information from these many participants is critical to the total evaluation picture. File reviews, interviews, observations, and staffings conducted by or with significant others have nearly as much to offer the vocational evaluation process as do results from standardized tests, work samples, situational assessments, and job site evaluations. Evaluators do not have the time, opportunity, or expertise to collect all essential information necessary for an effective and truly comprehensive evaluation. Therefore, evaluators must ensure that other professionals, family, and employers are as actively involved as possible. If other specialists are not available in-house, then cooperative working arrangements should be developed or report recommendations written to specify the additional evaluations needed to fully assess the evaluee's needs and directions.

There are many different rules that guide the vocational evaluation process. However, for the sake of brevity, only the primary rules of effective assessment will be outlined. Evaluators must always remain cognizant of the importance of these rules in ensuring that the best services possible are offered to their consumers.

- Evaluations should be used to screen people *in* and *not out* of programs, services, and jobs. Keep the process flexible, positive, and highly individualized so that report recommendations provide creative guidance for improved functioning and independence in as many environments as possible.
- Evaluation can and should be administered more than once. It is an ongoing process that can assess initial potential and direction, progress throughout rehabilitation and transition, and specific placement needs and considerations at the end.

- It is the evaluator and not the instrument that makes the process work. The evaluation can be no better than the evaluator conducting it; and no matter how good an evaluation instrument, without proper skill and understanding of its clinical uses it will have limited utility. There is probably more misuse of tests and work samples today than appropriate and thoughtful use.
- If evaluators are not willing to put themselves or members of their families through their evaluation process, then consideration should be given to changing the process.
- Evaluation should take as long as necessary to gather all pertinent information. Setting limits may save time and money but could result in the loss of valuable information. When evaluation fails at its intended purposes, it is often the "process" that is discredited rather than the "limitation" on time and resources.
- The more comprehensive the process, the more detailed and accurate the results. Cutting corners in evaluation may yield information that cannot be trusted and will eventually tarnish the credibility and usefulness of the service.
- It takes more than a vocational evaluator to offer a comprehensive assessment. Other rehabilitation professionals, the person's family, the employer, co-workers, and the consumer also make up the vocational evaluation team. This means that evaluation should not always take place in a laboratory or clinical setting but in the community where the consumer plans to live and work.
- Evaluations should be both **diagnostic** and **prognostic.** They should tell you not only where the individual is at the moment (diagnostic) but also where the person could be in the future with appropriate, and specified, resources and services (prognostic).

Conclusion

Before any vocational evaluation or assessment service can be offered, specific issues essential to routine and effective service delivery must be addressed. Units need to determine the types of referral sources and populations they plan to serve, and the inclusive geographic areas, as well as what is expected from the evaluation. This will dictate the size of the unit (whether fixed or mobile), what will be administered, and how long it will take. Scheduling methods and numbers to be served must be considered in relation to the funding mechanisms and income requirements of the unit. Evaluators must be sensitive to the information needs of consumers and referral sources, and ensure that their service is offered at the appropriate time within the rehabilitation/education/transition continuum to adequately answer all questions.

There will always be a "tug-of-war" between production and rehabilitation, quantity and quality, when offering cost-effective, consumer-driven services. Evaluators want to provide the best assessment possible regardless of time and expense. Referral sources want the most information possible for the least amount of time and money. This delicate balance will require more than just a compromise of resources, but a unified vision of what is most important for optimizing a consumer's potential.

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