VOCATIONAL EVALUATION AND CAREER ASSESSMENT PROFESSIONALS (VECAP) JOURNAL

2023
Volume 18
Number 1

VECAP

THE OFFICIAL PEER-REVIEWED PUBLICATION OF THE VOCATIONAL EVALUATION AND CAREER ASSESSMENT PROFESSIONALS ASSOCIATION

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

Publishing, Subscription, and Advertising Offices:
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Introduction to the Issue by Amanda McCarthy,
Editor-in-Chief, VECAP Journal

This issue of the VECAP Journal contains two articles. The first article is a comprehensive discussion of the concept of triangulation as applied to vocational evaluation and career assessment. In their article, Drs. Sligar and Castiglione synthesize the triangulation literature with vocational evaluation and career assessment concepts and principles to help readers gain a more complete understanding of triangulation in evaluation and assessment. The effective utilization of triangulation by vocational evaluation and career assessment professionals ranks among the most important for achieving helpful and ethical evaluation results. Whether you are a seasoned or novice professional, this article offers tremendous value to those practicing vocational evaluation and career assessment. We encourage you to read the article and refer to it as needed in your practice.

The second article in this issue is an interview with VECAP President Kelsea Mills. The interview is the first in the VECAP Interview Series, an initiative to provide practitioner and student friendly content in the VECAP Journal. In the interview, Kelsea discusses the field of vocational evaluation and career assessment as well as her own career development and experience in the private sector. We believe this content would be valuable to anyone who might be starting out in the field, wanting to start their own vocational evaluation business, or even expand a current business.

We hope you enjoy this issue of the Journal and find it valuable for your practice. Please do not hesitate to contact me if you have questions or comments.

On behalf of the VECAP Journal Team,

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Vocational Evaluation and Career Assessment Professionals Journal

2023, Volume 18, Number 1

The Use of Triangulation in Vocational Evaluation

Samuel Castiglione and Steven R. Sligar

Abstract

This practitioner-oriented article focuses on triangulation and how it is applied in the analysis and reporting of data collected during a vocational evaluation or career assessment (VE/CA). Triangulation is defined and its principles are discussed along with an examination of possible reasons practitioners do not use triangulation in their practice. Using Career Interest Factors from Super, we provide an example to demonstrate how triangulation is integrated into VE/CA. Next, we discuss the construct of cognition and how it is incorporated into reports. We use four report-writing approaches: computerized, systems, functional with two methods (i.e., Fit-to-Match, Response-to-Intervention), and counseling as ways to illustrate how triangulation of cognitive factors can be reported. Finally, we include suggestions for incorporating triangulation in practice.

Keywords: Vocational evaluation, career assessment, triangulation, convergence, cognitive factors

The Use of Triangulation in Vocational Evaluation

Triangulation is a concept that was originally developed by the ancient Greeks and Egyptians as an aide in navigation. The early sailors would note two landmarks that were used as the vertexes of a triangle. Using their ship location as the third vertex, they were able to pinpoint their position and then calculate their direction (or bearing). The first recorded description was from Heron of Alexandria in the first century CE (Editors of Encyclopedia Britannica, n.d.). Currently, triangulation has many applications in various fields: qualitative research, program evaluation, social sciences, psychology, public health, and vocational evaluation. To paraphrase Dyer (2015, para 6), "triangulation is simply the process of using at least three points of data when making educational [or vocational evaluation] decisions."

Vocational evaluators and career assessment professionals (VE/CA) use triangulation in their daily practice. They are guided by principles identified in the seminal "Position Paper of the Interdisciplinary Council on Vocational Evaluation and Assessment" (Smith et al., 1994). Those principles were reconceptualized and re-affirmed in the revised position paper by Castiglione et al. (2018). Two of the guiding principles that address triangulation are: (1) VE/CAs use multiple methods to assess various domains and (2) VE/CAs cross-validate their findings. For example, a VE/CA may conduct an interview, observe work sample performance, and administer an interest inventory to evaluate a client's occupational interests. The VE/CA will look for congruence and consistency across all three tools, which will indicate the usefulness and accuracy of the information.

We provide a review of the principles of triangulation in VE/CA and a definition of triangulation. We suggest possible reasons triangulation may be neglected as data collection and analysis techniques describe the process of triangulation, using examples of occupational interests and cognitive abilities. Using five triangulation approaches with five redacted corresponding case studies from Dr. Castiglione's private practice, we propose ways to incorporate and report triangulated results.

Principles of Triangulation

Definition

Baker et al. (1990) describe triangulation as the use of multiple measures in a "systematic process of several types of 'best you can get measures'" (p. 27). They discuss two concepts: triangulation, which is the method of using multiple measures, and convergence, which is the degree of agreement between measures.

Use of Multiple Measures

An interdisciplinary group of VE/CA professionals posited the underlying values and guiding principles of service provision and competencies required of VE/CAs. In 2018, Castiglione et al. suggested eight guiding principles for the practice of VE/CA. Excerpts from two principles that relate to triangulation are:

- A variety of methods, tools, and approaches should be used to provide accurate vocational evaluation and assessment.

- Vocational evaluation and assessment information should be verified by using different methods, tools, and approaches for each domain of investigation.

Using alternative methods or approaches to validate findings can primarily be achieved by a triangulated process: a) observing an individual's demonstrated or manifested behaviors, such as performances on actual work; b) using an individual's self-report or expressed statements; and c) administering some type of survey, inventory or structured interview or test (Castiglione et al., 2018, p. 3).

Convergence

Convergence is a "problem solving strategy" (Roco, 2020, p. 1) that involves both quantitative and qualitative data coming together (Cambridge Dictionary, n.d.) to corroborate assumptions about a client's behavior. One example using quantitative data is the psychometric property of predictive validity that measures how well a variable, usually a score, correlates with a variable that is measured after the test was administered (APA Dictionary of Psychology, 2020a). A correlation coefficient is commonly used to measure validity and a score of .50 is uncommon. A score of >.30 is considered useful (Hays, 2017). When multiple tools are used, the validity of both tools needs to be considered.

Schmidt and Hunter (1998) examined 20 assessment methods used alone or in combination. They used tests of general cognitive ability as the baseline and reported those tests that had a validity of .51 when used alone. In another measure, work samples had a validity of .54. However, when both

instruments were used, the combined or incremental validity increased to .63, which represents a 24% increase (p. 265). They also examined structured and unstructured interviews with stand-alone validity of .51 and .38, respectively. When combined with cognitive ability tests, incremental validity and percent of change increased for structured interviews (.63 and 24%) and unstructured interviews (.55 and 8%). Schmidt and Hunter's study makes a strong case for corroborating evidence.

Abdalla et al., (2018) discusses the use of triangulation in qualitative research, which is subjective and interpretive, to improve the credibility of the results. They posit that organizational researchers have the opportunity to improve the precision of their assessments, if they proceed with diverse methodologies, diversify data collection, analyze such data with different methods, and/or include other researchers who study the same phenomenon. (p. 70)

Re-writing their statement, we suggest that VE/CAs can improve their assessments by incorporating subjective and interpretive data. If the VE/CAs use multiple measures to collect different types of data, then they can interpret the resulting data as convergence of data, and even involve other VE/CAs to help with the process. Maxwell (2012) asserts that using triangulation in research reduces the inherent risks and limitations of using one method and yields better results. This concept also applies to VE/CA. Each test, work sample, or other technique has inherent weaknesses and limitations. When the data is collected from multiple sources and interpreted together, the results will be more useful.

We suggest that triangulation is a specific data collection and analysis method used in vocational evaluation that provides more useful information. This is especially true in a comprehensive vocational evaluation because of the wealth of data that is collected. Similarly, triangulation is also helpful with brief forms of assessment that collect less data.

Neglect of Triangulation in VE/CA

We posit that triangulation is an excellent method to collect and analyze data. The use of multiple methods to collect data is aligned with the Universal Design for Learning Guidelines (Smith et al., 2012) and convergence fosters an ethical approach to data analysis (VECAP Standards Committee, 2021). Hamilton and Shumate (2005) reference triangulation of assessment techniques as a factor in standardized assessment. The terms triangulation and vocational evaluation or career assessment appear frequently in Google Scholar searches though the results relate to methods used in research studies. There are no papers regarding how to conduct triangulation of VE/CA data. In other words, a discussion of how to incorporate triangulation in day-to-day practice is missing.

Several factors, extrinsic and intrinsic to VE/CA, may have contributed to the state of affairs where the triangulation process has been neglected. Modahl (1997) and Woodford & Modahl (1999) recognized two factors: lack of general understanding of/appreciation for vocational evaluation among rehabilitation practitioners and career development specialists; and pressures of finances, time, and resources leading to the contraction of time spent in vocational evaluations. Other negative influences have continued to develop: the growth of computerized assessment systems along with over-valuation of the results obtained (Lievens, 2006); and the misunderstanding, misuse, or superficial use of information related to cognitive factors found in psychological evaluations (Alpay, 2005).

Anecdotally, we add our impressions gleaned from reviewing VE/CA reports based on our consulting with various agencies, serving on assessment review committees, and supervising graduate interns as well as practicing VE/CAs. Our observations include a lack of use of many measures (e.g., interests based solely on self-report); failure to report consistencies or discrepancies between the client's background, observed behaviors, and results of tests, work samples, and other techniques

used; the dearth of report-writing models that incorporate triangulation; and lack of sufficient report reviews and feedback. One common factor that undergirds the neglect of triangulation is a lack of sufficient clinical supervision/support for VE/CAs in contrast to the provided administrative supervision (see Sligar & Betters, 2012).

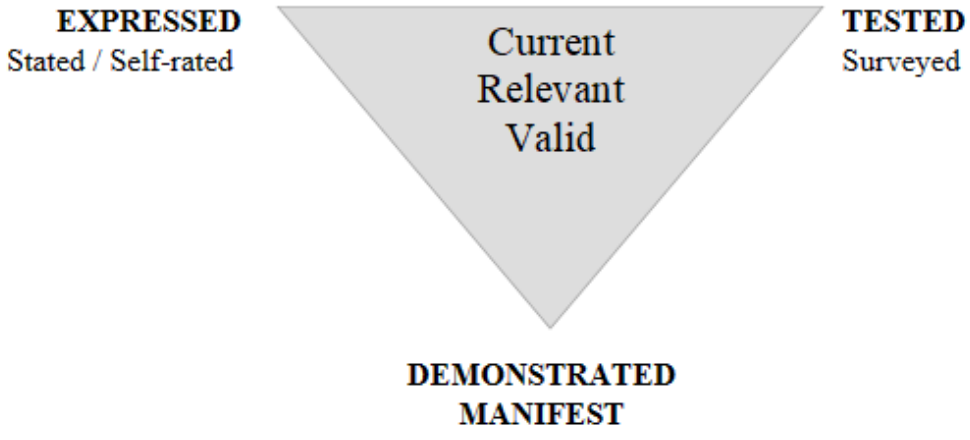
Furthermore, we add the lack of professional recognition and affiliation among VE/CAs as another contributory cause of neglect. In 2017, the memberships of the two national professional associations, the Vocational Evaluation and Work Adjustment Association (VEWAA) which is a division of the National Rehabilitation Association (NRA), and VECAP, a stand-alone organization, each had memberships that only account for about 20 states or less (2017 VECAP Membership data set; VEWAA president, personal communication, January 15, 2018). In 2021, VECAP was represented in 34 states, but many states have only a few members (VECAP Executive Board, personal communication, January 10, 2021). Some states do not use or recognize evaluators, rather, the states rely on educational or psychological evaluations and, in some cases, no evaluation at all. Individuals performing vocational evaluations may only do them as a subset of their main jobs, such as job coaches, mental health counselors, rehabilitation counselors, or college/school career counselors (see Sligar & Betters, 2012). Despite the neglect, we posit that triangulation is a necessary and useful way to collect and analyze data. To demonstrate the importance and usefulness of triangulation, we examine how it is used to help assess career interest and cognitive factors in VE/CA.

Triangulation of Career Interests

One of the initial uses of triangulation in VE/CA was an application of the Career Interest Factors (CIF), first identified by Donald Super (1957). The three CIFs are **Stated** (which involves the client's overt career goal, if they have one, plus “fantasy” interests); **Manifest** (what people like to do when they are not performing obligatory household or work activities, such as hobbies or volunteer work); and **Tested/Surveyed** (note there are a few actual interest tests, most tools are surveys or inventories). Surveys yield a person's responses to the systematic view of the entire work world, not just to career areas where they have had the most exposure. Additionally, we know that best practices should include at least two different types of interest inventory (e.g., written, pictorial, multimedia) because these often yield different response patterns(Castiglione, 2011). A single interest inventory may provide misleading results for career exploration or decisions. When interpreted together, these three CIFs represent the triangulation of three different measures.

Figure 1

Structural and Dynamic View of Triangulation



Using Super's terms, Figure 1 shows both a structural and a dynamic view of triangulation. Structurally, each CIF is at the vertex of an inverted triangle. This represents the dynamic aspect as each CIF interacts with the other two. When all three agree, the triangle appears equilateral with each side supporting the other two. The resulting triangulation provides current (represents the convergence of client interests at the moment), relevant (reflects interests unique to the client), and valid or useful (specific interests are used in planning) information.

The following is an example of triangulation using Super's CIFs (1957) and Holland Codes (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional [RIASEC]; Holland, 1959). This example was presented in Castiglione (2011) and is used with the author's permission. The following is from an evaluation of a student who has no employment history.

> ***Stated*** (Interview): The VE/CA reviews the client's statements about current work activities, including hobbies, and compares those results to descriptions of each of Holland's six codes as defined in the Occupational Network Online (O*Net; 2023a). Next, code(s) were assigned to occupations.
>
> Ex: Auto Mechanic (RIC; 3-letter code from https://www.onetonline.org/link/summary/49-3023.00)
>
> ***Manifest*** (Interview): Discusses previous work activities such as likes and frequently makes mention of taking things apart, drawing machines & buildings, and hunting & fishing, (represent a strong R because of repeated references during the interview), and playing guitar (mentioned only twice, which represents a minor A); therefore, a Holland code of RA is ascribed.
>
> ***Surveyed*** (Two instruments)*:*
>
> - CDM-R (Career Decision Making System-Revised, level 1; Harrington-O'Shea, 2005). Career interest areas are ranked by score: Crafts (25), The Arts (15), Office Operations (12), Scientific (10), Business 8, Social (6).
>
> - Valpar Interest Inventory (Swartz & Nakagawa, 1999). The inventory is forced choice, and uses photos and written occupational descriptions with audio support. Interest areas are ranked by scores: *Significant high:* Industrial, Mechanical, Plants & Animals, Physical Performing; *Average*: Accommodating, Artistic, Business Detail;* *Low*: Scientific, Protective, Selling, Humanitarian, Leading-Influencing.

One method used to synthesize this data is the development of a composite code from each factor based on Holland's RIASEC (see Table 1). First, the VE/CA assigns a Holland code to each task, preferably a three-digit code (e.g., RAC), and then assigns a numerical rank order from high to low (i.e., 3 – 2 – 1). In the example from the interview for stated interests, the rating is R = 3, I = 2, and C = 1. The process is the same for Manifest and Tested/Surveyed interests. However, if the interests are unclear, distributed values need to be assigned. Note that the Valpar Interest Inventory does not indicate clear distinctions because the 3 average areas cannot be separated in terms of strength. Thus, each is given 1 point in the scoring process. Next, the VE/CA sums each column to yield a composite code (CC). The top three scores indicate a three-digit CC. If there are ties in the CC, then the results should be discussed with the client to determine a final CC.

Table 1

Determining a Composite Code

Factor	Holland Code					
	Realistic	Investigative	Artistic	Social	Enterprising	Conventional
Stated Interview	3	2				1
Manifest Hobbies, volunteer work, etc	3		2			
Tested CDM	3		2			1
Valpar Interest Inventory	3		1	1		1
Composite Code	**12**	2	**5**	1	0	**3**

Note: Composite Code is RAC

Using the final CC, the data converges, which facilitates the VE/CA's ability to explore and identify occupations of interest with the client. The VE/CA may then identify example jobs and include a statement in the report like: *An employment goal consistent with this code or a close variant would be more likely to result in job satisfaction and retention*. The triangulated interest results also provide more foundations for career recommendations and planning. The caveats to this method of triangulation relate to the trustworthiness of the data collected during the interview, the appropriateness of the inventories used, and the skill of the VE/CA to accurately match the described tasks with the correct Holland code. This process may be applied to every assessed domain, including cognitive.

Triangulation of Cognition

Cognition and the related construct of intelligence are critical components that cross all occupations and the assessment of cognition's relation to employment is integral to the VE/CA process. In order to conduct a triangulation, the VE/CA must know about these constructs and how they relate to employment.

Cognition and Intelligence

The American Psychological Association (APA) defines cognition as "all forms of knowing and awareness, such as perceiving, conceiving, remembering, reasoning, judging, imagining, and problem-solving" (APA Dictionary of Psychology, 2020b). Cognition is defined in the O*Net (2023b) as "abilities that influence the acquisition and application of knowledge in problem-solving" and includes a list of 21 elements such as category flexibility and inductive reasoning. The Occupational Requirements Survey (ORS; US Bureau of Labor Statistics [BLS], 2021) defines cognitive and mental requirements as "The qualifications that workers need to use judgment, make decisions, interact with

others, and adapt to changes in a job" (p. 2). The ORS lists the ability to pause work, problem-solving, and 14 other requirements. Both the O*Net and ORS focus the meaning of cognition in occupational terms.

A construct separate from, though intertwined with, cognition is intelligence. The APA defines intelligence as "the ability to derive information, learn from experience, adapt to the environment, understand, and correctly utilize thought and reason" (APA Dictionary of Psychology, 2023c; for more information on the various definitions of intelligence refer to basic tests and measures texts). VE/CAs are concerned not only with the definition of intelligence but also its measurement. As regards the former, the Dictionary of Occupational Titles (DOT; US Department of Labor [DOL], 1991a) was designed to define different types of work (p. xv). Part of the definition uses worker characteristics (WC), which are defined as worker attributes that "contribute to successful job performance" (DOL, 1991b, p. 1-1) and two of these are related to intelligence. One of the WCs defines the aptitude of general learning ability (G) as "The ability to 'catch on' or understand instructions and underlying principles; the ability to reason and make judgments" (DOL, 1991b, p. 9-3). In addition, the DOT includes the WC of general educational development (GED), which is comprised of reasoning (R), mathematical (M), and language development (p. 7-1).

Two other cognitive factors are emotional intelligence (EI) and emotional work. These two constructs are of importance to VE/CAs due to their relationship to career development and success. Opengart (2005) writes that EI, with its emphasis on the individual's ability to understand and control emotions of self and others, grew out of psychology. Opengart also states that the field of sociology contributed to the construct of emotional work, which considers the context and social factors of the workplace. While not directly stated, EI is included in the O*Net's Work Styles, which are "personal characteristics that affect how well someone can perform a job" (O*Net, 2023c). For example, the work style of adjustment includes three factors: adaptability/flexibility, self-control, and stress tolerance.

Generally, VE/CAs do not perform intelligence testing as a central function, leaving that to licensed psychologists. However, VE/CAs should be knowledgeable about the construct of intelligence and sophisticated consumers of intelligence test data. During different times in the process, VE/CAs may incorporate various measures of cognitive ability that correspond to the VE/CA's level of training into their evaluations in conjunction with other tools to triangulate the client's level of functioning.

Vocational Implications of Cognitive Abilities

VE/CAs must consider the cluster of issues about IQ in general and more specifically about intelligence related to training and employment (for more information, see Power, 2013, pp. 193 - 222). Failure to appreciate the complexities of this topic may lead to superficial use of our data or overlooking critical strengths or weaknesses regarding the client's career potential. We do not have to resolve the many unresolved issues amongst psychologists and psychometricians, but we do have to think critically and keep basic measurement principles in mind.

While there has been an ongoing discussion about what IQ tests can tell us. Some conclusions are still held by many assessment professionals (Alpay, 2005, 2015; Côté & Miners, 2006; Swayne 2015):

- IQ is closely related to cognitive factors
- IQ has been a good predictor of academic success/scholastic achievement
- IQ has predicted access to higher training and predicts occupational status (though not job success).

- IQ is less predictive of job or career success; however, IQ is more predictive of success where job task performance is narrowly defined separate from social, motivational, and other personal characteristics

For evaluators triangulating cognitive results, we suggest that some vocational implications based on the above may include: The higher the *cognitive abilities* (from about mid-average and higher), the more likely a person is to gain access to training involving abstract, symbolic, or technologically intricate careers such as university training. Conversely, the lower the *cognitive abilities* (from low average and lower), the more likely the person is to encounter obstacles that may prove frustrating, drain energy or motivation, take extensive time to overcome, or be cost-prohibitive, towards such careers. Other writers have correctly noted that some characteristics of persons may well mediate, influence, or detract from, the effects of cognitive abilities on education and job performance (Alpay, 2015; Côté & Miners, 2006; Power, 2013; Strauser et al., 2020; Swayne, 2015). The VE/CA also needs to consider accommodations and modifications as ways to overcome barriers to employment (for more information, see askjan.org)

Cognitive and Emotional Intelligence

Côté & Miners (2006) found that cognitive intelligence (CI) is positively related to both dimensions of job performance: task performance and organization citizenship behavior (OCB; for more information, see Industrial-Organizational (I-O) Psychology literature and texts). OCB is found in most, if not all jobs and is the more general term for characteristics that relate to employability – punctuality, hygiene, social skills, courtesy, conscientiousness, etc. (Katz, 1964; Organ, 1988, 1997). Second, Côté & Miners point out that CI and EI are compensatory concerning task performance and OCB directed towards the organization (OCBO), which is a more specific form of OCB. OCBO helps accomplish the organization's mission, such as asking for/offering help, altruism, sportsmanship, civic virtue, and similar behaviors. CI and EI are compensatory in the following way:

- Emotional intelligence becomes a strong predictor of task performance and OCBO as cognitive intelligence decreases.
- Employees with low cognitive intelligence perform tasks correctly and engage in OCBO more frequently if they are emotionally intelligent.

Triangulation such as this involves the convergence of data identifying the person's effective cognitive functioning, and the mitigating presence of the person's emotional intelligence.

Additional Cognitive Factors

To triangulate cognition, VE/CAs have to know where to find cognitive factors that may come from a variety of sources and the terms used to describe them. Cognitive factors can be found in intelligence and specific cognitive ability tests; scholastic and vocational aptitude tests; profilers; and academic and-achievement tests as applied cognitive abilities (for more information, see test manuals and tests and measurements texts). Of relevance to VE/CAs are the DOT worker characteristics, O*Net occupational abilities, and ORS cognitive and mental requirements. These three sources may be found in job analysis reports, a client's work history, or embedded in work samples, job profiles, or position announcements from an employer.

VE/CAs may also find functional definitions from related publications such as the DOL project report developed by the Secretary's Commission on Achieving Necessary Skills (SCANS; DOL, 2000), Educating for the Future Standards (Stein, 2001), and the VECAP White Paper on Functional Vocational Evaluation (Castiglione et al., 2010). These publications contain lists and definitions of terms that might be used in VE/CA reports and recommends that clients use this information for developing resumes and cover letters, completing applications, and describing themselves during interviews.

Finally, the field of counseling provides another source of relevant cognitive terms that includes types of attitudes, values, opinions, and ideas that promote or impede a person's happiness and success (for example see texts like Hackney & Bernard, 2016; Ivey, 2017). Observational data may include negative statements that a person makes to themself that may present significant obstacles to progress (such as “I can’t learn things. I never do well on tests.”). Included here are the perceived self-ratings of their cognitive abilities, as well as their reactions to examining the results of tests and work samples (“That work sample was too hard, I can’t do that.”). Similarly, positive statements and ratings may show resilience and a positive outlook on problem-solving (“This was easier than I thought.”).

As we have discussed, cognitive factors are an important part of the evaluative process. This assertion is supported in the Assessment Decision Guide (US Office of Personnel Management, n.d.) which includes a discussion of the importance of evaluating job-related competencies like “oral communication and problem-solving” (p. 3). We assert that triangulation improves the usefulness of information about the client’s cognitive functioning. One way to demonstrate this usefulness is how cognitive factors are triangulated and discussed in VE/CA reports. We look at four different approaches.

Four Approaches to Triangulation of Cognition

VE/CAs conduct assessments by relying on their varied backgrounds and having access to various tools and approaches to collect, triangulate, and report on client performance. Pruitt (1986) suggested that a “vocational evaluation report is a systematic way of communicating the results of an evaluee’s performance and related data to another professional” (p. 93), and Wright (2019) broadens the audience to include the client and their family, teachers, lawyers, and others. Parts of the report include a discussion of background information, test results, and other sources related to the client’s cognitive abilities. The VE/CA may apply the four-part process of anasynthesis as described by Silvern (1980) which is: 1) the analysis of the collected information, 2) synthesis of the information in a new, meaningful, and understandable way, 3) creation of a mental or physical model of how the new interpretation is applied, and 4) simulation or trial to arrive at a recommendation. Triangulation supports the anasynthesis process, which results in convergence that helps the VE/CA to provide an accurate description of the client’s cognitive factors related to employment. An examination of how the information is presented in a report shows an application of triangulation in practice.

The field of VE/CA does not have a standard report format for various reasons such as type of program (e.g., public VR, private community-based, hospital, school, workers compensation), population served, funding source, and the writer’s skill and professional background (Thomas, 1997/2020). However, the contents of the report are similar as covered in various sources such as texts (for example see Hays, 2017; Power, 2013), the International Certified Vocational Evaluator Rubric (n.d.), and CARF International Standards for Comprehensive Vocational Evaluation (CARF International, 2021). Several fields have made foundational contributions to VE/CA (Thomas, 1997/2020) and we selected four examples, the systems approach from neuropsychology, two functional approaches from physical and occupational therapy, and the multi-modal approach from counseling. We start with a computerized approach that crosses all disciplines. We believe the diversity in these approaches will demonstrate the process of triangulation that leads to convergence.

For a VE/CA to write useable reports, they need to know about different approaches to report writing and select the one that is the best fit with its intended use while receiving meaningful feedback on the report's utility. We present four types of reports and focus only on cognition.

The Computerized Approach

The computerized approach refers to computerized assessments with customizable report-writing packages that have a built-in triangulation process capable of incorporating diverse data. One system offering this format is Valpar Inc.'s Pro3000 system (Pro3000) which is based on the DOT and measures three GED factors (RML) and seven of the Aptitude factors (GVNSPQC; Swartz & Nakagawa, 1999). The Pro3000 is comprised of computer-based tests (COMPASS) and a process that includes inputting work history, which captures the jobs with the highest level of functioning. The system also converts scores from Valpar Component Work Samples (VCWS) and numerous standardized tests to develop a composite profile (for more information, see http://www.valparint.com/moreP3K.htm). The discussion of this approach is based on a case in which interview and instrument results have been entered into the system that yielded a composite profile (see Table 2).

Table 2

Pro3000 Composite Profile

Instrument	GED Factors			Aptitude Factors						
	R	M	L	G	V	N	S	P	Q	C
VCWS 6	4	X	1	3	4	X	4	3	4	3
VCWS 7	3	X	1	4	4	X	4	3	3	3
Work Hx	3	3	3	4	3	3	3	3	3	3
COMPASS	2	2	2	4	3	5	4	2	3	1
Composite	**4**	**3**	**3**	**3**	**3**	**3**	**3**	**2**	**3**	**1**

Note. The GED Factors (R, M, L) range from a low score of 1 to a high score of 6. The Aptitude Factors range from a low score of 5 to a high score of 1.

The composite profile is the result of the use of multiple sources of data or triangulation (i.e., two VCWSs [#6 Independent Problem Solving and #7 Multi-Level Sorting], work history from the interview, COMPASS tests). The convergence of data yields the composite profile of 10 cognitive factors. The software was designed to triangulate the results using the various scores to show the client's highest level of functioning in each factor. In this example, the VE/CA needs to focus on jobs that require GED R (Reasoning) and Aptitudes C (color discrimination) and P (form perception) as a way to make the most of these cognitive abilities. The VE/CA may use the SkillTran Pocket Guide (n.d.) to interpret this information.

Report Statement. A VE/CA report may contain information like: Considering the client's cognition, the evaluation data indicates that jobs requiring high reasoning skills, superior color discrimination, above-average form perception, average aptitudes of G, V, N. S, and Q, and 7th to 8th-grade level M and L skills are within their range of abilities.

Caveat. One caveat in regards to the computerized report is the software cannot consider the impact of disability. For example, if a client with a history of jobs requiring high cognition sustains a head trauma, then the VE/CA has to make sure that the input data accurately represents the client's current level of functioning. Similarly, the software does not include provisions for accommodation or modifications that may have yielded a higher level of performance in previous jobs. Similarly, the impact on future jobs will need to be included in the prognostication of future employment.

The Systems Approach

This approach from the field of neuropsychology is used to describe a person's cognitive deficits and to determine their cognitive functioning in various systems or domains, one of which is work capacity (Paulsen & Gehl, 2022). For example, a neuropsychologist uses triangulation when they examine the interaction among symptom onset, etiology, and patient physical and behavioral characteristics as well as other data sources (e.g., medical history) to develop a diagnosis (convergence).

Case. The following is a summary from the *Case of Ms. Zho*. This case shows how triangulation occurs *within* the process of the VE/CA service and demonstrates a systems approach to report writing.

Summary. Southeast Asian female in the US about 3 years, late deafened while in a refugee camp after inappropriate medication for TB, has a cochlear implant, HIV+. She reported no work history. During intake, Ms. Zho stated completion of her basic education at age 16, then she began studying "something like electric power engineering," in a technical school when she had to flee. She was exposed to English in her native country. Certified male interpreter from her country used for spoken and written communication.

Triangulation. To evaluate Ms. Zho's cognition, the VE/CA considered three factors. First, her educational achievement was noted. She was further evaluated with the Tests of Adult Basic Education (TABE) Math Computation Level M (Moderate) and Language Level L (Literacy). The instructions were modified by translating the directions and test items into her native language. The results showed a working knowledge of word use and basic math skills. When she appeared to recognize some English words, the individual Reading tests from the Woodcock-Johnson IV Tests of Achievement (WJ IV) were administered to evaluate her knowledge of English. As a modification, the directions were translated. However, the items were not translated. The results showed skills in letter-word identification, word attack, and reading vocabulary.

Second, she completed a computerized battery with intrinsic and extrinsic work samples, as in the computerized approach (described above). Her aptitudes placed in the average range for G, S, P, Q, and C, and below average for V and N. The GED factors of R and L were low (level 1) and M was also low but at a 2 level.

Third, she completed the Comprehensive Test of Nonverbal Intelligence 2nd Ed. (CTONI2) to minimize cultural and language bias in testing and other factors. CTONI2 was administered

using pantomimed instructions per the manual and supplemented with translated verbal instructions. The results were usable and showed her to be functioning in the average range.

The VE/CA noted that the test items and work samples that were not language-based showed a higher level of performance than those with language requirements. For example, tests of basic math showed a higher level of skills than word problems. Similarly, work samples that measured physical capacities like form perception showed a higher level of abilities than those measuring verbal aptitude. The CTONI2 suggested she was functioning in the average range of intelligence.

Report Statement. A triangulated conclusion in the cognitive section of the report was presented as: Persons with this overall pattern of cognitive abilities and in light of prior educational attainment, generally have moderate success with formal vocational training and academic skill development, assuming sufficient motivation and effort. They typically learn skills in technical or even managerial occupations.

Caveat. The Systems Approach can be time-consuming. This evaluation required 4 and 2 days respectively spread over two weeks. The results from standardized tests are suspect at best due to the cultural and linguistic challenges. The scores were not reported for the TABE and WJ IV. Instead, a functional analysis approach (Thomas, 1997/2020, p. 198) was used to discern her abilities based on the knowledge and skills required to complete each item. The CTONI2 results were reported with a notation of a modification of instructions in Ms. Zho's native language. The evaluation process included discussions between the client, evaluator, and interpreter about possible cultural issues including communication, gender, and authority to identify and minimize those influences when possible. Toward the end of the evaluation, a summative review was conducted to address possible bias or errors in the instruments, process, or results.

Functional Approaches

Functional Assessment (FA) is widely used in a variety of professions including medicine, physical and occupational therapy, and VE/CA. Borass-Fernandez et al. (2021), state that "functional assessment measures an individual's level of function and ability to perform specific tasks on a safe and dependable basis over a defined period" (para. 2). They further explain that data needs to be collected from multiple sources, such as medical history; evaluation of muscles, bones, joints, and nervous system; and observation of physical effort and related behaviors. FA is important for persons who have a disability. In this examination of cognition, FA is very important for clients with significant combinations of sensory, motor, language, and/or cognitive deficits that render most traditional testing and standardized instruments inappropriate. The general principles of Functional Vocational Evaluation (FVE) have been articulated by Castiglione et al. (2010), a national workgroup, in their White Paper on FVE. Selected elements follow:

Definition. FVE is a systematic assessment process used to identify practical useable career and employment-related information about an individual. FVE incorporates multiple formal and informal assessment techniques [triangulation] to observe, describe, measure, and predict vocational potential.

What FVE is not. FVE is not a simple narrative description ("illustration" of functioning is not evaluation); exempt from fundamental assumptions about assessment (e.g., skilled assessor, an error is present, adequate behavior sampling, future behaviors inferred); simply curriculum-based assessment; or assumed to be easier or less expensive or time-consuming (p. 51).

In the following discussion, we use two different functional approaches, the Fit-to-Match and Response-to-Intervention methods.

Fit-to-Match Method

The Fit-to-Match (FIT) method is used with clients who have skills and characteristics that do not match an existing job description. The goal is to identify discrepancies between the client and the job and then propose accommodations, support, and job restructuring to fit the worker to fulfill the position (Friedman et al., 1996). With this method, the client and VE/CA discuss and explore potential jobs of interest. Preferably, the VE/CA has a specific job description upon which they can develop a profile of the client and the job. The VE/CA may use tools from the O*Net (see Questionnaires at https://www.onetcenter.org/questionnaires.html), or DOT (see The Revised Handbook for Analyzing Jobs; US Department of Labor, 1991b) to convert the requirements to codes that show the approximate level of functioning. The VE/CA may also use the codes from the occupation that matches the one of interest for the same purpose, for example, an occupation in the O*Net will have defined cognitive abilities.

The VE/CA must then determine if the client's cognitive capabilities fit with the importance and relevance ratings for the occupation. The VE/CA can apply a four-step process to determine fit-to-match. The following is a summarized description extracted from Friedman et al. (1996) and Wheeler (1996). The VE/CA 1) identifies the client's current skills and abilities using background (referral) information, client statement(s), work history, or performance on informal work samples or all four; 2) identifies which skills could be developed; 3) identifies which skills might need modification or accommodation, and 4) helps the employer and client identify the length of time to learn/perform the tasks and the hierarchy in which the tasks would be learned.

> **Case**. The following is the case of *Mr. James*. We show how using background data, psychometric testing, informal work sample results, and a job analysis were triangulated to help the client fit the job cognitively and recommend strategies for success. We apply the four-step process described above
>
> **Summary.** Mr. James was a 25-year-old man with autism, diagnosed with borderline intellectual functioning (IQ 68), and 3rd grade reading skills. He was offered a position with a local insurance company whose owner was trying to assist persons with disabilities. Mr. James was to receive supported employment services. The position was clerical handler (employer's job title; also see DOT #239.567-010 Office Helper and O*Net #43-4071 File Clerks) and required collecting and sorting documents from different departments, reading instructions (notes) on the documents indicating whether documents were to be copied and distributed, shredded and packed, or filed in a cabinet. He did not meet the cognitive requirements for the posted position and was referred for a focused career assessment to determine if/how accommodations would help.
>
> **Triangulation.** His tested intelligence and reading skills were provided by background documents. In an interview, he said he was used to filing documents by two letters from a school-based experience in the principal's office. During the assessment, he obtained DOT-based GED ratings of 2 for Reasoning and Language; although below average, he was capable of following oral instructions and routine procedures. He obtained specific DOT-based aptitude factor ratings of 3 or average in Form Perception, Clerical Perception, and Color Discrimination. Using informal work sampling (improvised task), the VE/CA observed that if the notes attached to documents were color-coded (e.g., green for copying, red for shredding,

orange for filing) that he was 100% accurate in determining the gross direction of the documents.

The VE/CA also determined that Mr. James had good emotional intelligence (EI). He showed interpersonal EI as he was courteous and offered to help others and intrapersonal EI when he recognized the need to ask for help when he was not sure of instructions. Thus, he could ask for assistance to develop the micro-skills needed for each of the three main divisions of his work. The employer indicated that a traditional candidate would be expected to learn the job in 2-3 days. The VE/CA was able to triangulate the results and project that Mr. James could master the tasks in 1-2 weeks, which was acceptable to the employer.

Report Statement. A VE/CA report may contain information like: A triangulated functional assessment of a client like Mr. James shows that although he may not fulfill a traditional competitive job description in its entirety, he is capable of a supported, customized occupational position where he has either sufficient personal supports and/or the basic duties of the job are shaped to match his functional cognitive abilities in order to facilitate successful employment outcomes.

Caveat. The VE/CA must have accurate information about the employment opportunity. Employer job descriptions may be obsolete or non-existent, which will add another step to the process, especially if the VE/CA has to conduct a job analysis. Triangulation requires more time for the assessment because the VE/CA needs to determine how consistently a client demonstrates a skill, across how many different settings, and explicitly how much and what kind of support(s) make successful performance possible. Correspondingly, to communicate the findings to job placement professionals, the counselor, client, and others, the VE/CA will require time to prepare a comprehensive report.

Response-To-Intervention (RTI) method

The RTI is another functional approach, which has been mandated for the assessment of transition-age students under later revisions of IDEA (Zirkel, 2018). Each of the 32 chapters within the Handbook of RTI (Jimerson, et al., 2007) provides a comprehensive reflection of the development of RTI with references. The authors deliver information regarding the foundation of RTI, including assessment application and research, as well as practical insights. RTI is most often conceptualized as falling into two basic approaches for the allocation of interventions: problem-solving approaches and standard protocol approaches (Fuchs et al., 2003). The problem-solving approach is conceptualized as a systematic analysis of instructional variables designed to isolate target skill/subskill deficits and shape targeted interventions (Barnett et al., 2004). In the standard protocol approach, a standard set of empirically supported instructional approaches is implemented to remediate academic problems. A review of the literature showed scant research on the use of RTI as a VE/CA tool. In the following example of RTI, we use an approach that is similar to Fuchs et al. (2003) standard approach because it involves four clients using the problem-solving approach, though it can be useful with just one client.

Case. In this example, four clients (J.S., K.S., A.M., H.T.) were applicants for a certified nurse assistant (CNA) training program. They were assessed by group administration to determine their capabilities for CNA training.

Summary. Due to the specific nature of the request, a targeted assessment was conducted. Part of the triangulated data collection involved using 1) existing IQ data and academic skill scores obtained during the vocational assessment (see Table 3). The third data set includes scores from two protocols designed to measure learning and retention. Specifically, these

protocols were set as a series of trials that involved a study period of five minutes and then a one-minute recall test with a score range of 0 to 100%. The trials were based on procedures from DIBELS ® (Dynamic Indicators of Basic Early Literacy Skills; for more information, see https://dibels.uoregon.edu/). Multiple trials per protocol were used to obtain the best results. One protocol was a list of medical terms and their abbreviations from the textbook used in the training class. While the materials remained the same, clients were provided interventions to try to enhance learning after trials 2 and 3. Interventions included discussion of their learning styles, opportunities to move around, take notes, read aloud, take pictures, and so on during the study period. Each protocol also included a delay period of lunch or overnight to allow for additional learning time. The criteria for successful mastery of the material were set at 80%, which is the same as required in the CNA class. Notes were taken to help determine client learning preferences.

Table 3

Response-To-Intervention: Functional Assessment of Four Clients

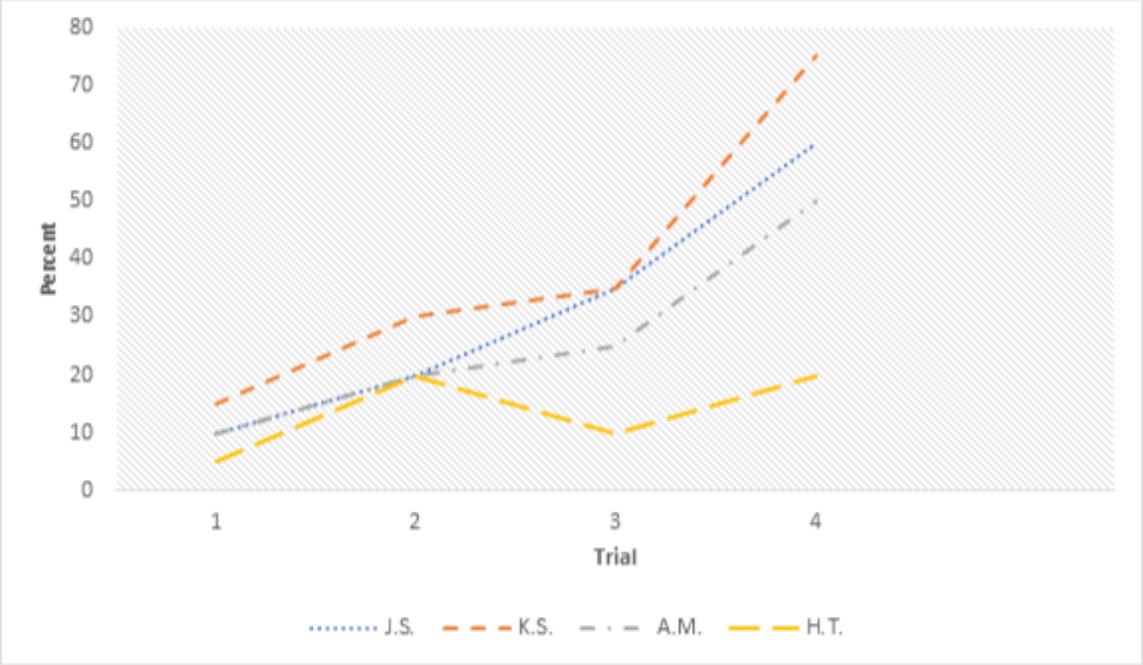
Person	Age	IQ Range	Reading
J.S.	38	68-75	6.6
K.S	17	89-93	10.6
A.M.	19	80-85	5.8
H.T.	17	69-74	3.7

Four trials were completed because adequate upward trend lines made further trials unnecessary (see Figure 2 for the results). Discontinuance also reduced administration time. Score interpretation involves an examination of the data points (i.e., obtained scores, criterion score [80%]) for each trial and each client. The VE/CA seeks to understand how the data is trending. If the scores are low and have no or slight changes, then the client has not mastered the material and may not be a candidate for training at this time. Additional evaluation may be needed. On the other hand, if the scores start low and trend upwards toward the 80% criteria, then the client may be a good candidate. If the slope of the client's line is headed toward the criterion, then other interventions are not needed as the existing method is showing evidence that it is working (for more information on trend analysis see QuestionPro, 2022).

Triangulation. The purpose of using the RTI method was to determine the client's ability to participate in a CNA training class. Using IQ scores showed differences between the participants but could not predict success. Similarly, reading scores showed current skills and the RTI outcome scores indicated cognitive skills to learn new material. When triangulated in toto, the IQ, plus reading scores, plus demonstrated learning slopes from the RTI scores resulted in three people (J.S., K.S., and A.M.) being referred for the program and one (H.T.) for more pre-vocational development. The second protocol yielded similar results and is not reported here due to space limitations.

Figure 3

RTI Results Set A Medical Terms & Abbreviations



Report Statement. A VE/CA report may contain information like: Functional Assessment using a Response-to-Intervention (RTI) method shows that a triangulated assessment of the cognitive demands of a particular training program (e.g., Certified Nursing Assistant in this case) provides a better perspective of a candidate's likely success than reliance on a single factor alone (e.g., IQ, reading level).

Caveat. As with Functional Assessments, triangulation in this type of report might require more description of how consistently a client demonstrates a skill, across how many different settings, and explicitly how much and what kind of supports make successful performance possible. In addition, while cognitive factors support the nursing assistant training, physical factors are not addressed. In some cases, more trials may be needed (requiring additional assessment time) to establish usable trend lines and more evidence-based interventions may be required.

This RTI approach undoubtedly takes more time to set up and provide interventions through administration time per trial is brief. With efficient planning, overall time can be minimized and the results are impressive and very useful. Additionally, if the VE/CA routinely receives requests similar to this one, then the learning and retention protocol is in place and can easily be re-administered.

A Counseling Approach

Some counselors or case managers may provide VE/CA services and then write a report of their findings. While there are several ways to organize the information, for this example we use the

BASIC-ID model from Multi-Modal therapy as a template (Keat, 1979; Lazarus, 1976, 1981, 1985). BASIC-ID is the acronym for Behavior, Affect, Sensation, Imagery, Cognition, Interpersonal, Diet/Drugs (see Appendix A for a detailed description). In Lazarus' publications, he points out that the seven modalities covered in the BASIC-ID are the most researched in the field of professional psychology and have a well-developed, corresponding array of interventions that can be used in treatment planning. A counseling treatment plan may include evidence-based interventions for each modality needing work and may prioritize the order of attack of the modalities. Also, consider the inherent neutrality of the modalities that can be used to identify strengths, as well as problem areas.

Note that for purposes of vocational evaluation and triangulation using this approach, cognition includes cognitive abilities (both perceived and measured), and other cognitive factors that can affect both vocational potential and participation in treatment. These factors include reasoning, problem-solving, knowledge, academic skills, and other specific cognitive work skills as described in the O*NET, DOT, and ORS.

Case. The case involved a referral for evaluation of vocational aptitudes and related academic skills as an aid to psychotherapy with the ultimate goal of returning to work.

Summary. The client, K.H, was a 42-year-old married woman with children, whose major barriers to treatment and employment included alcoholism, depression, and dissatisfaction with her previous work as a hotel bartender (O*Net 35-3011.00). Due to months in treatment, she is unemployed and wants to change careers to avoid relapse.

Triangulation. For this paper, we focus only on the Cognition modality, although the entire modality profile is provided for perspective (see Table 4). Triangulation included a review of the client's job history using criteria from the O*Net, which shows she meets the education and work experience requirements for job zone 2. The results of aptitude testing indicate she has average oral expression and comprehension, which are two important abilities, and average skills of active listening, complex problem solving, and service orientation and perceptiveness. Academic testing results show she has English language and math knowledge to meet job requirements. A transferable skills analysis can be conducted to assist her with a change of career. Concerns for future employment are her expressed attitudes toward herself as a worker, the work itself, and her prospects for employment.

Report Statement. A VE/CA report may contain information like: This triangulated vocational evaluation shows the client has cognitive skills to perform her current or related occupations and to cooperate with treatment. She also has competing negative self-judgments, beliefs, and attitudes that mitigate her strengths. If these attitudinal obstacles are removed or minimized, they will likely have the most efficient approach to treatment and occupational success.

Caveat. Note there can be overlap between the modalities, which may mean listing the same problem more than once. For example, under Cognition, the inability to read facial expressions may appear again under the interpersonal relationships modality (Lazarus, 1976, 1981, 1985; Keat, D. 1979). Also, this approach may seem foreign to VE/CAs who primarily service VR clients. The information and data in the report presented are to service a counseling approach. One must consider how the referring counselor's possible treatment plan may help to shape not only the evaluation but also the report.

Table 4

Modality Profile of a Woman with Alcohol Dependence (Lazarus, 1985)

Modality	Issues/Problems	Proposed evidence-based treatments
Behavior	Excessive drinking Avoids confronting most people Negative self-statements Drinks to excess at home alone, nights Screams at her children	Aversive imagery; Assertiveness training Positive self-talk assignments Develop social outlets Instruction-parenting skills;
Affect	Holds back anger (except w/her children Anxiety reactions; Depression	Anger expression exercises; Self-hypnosis and/or positive imagery
Sensation	Butterflies in stomach Tension headaches	Increase range of positive reinforcement Abdominal breathing exercises Relaxation or biofeedback
Imagery	Vivid pictures of parents fighting Being locked in bedroom as a child	Desensitization Images of escape and/or release of anger
Cognition	Irrational self-talk about low self-worth Numerous regrets Negative mental images of self Average cognitive vocational aptitudes and academic skills but poor work history.	Cognitive disputation; Reduction of categorical imperatives (should, musts, etc); Vocational exploration
Interpersonal Relationships	Ambivalent responses to husband and Children Secretive and suspicious	Possible family therapy and specific Training in use of positive reinforcement Support group to control alcohol abuse – Alcoholics Anonymous Self-disclosure Training
Drugs/Diet/ biology	Reliance on alcohol to alleviate anxiety, Depression, tension	Possible use of disulfiram and Antidepressant medication

Summary

We posit that triangulation, with its resulting convergence, is reflective of the best practices in VE/CA. By developing a plan that uses multiple tools and various data sources, the VE/CA can collect data and analyze results with greater accuracy and efficiency. This process supports the identification of strengths and barriers, possible discrepancies that may warrant further investigation, and needed accommodations or modifications. The VE/CA must then present the information in a cogent manner to portray accurately the client, thereby ensuring that proper services are provided. The VE/CA must determine their philosophical approach to determine the direction of the evaluation and how to best approach the presentation of information within the report. We examined five approaches for assessing two of the essential elements in vocational evaluation: career interests and cognition via computerized, systems, *functional* (with two models), and counseling, as possible ways to present triangulated results that support recommendations.

Career interests and cognitive factors are complicated and intertwined with many facets of a person's life. Narrowing the focus to cognition in its application to occupations, the VE/CA must

consider numerous factors. A partial list includes interests (e.g., as an application of meta-cognition), aptitudes (note that intelligence is included as an aptitude), academic performance (as required in training or on-the-job), knowledge and skills (from formal and informal sources), and values (e.g., ability to make a moral decision). Based on these factors, we chose career interests and cognition as the constructs to illustrate how triangulation and convergence can help the VE/CA identify a client's strengths and potential barriers to employment. We encourage the VE/CAs to use multiple tools and take the time to compare and contrast the data collected from those tools to establish the most authentic picture of the client's career interests and cognitive abilities and translate those into vocationally relevant terms. We provide specific recommendations to facilitate the diffusion of triangulation to the VE/CA process.

Recommendations

VE/CA Professionals. Practicing VE/CAs need to be intentional in data collection and interpretation. This will require them to follow the principles and implement the practices we have suggested. The *essential insight* that VE/CAs must put into practice is two-fold:

- Take time *to plan* evaluations (for example, see Appendix B Triangulation Worksheet) so there are overlapping data from various sources (see Appendix C Possible Data Sources for Triangulation) in *every major domain assessed;* and,

- *Examine and interpret* the data so that similarities and discrepancies in results help to identify accurately and practically a client's vocational strengths and limitations for employment planning.

Supervisors and Administrators. The immediate supervisor of a VE/CA needs to review reports to verify that triangulation and cross-checking of data for congruence and consistency occurred. Administrators need to incorporate triangulation as an essential function in job descriptions and allocate funds for skill development.

Professional Organizations. Associations for practicing VE/CAs in the United States such as the Vocational Evaluation ad Career Assessment Professionals (VECAP) and Vocational Evaluation and Work Adjustment Association (VEWAA), and in Canada, the Canadian Assessment, Vocational Evaluation, and Work Adjustment Society (CAVEWAS), need to provide learning opportunities through online and face-to-face training conferences regarding the basics of triangulation in order to develop skills for beginning to advanced level practitioners. The training may include the orientations and approaches we have discussed as well as others such as supported employment, transition, and so on. In addition, the unique challenges to triangulation with special populations need to be included (see McDougal, et. al., 2022). Workshop topics should address ways to incorporate triangulation in practice with an emphasis on different domains such as cognition, academic achievement, career interests, aptitudes, job recommendations, and/or application(s) of assistive technology.

The Commission on Rehabilitation Counselor Certification (CRCC) manages the Certified Vocational Evaluation Specialist (CVE) and the College of Vocational Rehabilitation Professionals (CVRP) manages the International Certified Vocational Evaluation Specialist (ICVE). Both organizations need to include triangulation in their certification process. This should also require triangulation to be on the pre-and post-certification training programs offered by those same organizations. We would encourage related professional groups relying on psychometric evaluation (such as the American Board of Vocational Experts [ABVE]) to consider triangulation as well.

The Commission on Accreditation of Rehabilitation Facilities (CARF) establishes and maintains accreditation standards related to the provision of vocational evaluation services. Triangulation needs to be included in the planning and report writing (e.g., data analysis) standards.

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Appendix A

Basic-ID Model (based on Lancia, 2021)

Modality	Issues/Problems	Sample Questions/Actions
Behavior	**What are the behaviors that are central to the problem?** This refers to overt behaviors: acts, habits, gestures, responses, and reactions that are observable and measurable.	What would you like to start doing or increase? What would you like to stop doing or decrease?
Affect	**What feelings or emotions are experienced while engaging in the problem?** This refers to emotions, moods, and strong feelings. What emotions do you experience most often?	Write your unwanted emotions (anxiety, guilt, anger, depression, etc.). Note under *behavior* what you tend to *do* when you feel a certain way.
Sensation	**What happens when engaged in the behaviors? The body's response.** Touching, tasting, smelling, seeing, and hearing are our five basic senses.	Make a list of any negative sensations (tension, dizziness, pain, blushing, sweating, butterflies in stomach, etc.) that apply to you.
Imagery	**Mental image while engaged in the behavior**	Write any bothersome recurring dreams and vivid memories. Include any negative features about the way you see yourself— your self-image. Make a list of any mental pictures—past, present, or future—that may be troubling you. If any auditory images—tunes or sounds that you keep hearing—constitute a problem, jot them down. If your images arouse any significant actions, feelings, or sensations, be sure to add these items to *behavior*, *affect*, and *sensation*.
*Cognition**	**What thoughts are associated with the behavior?**	What words or phrases pop up in your head in these situations? How do you judge yourself?
Interpersonal Relationships	**What social actions are associated with the behaviors?**	Write any bothersome interactions with other people (relatives, friends, lovers, employers, acquaintances, etc.). Any concerns you have about the way other people treat you should be here.
Drugs/Diet/ Biology	**List possible risk conditions from the behavior. Drugs or alcohol involved in the behavior.**	Make a list of all drugs you are taking, whether prescribed by a doctor or not. Include any health problems, medical concerns, and illnesses that you have or have had. Diet problems are also included.

Appendix B
Vocational Evaluation Triangulation Worksheet

Domain	Stated/Self Rated	Manifest/ Demonstrated	Tested	Congruency
Interests			Test 1: Test 2:	
Cognitive: both self-statements/ thoughts; & tests				
Cognitive: academic				
Values/ work importance priorities				
Temperament: work situations tolerated				
Large motor skills				
Manual skills/ bimanual coordination				
Hand-eye & fine motor skills				
Basic employability skills				
Social-emotional employability skills				
Technology/ equipment skills				

Appendix C
Possible Data Sources for Triangulation

Case File (Background) Information

- Work history (include volunteer)
- Educational records (GPA)
- Training (formal and informal)
- Medical records (disability, medications)
- Personal, Social, Cultural, Religious, Linguistic

Behavioral Information

- Interview(s)
- Personal and Social Interactions
- Supervisor ratings
- Self-assessments
- Quality & quantity ratings of work
- Behavioral measures (such as attendance, safety compliance)

Tools Used

- Instruments (tests and work sample results)
- Techniques (situational or community-based assessment, job or training tryout)

Strategies

- Accommodations and modifications

Author Note

This article is based on two presentations by Samuel Castiglione. The first was an invited session entitled “Triangulation of Cognitive Factors in Vocational Evaluation” at the North Carolina VEWAA-VECAP Conference, “Birds of a Feather –Rehab'n Together,” Atlantic Beach, NC, on April 10, 2014, and the second was a refereed presentation with the same title at the 16th National Issues Forum on Vocational Evaluation, Salter Path, NC, on October 29, 2015.

We have no known conflicts of interest to disclose.

Author Bio

Samuel Castiglione, D.Ed., ICVE, PVE, NCSP (retired) is an independent career assessment services provider and consultant, after retiring from 20 years as a vocational evaluator for the Maryland Division of Rehabilitation Services at the Workforce & Technology Center in Baltimore. He is Past-President of the National VECAP and former Membership Coordinator. He has made numerous contributions to the profession of vocational evaluation including principal authorship of *The Revised Position Paper of The Interdisciplinary Council on Vocational Evaluation and Assessment* (2018) and author and reviewer of materials for the International Certified Vocational Evaluator (ICVE). Before his work in vocational evaluation, he was a licensed psychologist, school psychologist, and national certified counselor.

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Steven R. Sligar, Ed.D., CVE, is Professor Emeritus and former director of the graduate program in vocational evaluation at East Carolina University. He has over 50 years of experience in vocational rehabilitation, and this includes working with special populations of persons who were deaf and/or blind. He has a Masters in Rehabilitation and Special Education with a specialization in vocational evaluation from Auburn University and Doctorate in Adult Education and Human Resource Development from Northern Illinois University. He has over 50 publications and conducted over 300 presentations on the topics of vocational evaluation, deafness, and administration. He is past president of the NC Vocational Evaluation and Work Adjustment Association and the American Deafness and Rehabilitation Association (ADARA). Presently, he serves on the editorial review boards of VECAP, JADARA, Journal of Rehabilitation, and New Horizons in Adult Education.

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VECAP Journal Interview Series: Kelsea Mills

The first in the VECAP Journal Interview Series is a conversation with vocational evaluator and VECAP President, Kelsea Mills. Kelsea has 15 years of experience in vocational evaluation, job placement, and business management. Kelsea owns a thriving private practice in Oklahoma. Kelsea has further distinguished herself through her leadership in VECAP, and was recognized as the recipient of the 2022 VECAP Mike Rubin Service Award. In this interview, Kelsea discusses the profession, reflects on her career journey, and offers advice to current and future professionals who dream of owning their own business.

VECAP Journal: What is your job title and where do you work? What is your educational background and professional experience?

Kelsea: I am a self-employed vocational evaluation professional. I am the owner of Vocational Consulting for Oklahoma, which provides expert witness and consulting services to address the vocational impact and earning capacity of an individual with an injury. My initial career goal was not to be a vocational evaluator, in fact, I did not know the occupation existed until I was several years out of my bachelor's degree. I graduated with a bachelor's degree from the University of Oklahoma and, through networking with business owners, got an opportunity to move into corporate training focused on restaurant management. While the restaurant setting was not my passion, the management skills and corporate focus were of high interest to me. Again, through networking, I was offered and accepted a position as an administrative assistant in a private rehabilitation and case management firm. I had great mentoring and the administrative assistant position, which led me to job placement and vocational retraining coordination. I eventually got so interested in disability services, that I went back to school to get my masters in rehabilitation counseling and credentials. I wanted to keep learning and improving. I'm now a CVE, CRC, as well as a Certified Ergonomic Assessment Specialist.

VECAP Journal: What are the typical functions of a vocational evaluator or career assessment professional? What are the things that you do in your day-to-day professional role?

Kelsea: Currently, as the owner of a business, I am at the stage in my career where I do a lot of business management. I have a team of four so I'm mentoring, training, teaching, and coaching with my team to make sure they are developing and getting what they need to thrive in their roles. In addition to handling the business management tasks, I am also our principal vocational evaluator. One of the things I enjoy about vocational evaluation is that it looks so different depending on the

setting in which you are working. In my business right now, about 90% of the cases are forensic and involve working with individuals as part of a legal case. My services usually involve providing vocational evaluations, earning capacity analysis, job placement assistance, vocational case management, or doing labor market surveys. We are mainly focusing on what we can do to help our client safely and productively return to the workforce. Results of these services and research help attorneys build their case and help the judge/jury determine damages as these cases proceed through the legal system.

We also have a contract to provide vocational evaluation services for the state of Oklahoma. The underlying principles and concepts we use are similar to our forensic clients, but the referral questions are usually very different. For example, we often work with high school seniors who have ideas regarding the next steps out of high school, but they need more information from the evaluation to learn more about themselves and help solidify future educational or employment plans. I like to think of vocational evaluations as a big puzzle, where myself and the individual I am working with, work towards developing a full and complete picture.

In a typical week, I usually spend two full days working directly with clients doing evaluations. This involves primarily interviewing and testing. I spend the other three days of the week doing research, report writing, working with employers, staffing with team members, and other business functions.

VECAP Journal: If there is a typical pathway, how would you guide someone who is thinking about one day becoming a vocational evaluator?

Kelsea: I am not sure that I have ever met an individual that said, "I want to be a vocational evaluator when I grow up", unless their parents were one or they had a wonderful experience when they were served with vocational rehabilitation services. What I most often see are individuals that gain exposure to the industry, almost by happenstance, and then fall in love with it.
I feel like there used to be a more typical pathway but as the number of university training programs have diminished, most exposure comes from participation in vocational rehabilitation programs. I have also had several experiences where someone was participating in a general counseling program but had a desire to work with individuals with disabilities. For some, after exposure to the industry, the processes and procedures used in vocational evaluation and career assessment are a better fit than a more traditional counseling role.

VECAP Journal: What aspect of your work is the most satisfying and personally rewarding?

Kelsea: Seeing people regain their power. The vocational evaluation and rehabilitation process can be intense for clients, especially those involved in legal cases. Most of the time I find they feel powerless and that they don't have control of how they will move forward. I enjoy the vocational evaluation process because we get to help them learn their potential, begin to answer their "what now" questions, and give them their power back so they can start to make decisions for themselves. Regaining that empowerment is a precursor to a successful placement. If someone doesn't feel like they have control, it's not likely that they will be successful, even with the most well-crafted or implemented plan.

VECAP Journal: What are the challenges and the most difficult aspects of your work?

Kelsea: I always keep in the back of my mind that I am making recommendations which will impact an individual's livelihood. We, as professionals, always need to be "on." We can't get too comfortable, or people can get hurt. When working in litigated settings there are also additional stressors. This type of pace, and the pressure, can be exhausting for professionals. I try to focus on striking harmony

between my work and life, and remember that taking care of my own wellness is important too. If I get burned out, I'm not going to be helpful to anyone.

VECAP Journal: If you are advising or offering some personal thoughts to someone considering a career as a vocational evaluator or career assessment professional or a current professional who wants to grow today, what would that advice be?

Kelsea: Find a mentor. For people who want to own their own business, you are going to have to spend time in the field to truly learn what is needed and learn the business inside and out. There are a lot of agencies or various contracts which will require that you have 5 years' experience before you can get a contract to provide vocational evaluation or career assessment services. For those that are new and just entering the profession, these first few years are a great time to gain knowledge and experience, build a reputation, and learn from a mentor. Mentors are going to be critical to helping you understand and address various situations you may encounter. As I said earlier, there are truly no two evaluations which are the same, and you can utilize a mentor's experience to gain different perspectives you may not have been exposed to yet.

I've seen a trend where the shortage of training programs, specifically in vocational evaluation, as well as having fewer evaluators, has increased the focus on mentoring from more senior members of the field. I have also noticed, especially in areas of private practice, that there tends to be a concern for "training your competition." I am a strong advocate that the more vocational evaluators there are, the more individuals we can help, and the wider variety of opinions that can be presented, only helps to strengthen the profession.

Circling back to those that want to own their own vocational firms, and are seeking mentors, I strongly recommend that you be honest with your mentors regarding your career goals and what you are looking for from their guidance and learning about the business.

Regarding having your own business, you have to know every aspect of the business before you can teach someone else. You can't successfully delegate or support your employees if you don't know how to do the job. Spend time providing the services for anything you would like to do, such as vocational evaluations, job placement or coaching, labor market surveys, etc. Also get to know your business trends, how to manage your financial aspects, and what marketing trends are in your area. Get to know that side of things, so when you build your practice you can really be an effective manager.

VECAP Journal: Are there any other thoughts you would like to share about your experience in the vocational evaluation and career assessment profession?

Kelsea: The best thing I ever did for my career and professional growth was joining VECAP. And I promise this is not a shameless plug. It is absolutely true! I would say get involved in an organization where you can build a network, continue to grow and develop in your career, and contribute to the industry.

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Best,
Amanda McCarthy, Ed.D., CRC, CVE, LCPC (IL)
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VECAP MISSION

VECAP is a nonprofit 501(c)6 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 association 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. Its scope of services will encompass individuals who need assistance with vocational development and/or career decision making.

VECAP is comprised of a membership of 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.