

Acquiring Competency in Entrepreneurship

The American economy needs both big business and small business to survive and prosper. Small businesses, as a whole, contribute greatly to the growth and renewal of regional and national economies. And it is the entrepreneurs who bring that growth and prosperity through their ingenuity and creativity.

As Colin Powell said, "There are no secrets to success. It is the result of preparation, hard work, and learning from failure." To prepare individuals for success as entrepreneurs, the Center on Education and Training for Employment (CETE) has released the fourth edition of the Program for Acquiring Competence in Entrepreneurship (PACE).

Many entrepreneurs have the basic knowledge, skills, and abilities in a specific trade to provide a service or produce a product. They may even have a product prototype or field-tested product. However, potential entrepreneurs often lack the resources, basic business acumen, or knowledge of where to turn for assistance to take their skill or product and develop a viable business enterprise. PACE provides entrepreneurs with the knowledge and resources to start and manage a business.

PACE targets the adult workforce and community college and technical school students as well as independent workers wanting to start their own business. Most business start-ups are in the trades, construction, basic services, basic manufacturing, food, and even transportation industries. PACE focuses on these types of small business ventures.

A bonus to the fourth edition will include the resources available in each of the 50 states for entrepreneurs for technical assistance, regulation, and licensing information. The resource information will list the websites and phone numbers of state and other agencies supporting the development of small businesses. This edition also includes information on the benefits and challenges of conducting e-commerce.

All PACE materials are available in PDF format on a CD-ROM or in print. The 22 PACE modules are also available individually or grouped in three clusters (see ordering options at right). Entrepreneurs can now obtain information on specific topics and gain the desired knowledge they need.

Community colleges, technical schools, and adult workforce development programs can now enhance and supplement

their current entrepreneurship and small business management courses, create new courses, and develop seminars and workshops.

The fourth edition of PACE not only provides more information for entrepreneurs, but also provides the flexibility in the delivery of information, so individuals and institutions can obtain the specific information they need to be successful. The list of modules available in PACE, Fourth Edition is as follows:

Cluster A—Exploring Entrepreneurship

- Module A-1 Evaluating Your Potential as an Entrepreneur
- Module A-2 Understanding the Nature of Small Business
- Module A-3 Making the Most of Marketplace Opportunities
- Module A-4 Investigating Global Markets

Cluster B—Planning for Business Success

- Module B-1 Developing Your Business Plan
- Module B-2 Finding Help for Your Small Business
- Module B-3 Choosing the Right Type of Ownership
- Module B-4 Developing a Marketing Strategy
- Module B-5 Finding the Best Location
- Module B-6 Developing Pricing Strategy
- Module B-7 Financing Your Business
- Module B-8 Addressing Legal Issues

Cluster C—Business Management for the Entrepreneur

- Module C-1 Managing Basic Business Functions
- Module C-2 Managing Your Human Resources
- Module C-3 Promoting Your Business
- Module C-4 Maximizing Sales
- Module C-5 Maintaining Accurate Records
- Module C-6 Managing Your Finances
- Module C-7 Extending Customer Credit
- Module C-8 Minimizing Risk
- Module C-9 Maintaining Operations
- Module C-10 Conducting E-Commerce

The following ordering options for PACE Fourth Edition are available:

- PACE Complete Set, CD-ROM PDF Format—\$79.95
- PACE Complete Set, Print Format—\$225
- PACE Cluster A, 4 Modules, Print Format—\$41
- PACE Cluster B, 8 Modules, Print Format—\$82
- PACE Cluster C, 10 Modules, Print Format—\$102
- PACE Individual Modules, Print Format—\$17 each

See page 3 for ordering information.

Career-Technical Education Assessments: Assessment for Articulation

by Robert A. Mahlman

Ohio, like other states, is responding to the more rigorous Career-Technical Education (CTE) technical skill assessment requirements mandated by the Perkins legislation. The Center on Education and Training for Employment has maintained Ohio's secondary CTE assessment system through its online Webxam portal. One of the challenges in maintaining such a system is the continual revisions and updates assessments need based on changes in the field and changes to CTE content standards.

Over the past 2 years, Ohio revised its content standards, creating a new series of Career Field Technical Content Standards (CFTCS). These standards are organized into 16 career clusters with multiple career pathways. With the creation of these Career Field Technical Content Standards, a whole new system of assessments needs to be created.

The state of Ohio has conceptualized an enhanced assessment system designed to assist in decisions regarding student articulation to postsecondary education options. The driving theme of this testing system—Assessment for Articulation—maximizes the opportunity for secondary students to articulate to postsecondary education. A key component in this initiative is the involvement of postsecondary faculty in the design and development of the secondary technical skills assessments. The system will be modularized, with modules reflecting content correlated to clusters of articulated postsecondary courses.

The Center on Education and Training for Employment is working with the Ohio Department of Education (secondary education) and the Ohio Board of Regents (postsecondary education) to develop this new high-quality assessment system. Eight career pathways are included for test design and development in the 2008-2009 school year, with the remaining pathways to be created over the following 3 years. Developing this system involves multiple steps. The following is an outline of the major tasks that are part of the process:

- **Standards crosswalking.** For each content area, the new Career Field Technical Content Standards were crosswalked to older standards and verified by subject matter experts (SMEs). Since all test items are linked to content standards, the work “pulled” test items into the new content standards, resulting in a preliminary match between new content standards and existing test items in the item banks.
- **Item-to-content-standard linkage verification.** The preliminary matches between the test items and the new CFTCS were verified by SMEs for each content area. This project resulted in validated item-to-content-standard linkages and will allow for gap analyses once test specifications are created.
- **Competency coverage survey.** Surveys sent to postsecondary institutions will identify which secondary competencies are addressed in courses taught at the institutions. The result of the survey will assist in selecting and organizing competencies into modules for the new assessments. Test specifications will be created from these survey results. The survey data will allow for the creation of test modules that are aimed at postsecondary course articulation.
- **Item-writing workshops.** Secondary and postsecondary instructors will work in small facilitated groups to review current items and create new scenario-based multiple choice test items. Participants will then actively participate in a large group item review. During this time, participants will have the opportunity to view and revise items written by the other small groups. Changes will be made to items based on group consensus.
- **Content validation workshops.** Once items are banked and processed, panels of SMEs will review all items, rating each item on a number of dimensions. A modified Angoff procedure will be used to set multilevel benchmark scores during this phase.
- **Field test.** Test items will be field tested in a live beta format. Once item analysis is complete, test forms will be revised and rescored.

Going beyond using the data for federal and state performance measures, local school districts will use the system for program improvement. However, the unique feature is that this assessment system and the relationships built in its development will lead to future development of processes for statewide transcribed credit transfer from secondary to postsecondary institutions. Most important, one anticipated consequence of this approach is that the assessments will now have significantly increased their value to students and other stakeholders.

19th DACUM International Seminar

CETE sponsored its 19th Annual DACUM International Seminar on December 1-2, 2008 in Charlotte, NC. It was attended by 35 persons, a record number, from 8 countries including Botswana, Canada, Hungary, Mexico, Mongolia, Singapore, Trinidad-Tobago, and the United States. Attendees included 10 community college representatives, 15 company-based individuals, 2 space agency representatives, 2 national training agency representatives, 1 military individual, and 11 people from outside the United States.

The purpose of the annual DACUM International Seminar is to bring together many educators and company and agency personnel who are already major users of the DACUM and/or SCID process and others who are interested in learning first hand from several successful users of the processes. Although the session was chaired by Dr. Robert E. Norton, DACUM/SCID Program Director at CETE, most of the presentations were made as usual by the seminar participants themselves. The major goal of the seminar continues to be providing advanced professional development opportunities for individuals who have been trained as DACUM and/or SCID facilitators.

Some of this year's topics included (1) Using DACUM to Establish National Occupational Standards, (2) Task Verification/Validation, (3) Task Analysis, (4) Conceptual DACUMs, (5) Embracing the Process: A Recipe for Success, (6) DACUM in Community Colleges the Southeast Way, (7) Web-based DACUM Task Verification, (8) DACUM: A Performance Analysis Tool, (9) Technical Skills and Occupational Knowledge Testing, and (10) Setting National Standards: A World Bank Perspective.

Participant reactions included "Very enjoyable and overall a rewarding, illuminating, and powerful seminar!", "Tremendously enjoyed the seminar," "An exceptional experience," "Fabulous and exciting stuff," and "Enjoyed meeting people from many countries." The 20th annual seminar is scheduled for Nashville, Tennessee, on November 16-17, 2009. Questions: norton.1@osu.edu.

The Joel Magisos Exceptional Service Award Presented to Robert Norton

Dr. Robert E. Norton was presented the Joel Magisos Exceptional Service Award in recognition of his long-term individual achievement in support of IVETA (International Vocational Education & Training Association). Over the last 24 years Bob Norton has supported IVETA's objectives and conferences. He is an international expert and authority on the DACUM approach to developing career and technical education curriculum, for identifying the skills and supporting knowledge that employers require whether small or large, international or local. While conducting many workshops in over 25 countries around the world, he has promoted IVETA from Australia to Venezuela, encouraging membership and participation in IVETA conferences.

Dr. Norton, IVETA's Regional Vice-President for North America since 2007, was reelected for another 2-year term (2008-2009) at the December 2008 conference in Charlotte, North Carolina. Bob continues to give to IVETA and its members his qualities of commitment to the task, thoroughness in execution, loyalty, integrity, and reliability. For more information on IVETA, DACUM, and SCID, please contact Bob Norton at norton.1@osu.edu.

PACE Ordering Information—

description on page 1

Orders can be made by phone, mail, fax, or e-mail. All orders under \$75 will be charged an \$8 shipping and handling fee and orders over \$75 will be charged a 12% shipping and handling fee. International orders will be charged a \$15 handling fee plus the actual shipping costs. Orders can be mailed to the Center on Education and Training for Employment, The Ohio State University, 1900 Kenny Road, Columbus, OH 43210. Phone orders can be directed to Judy Cohen at 614/292-8320 or by fax at 614/292-1260. You can also e-mail Judy Cohen at cohen.5@osu.edu. For a copy of our brochure and order form, please go to our website at www.cete.org and click on PACE.

Career Exploration: Vocational Interests and Work Importance Measurement Tools from the Occupational Information Network

by James T. Austin, PhD

In this article I discuss two tools available to measure individuals on Vocational Interests and Work Values using paper or computer formats. Scores on these measures complement the Occupational Information Network or O*Net. In particular, I discuss the conceptual definition and measurement of Vocational Interests and Work Importance (Values) here and reserve a subsequent article for the tool to measure Abilities. A sidebar (see page 6) contains information about how a Career-Technical Planning District in Ohio provides career development using systematic measurement and tracking with Internet capabilities.

As background, note that development and research at CETE represents work at multiple levels, in particular how occupations fit into broader pathways and career fields or clusters. CETE is thus focused on career possibilities, which are important knowledge for every learner. Students, current workers, or displaced workers, depending on situations, may wish to explore a variety of career directions based on their interests, values, and abilities. Whole-person assessment is accomplished across several domains including vocational interests, work values, and abilities.

Center on Education and Training for Employment staff applies evidence-based principles to the study of career possibilities in order to develop customized systems. One such approach is represented by the National Skill Standards Board approach, in which there is an equal focus on “Work” and “Worker.” The NSSB approach defines work in layers using concepts of critical work functions, key activities, and performance indicators, while individuals are described in terms of three skill sets: academic, occupational, and employability. What tools are available to define work and worker characteristics for career-technical educators or workforce development professionals? In the personnel certification sector, there is an emphasis on practice analysis to define task domains as well as the worker characteristics that support competent task performance. Workforce development for career-technical education or training requires the development and verification of occupational content at cluster, pathway, and specialization levels in order to create curriculum frameworks and testing tools. One of the best foreshadowing methods for learners is to be taught and counseled in a manner that is similar to organizational methods of talent management, as selection and training are increasingly called. Clearly, this requires a job-analysis to ensure both quality and defensibility of measurement tools, learning interventions, and personnel decisions.

Among the techniques for defining work, CETE staff have used a variety across various industry and education sectors. CETE staff have used the DACUM method in most cases, but they have also used ACT Job Profiling, the SHL Work Profiling System or WPS, the Western Region Intergovernmental Personnel Assessment Consortium (WRIPAC) task analysis, and the Occupational Information Network. In one project, both DACUM and WPS methods were applied to the same job position at a large state agency.

The O*Net system is the focus of this discussion. O*Net is maintained by the federal government in collaboration with state employment agencies and private contractors. This tool helps to identify, organize, and use data in order to define the world of work according to a six-part content model. O*Net, an Internet- and database-based replacement for the *Dictionary of Occupational Titles* (DOT; 1939-1991), is described by Peterson and colleagues (Peterson et al., 1999, 2001). This article focuses on no-cost career exploration measures aligned to O*Net. Three attribute domains are measured, specifically abilities, work interests, and work importance (values); this article focuses on the two noncognitive constructs. The “whole-person” approach of considering noncognitive and cognitive measures flows from the objective of increasing the usefulness of the scores for test-takers (students, adults) and test-users (education and training providers). The reader should note that it is mandatory to use the O*Net tools for career exploration purposes only and not for selection or placement. Conditions and terms of usage are stringent, and no use in personnel selection is permitted for any of the O*Net career exploration tools. In the next section, I discuss the conceptualization and measurement aspects of the two tools beginning with Interests and finishing with Work Importance. The two tools under consideration and supporting documents referenced below are available at the O*Net home (www.onetcenter.org) through the website navigation panel at the left under Products/Career Exploration Tools.

Vocational Interest Measurement

Vocational interests are important as reactions (positive-negative) to work activities. Of multiple frameworks, the hexagon of John Holland has a large amount of empirical support as indicated by qualitative and quantitative reviews (Fouad, 2007; Gottfredson, 1999; Holland, 1996). Holland (1997), based partly on early work at ACT and subsequent work at Johns Hopkins University, proposed that work environments and individual personality characteristics, which interact, are best represented in a hexagonal shape with six vertex points labeled as follows:

- | | |
|----------------------|-----------------|
| 1. Realistic | 4. Social |
| 2. Investigative | 5. Enterprising |
| 3. Artistic/Creative | 6. Conventional |

Individuals and occupations can be described in terms of high-point codes (two or three highest scores). A key concept of Holland's theory is that "fit" between a person's interests (work personality) and the work environment will lead to greater satisfaction and potentially to longer tenure (assuming that job performance is satisfactory). As noted by Armstrong and colleagues, Holland's framework is general enough to incorporate many individual differences (Armstrong, Day, McVay, & Rounds, 2008).

The O*Net Interest Profiler is a measure of Holland's hexagon. There are other measures available for measuring Holland's interests, or those of other theorists (Kuder, Super, etc.), but the tool developed by the O*Net consortium is free and has excellent support. It consists of a 180-item inventory delivered by paper-pencil (Interest Profiler—IP) or computer (Computerized Interest Profiler—CIP). The 12-page IP is organized by page as follows: (1) Cover, (2) Description of all O*NET Career Exploration Tools (Ability, Work Importance), (3) Getting Started page (Name, Date should be completed), (4) Hints for completing Interest Profiler, (5) How to complete (work from top to bottom beginning with the left column, mark response clearly), (6-9) Interest Profiler items, and (10-12) Scoring instructions, recording, and an example.

To respond to either interest instrument, individuals are asked to evaluate work activities using a three-point scale: Like/Unsure/Dislike. Scoring is done by hand or by computer. An array of support material is provided as well. A User's Guide as well as a Score Report, recommended for any and all uses, can be easily downloaded and reproduced as needed for hand scoring. Finally, reports about development (Lewis & Rivkin, 1999) and psychometric evaluation (Rounds et al., 1999) can be downloaded at the aforementioned website. Note that "Print Shop" files should be chosen if you plan to print materials for paper-pencil administration due to higher resolution and quality.

Work Importance (Values) Measurement

Importance (values) is a crucial construct that complements vocational interests. In the Theory of Work Adjustment (Dawis & Lofquist, 1984), values are defined relative to reinforcing aspects of the work environment. In other terms, what outcomes do individuals prefer to "approach" or does the work provide adequate reinforcement to the worker? The theoretical model specifies six dimensions of work importance, which can be used to develop a profile of reinforcing events for the individual:

- | | |
|-----------------|-----------------------|
| 1. Achievement | 4. Relationships |
| 2. Independence | 5. Support |
| 3. Recognition | 6. Working conditions |

According to a website maintained by Idaho (www.cis.idaho.gov/IdahoCareerInformationSystemCIS), interpretation of the work importance dimensions is as follows:

"People for whom"

- *achievement* is important like to see the results of their work and to use their strongest abilities. They like to get a feeling of accomplishment from their work.
- *independence* is important like to make decisions and try out ideas on their own. They prefer jobs where they can plan their work with little supervision.
- *recognition* is important like to work in jobs which have opportunities for them to advance, be recognized for their work, and direct and instruct others. They usually prefer jobs in which they are looked up to by others.
- *relationships* are important like to work in a friendly, non-competitive environment. They like to do things for other people. They prefer jobs where they are not pressured to do things that go against their sense of right and wrong.
- *support from their employer* is important like to be treated fairly and have supervisors who will back them up. They prefer jobs where they are trained well.
- *good working conditions* are important like jobs offering steady employment and good pay. They want employment that fits their individual work style. They may prefer doing a variety of tasks, working alone, or being busy all the time.

I cover the Work Importance Locator (WIL) and the Computerized Work Importance Profiler (CWIP) in this section. The five-step process for completing the Computerized Work Importance Profiler is as follows: Work needs (Steps 1 and 2), Work values and WIP Results (Step 3), Job Zones (Step 4), and the Occupations Report (Step 5). A report of the development process of paper and computer tools is provided by McCloy, Waugh, and their colleagues (1999a, 1999b).

Conclusions

This brief presentation has concentrated on two tools for non-cognitive measurement: vocational interests and work importance (values). The choice to concentrate upon O*Net tools is derived from the multiple administration modalities (paper/computer) and the no-cost nature of the tools. A subsequent article will concentrate on measuring abilities with the Ability Profiler (an updated General Aptitude Test Battery). A sidebar (page 6) on the career development system operated by Butler Tech shows how such systems can be integrated across a broad scope (lifetime access to online portfolios), but the start-up and operational costs may be prohibitive for districts that have fewer resources. Thus, the O*Net occupational and measurement tools are a low-cost alternative. Whichever approach is preferred or possible, some form of career measurement of interests and values (as well as abilities) provides data for informed decision making.

Career Measurement in Action: Butler Technology & Career Development Schools (Jackson & Snyder, 2006)

This district uses the Internet-based Kuder Career Planning System with students in the county, as do many other Ohio districts. Anything developed to inform parents or districts is shared with Kuder so that the system is not misrepresented. The Kuder Career Planning System has been customized for Ohio to include the Individual Academic Career Planner (similar to the OCIS IACP tool). The system provides an online portfolio for all students accessible throughout their lifetimes and includes the following:

- Assessments: Kuder Career Search with Person Match; Kuder Skills Assessment; Super's Work Values Inventory
- Education planner can be customized for each district and meets Perkins IV pathway requirements
- Resume builder, job interview planning, occupation search and comparison
- College search and comparison, financial aid application, scholarship search
- Job bank, career passport development guidance; Individual Academic Career Planner
- Space to record research papers and other career experiences

The system also includes an administrative management system that allows administrators to monitor individual progress and monitor course offerings to ensure that they are meeting the needs of students. Evaluation data for the Kuder-based Career Development program at Butler Tech consists of portfolio review (10% samples for 10th grade) and interviews, conducted by staff of the contractor-colaborator Applied Research Center, on 5% samples of 8th, 10th, and 12th graders. Twelfth-grade students are asked:

- What is your career goal?
- What do you plan to do after high school to achieve your goal? [If student indicates college, work, apprenticeship, or military plans, he or she is asked what specific steps have been taken]

Interview responses (not students) are judged on appropriateness, which means that classes, activities, and plans after high school support expressed career goals. The table shows percentages since FY03 across grade levels of those who appropriately could support their career goal with classes, activities, and/or post-high school plans.

Measure	FY03	FY04	FY05	FY06	FY07	FY08	FY09 Goal	Benchmark	FY08 State Avg
8th-grade Core	80.00	88.00	75.00	77.00	80.00	88.00	90.00	75.00	n/a
10th-grade Core	68.00	89.00	86.00	97.00	89.00	88.00	90.00	75.00	n/a
12th-grade Core	92.00	91.00	90.00	79.00	86.00	90.00	93.00	75.00	n/a

Webliography

- <http://www.onetcenter.org>
- <http://www.kuder.com>
- <http://www3.parinc.com/>
- <http://ocis.ode.state.oh.us>

References

- Armstrong, P. I., Day, S. X., McVay, J. P., & Rounds, J. (2008). Holland's RIASEC model as an integrative framework for individual differences. *Journal of Counseling Psychology*, 55, 1-18.
- Dawis, R. V. & Lofquist, L. H. (1984). *A psychological theory of work adjustment*. Minneapolis, MN: University of Minnesota Press.
- Fouad, N. A. (2007). Work and vocational psychology: Theory, research, and applications. *Annual Review of Psychology*, 58, 543-564.
- Gottfredson, G. D. (1999). John L. Holland's contribution to vocational psychology: A review and evaluation. *Journal of Vocational Behavior*, 55, 15-40.
- Holland, J. L. (1996). Exploring careers with a typology. *American Psychologist*, 51, 397-406.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments*. Odessa, FL: Psychological Assessment Resources.
- Jackson, S., & Snyder, D. (2006, March). Systematic, systemic, and motivating: The K-12 career development process. *Techniques*, 22-26.
- Kapes, J. T., Mastie, M. M., & Whitfield, E. A. (Eds.). (2002). *A counselor's guide to career assessment instruments* (4th ed). Alexandria, VA: National Career Development Association.
- Lewis, P., & Rivkin, D. (1999). *Development of the O*NET Interest Profiler*. Raleigh, NC: National Center for O*NET Development.
- McCloy, R., Waugh, G., et al. (1999a). *Development of the O*NET™ computerized work importance profiler*. Raleigh, NC: National Center for O*NET Development.

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McCloy, R., Waugh, G., et al. (1999b). *Development of the O*NET™ Work Importance Locator*. Raleigh, NC: National Center for O*NET Development.

Osburn, D. S., & Zunker, V. G. (2006). *Using assessment results for career development* (7th ed). Pacific Grove, CA: Brooks/Cole Publishing Company.

Peterson, N., et al. (1999). *The Occupational Information Network*. Washington, DC: American Psychological Association.

Peterson, N. G., et al. (2001). Understanding work using the occupational information network (O*NET): Implications for practice and research. *Personnel Psychology*, 54, 451-492.

Rounds, J., et al. (1999). *O*NET Interest Profiler: Reliability, validity, and self-scoring*. Raleigh, NC: National Center for O*NET Development.

Rounds, J., et al. (1999). *O*NET computerized interest profiler: Reliability, validity, and comparability*. Raleigh, NC: National Center for O*NET Development.

Test Development Workshop

March 9-11, 2009, 8:30am-4:30pm, presented by CETE, Columbus, OH; \$1,100. July 15-17, 2009, location TBA.

Constructing valid, reliable assessments of job-specific knowledge and skills is critical to effective human resource practice. This workshop provides participants with practical knowledge and skills to understand the creation of valid, reliable, and legally defensible assessments. For information contact Kathy Summerfield, summerfield.1@osu.edu or 614/688-4000, or Jim Austin, austin.38@osu.edu or 614/292-9897.

DACUM/SCID

DACUM (Developing a Curriculum) Institute, February 23-27, 2009, March 23-27, 2009, or June 8-12, 2009, 8am-5pm, hosted by CETE, Columbus, OH; \$1,395

SCID (Systematic Curriculum and Instructional Development), March 2-6, 2009, March 20-April 3, 2009, or June 15-19, 2009, 8am-5pm, hosted by CETE, Columbus, OH; \$1,195

For information, contact Robert Norton, norton.1@osu.edu; John Moser, moser.120@osu.edu; Debbie Weaver, weaver.22@osu.edu; www.dacumohiostate.com.

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