

OVAE Customized Technical Assistance to States

Recommendations to Improve the Quality of Postsecondary Perkins IV Technical Skill Attainment Data in Utah



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MPR Associates, Inc.
2150 Shattuck Avenue, Suite 800
Berkeley, CA 94704

Contact
Jim Schoelkopf
jschoelkopf@mprinc.com
503-963-3759

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Background

In October 2008, the Office of Vocational and Adult Education (OVAE), U.S. Department of Education, invited state directors of career and technical education (CTE) to submit requests for individualized technical assistance to improve the quality of their Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) accountability systems. In response, the Utah State Office of Education requested support in developing strategies for improving access and reporting for the postsecondary measurement of technical skill attainment (1P1) and acquiring complete and accurate data on students obtaining an industry-recognized credential, a certificate, or a degree.

MPR consultation and technical assistance was conducted through a series of conference calls and one face-to-face meeting during the April 2009 National Association of State Directors for Career and Technical Education Consortium (NASDCTEc) meeting in Washington, DC. This report presents MPR's final recommendations and overview of the topics, including:

- Clarify OVAE expectations for technical skill assessments;
- Assist the state in identifying and evaluating industry-recognized assessment for three postsecondary program areas; and
- Guidance on collecting and reporting technical skill assessment data.

The technical assistance activities identified were addressed through an integrated approach rather than isolating each of the activities as a separate task.

Clarify OVAE's Expectations for Technical Skill Assessments

At the time Utah's technical assistance was initiated, policy and program discussions were taking place on the feasibility for a national technical skill assessment clearinghouse and test item bank. States without technical skill assessment systems in place were confronted with the challenge of implementing ways to measure the attainment of technical skills based on valid and reliable criteria. Utah's postsecondary sector had been collecting and reporting student grade point average as their technical skill attainment measure. State staff recognized this measurement method would not meet the validity and reliability expectations called for in Perkins IV. In their desire to remain compliant with the provisions of Perkins IV, Utah state staff sought clarity on OVAE's expectations for measuring postsecondary skill attainment. State staff also wanted information on the development of a national technical skill assessment clearinghouse and test item bank.

During the technical assistance period, momentum for the development and implementation of a technical skill assessment clearinghouse or a test item bank slowed. Utah state staff, along with MPR researchers, felt access to a possible technical skill assessment clearinghouse or a test item bank would not be available in the foreseeable future, if at all. Technical assistance activity then focused on seeking clarity on OVAE's expectations for technical skill assessments. During this time, technical skill assessment conversations were occurring with the OVAE-sponsored Next Steps Working Group (NSWG). The conclusion drawn from the NSWG conversations and Utah-specific conversations with OVAE determined that OVAE expected states to establish valid and reliable criteria for measuring technical skill attainment as expressed in the March 13, 2007 program memorandum to State CTE Directors.¹

Assist the State in Identifying and Evaluating Industry-Recognized Assessment for Three Postsecondary Program Areas

Utah state staff recognized they would need to develop a strategy for expanding the implementation of postsecondary technical skill assessments within the state's postsecondary institutions. Prior to receiving OVAE technical assistance, the state had identified relevant state licensure examinations for measurement of technical skill attainment within appropriate postsecondary CTE programs. Many of Utah's postsecondary institutions had implemented, or were in the process of implementing, state licensure examinations as a measurement of technical skill attainment. Data collection processes were underway to access state licensure examination results for Perkins reporting purposes. Interagency agreements that enable access to licensure examination results were established between the Utah State Board of Regents and the relevant state agency or agencies conducting licensure examinations. This strategy is effective for those CTE program areas aligned with Utah's licensed occupations. Utah wished to expand technical skill assessment coverage to other CTE program areas.

Utah was interested in developing a postsecondary technical skill assessment system that reflected attainment of industry-based standards and student performance measured by an industry-recognized credential examination. Rather than addressing all postsecondary CTE programs beyond those program areas aligned with existing state licensure, Utah state staff selected three program areas to pilot their process for identifying technical skill assessments. The three program areas selected by Utah state staff included information technology, automotive technology, and welding. Each of the three program areas has a set of industry-

¹ Program Memorandum, "Student Definitions and Measurement Approaches for the Core Indicators of Performance Under the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV)," March 13, 2007. (<http://cte.ed.gov/docs/nonregulatory/studentdef.pdf>)

based standards and certification assessments aligned to the standards that may result in industry-recognized certification. By utilizing industry-recognized assessments to measure technical skill attainment, Utah could avoid the need to design, develop, and implement a technical skill assessment system like Utah's assessment system for secondary CTE programs. Using industry-recognized assessments at the postsecondary level would be desirable as postsecondary CTE program completers are preparing to enter employment and are seeking the competitive edge an industry-recognized certificate could bring, especially if the certificate is endorsed by a nationally recognized industry group or organization.

The program areas of information technology, automotive technology, and welding were selected because Utah has a critical mass of these programs among their postsecondary institutions, and each of the program areas has industry-based standards and certification examinations aligned to the standards. Specifically, Utah state staff evaluated assessments from the following industry organizations for potential use to measure postsecondary technical skill attainment:

- Information Technology—CompTIA, Computing Technology Industry Association. <http://www.comptia.org/certifications.aspx>
- Automotive Technology—National Automotive Student Skills Standards Assessment, Automotive Youth Educational Systems (AYES), the National Automotive Technicians Education Foundation (NATEF), and the National Institute for Automotive Service Excellence (ASE). <http://www.na3sa.com/>
- Welding—SENSE, Schools Excelling through National Skills Standards Education, American Welding Society (AWS). <http://www.aws.org/education/sense/>

Following the identification of the three CTE program areas, Utah postsecondary CTE administrators were consulted. They were asked to identify any conflicting issues that could result within their local CTE programs if investigation of technical skill assessments from these industry-recognized organizations were conducted. The local postsecondary CTE administrators were comfortable with evaluating technical skill assessments from these organizations as the industry-based standards from these groups already provide a foundation for their current CTE program content. In several cases, Utah postsecondary institutions were already familiar with, and in some cases using, assessments provided by these organizations.

CompTIA provides vendor-neutral, standards-based certification examinations that are industry-recognized. These assessments are available on-demand through an authorized testing center when an individual is ready to attempt the examination. Current practice for some Utah postsecondary institutions is to provide an assessment voucher to a student when the student is ready to attempt a specific certification examination. The individual student then

goes to a testing center for the examination. The postsecondary instructor does not administer the examination unless their institution serves as a CompTIA-authorized testing center.

The automotive technology and welding organizations, however, have augmented their industry-recognized certification examinations with end-of-course examinations designed specifically for educational institutions and the measurement of technical skill attainment. In discussions with representatives from the NATEF, they encourage educational institutions to use their end-of-course examinations rather than using the full ASE certification examinations to measure technical skill attainment. NATEF staff considers ASE certification as recognition of technical expertise which results from a combination of classroom instruction and full-time employment experience as an automotive technician. Use of ASE certification examinations to measure secondary or postsecondary technical skill attainment is not recommended by NATEF staff and is not the intent of the ASE examination. The development of the National Automotive Student Skills Standards Assessment is intended to measure automotive technical skills attained through an educational program. It is identified as a “stepping stone” toward full, industry-recognized ASE certification. Similar discussions with the American Welding Society staff echoed the same rationale for AWS’s development of SENSE end-of-course examinations.

Both of the automotive and welding end-of-course examinations offer Utah postsecondary educators with access to valid and reliable assessment options. The assessments are based on each industry organization’s technical skill standards which establish the validity of the exam. Each of the industry organization’s administration criteria for their examinations stipulates the scoring protocol and cut-off scores for determining the passing score. Uniform administration of the scoring protocol would establish assessment reliability. Further reliability might be achieved by asking a related industry partner to proctor the administration of the examination.

Guidance on Collecting and Reporting Technical Skill Assessment Data

Utah state staff have been active participants in Perkins accountability conversations highlighting the challenges states confront when trying to obtain student performance data from “third-party” technical assessment providers or industry groups. Unlike classroom-based assessments administered by the classroom instructor, some certification-based, technical skill assessments are administered and/or scored by an entity outside the educational institution. Specifically, this circumstance surfaces when a student is required to take a certification examination at an authorized certification testing center or when the examination results are shared only with the student, and the testing provider does not share student results of the assessments with the student’s educational institution or classroom instructor.

With no direct access to the student assessment results by the classroom instructor, the collection and reporting of 1P1—postsecondary technical skill attainment performance data is often restricted. Instructors could ask students to self-report their assessment results to the institution; however, if a student takes the third-party assessment following completion of their program, there is no incentive for the student to report their assessment results to the institution. Another option would be for the third-party assessment provider to report student-level assessment results to the institution. Testing providers have been reluctant to supply student-level data to educational institutions for fear of potential compliance irregularity with FERPA (Family Educational Rights and Privacy Act).²

Utah's desire to access postsecondary student information technology certification results has prompted several meetings between Utah state CTE staff and representatives from CompTIA, the non-profit trade association of information technology (IT) professionals and companies. Each of these meetings has been facilitated by MPR researchers. The conversations were held with the intent of resolving the access-to-data barrier often confronted by states using industry-based, third-party provider certification examinations.

CompTIA representatives actively participated in conversations with Utah to identify mutually acceptable ways to access CompTIA assessment data. CompTIA representatives joining conversations included: Alan Rowland, E2C Business Development Manager; Gretchen Koch, Director of Skills Development Programs; and Bryan Kainwrath, Vice President for Certification Operations. Initially, a solutions-based conversation focused on how a reasonable strategy could be developed for a “proof of concept” pilot. If a mutually-beneficial data-sharing strategy could be developed, it was agreed there would be a pilot conducted by one or more of Utah's postsecondary institutions to establish if the planned data-sharing concept is functional and meets expectations. Parameters and conditions for data sharing between Utah postsecondary institutions and CompTIA were discussed, negotiated, and include:

- Agreeing to collaborate on investigating and creating a solution for Utah postsecondary education to access CompTIA assessment data for Perkins reporting purposes that would use an electronic records matching approach based on existing data file specifications. Minor adjustments to data file specifications would be considered if needed to achieve the overall objective of an effective records matching strategy.
- Determining that data sharing or records matching protocols based on individual student social security numbers is not feasible for CompTIA. The current CompTIA certification assessment registration process does not ask for an individual's social security number. A request for a social security number on an assessment registration may be reasonable for adult students, but would create a challenge for the registration of youth under the age of

² Family Educational Rights and Privacy Act (FERPA). (<http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html>)

18 because of the need for a parent or guardian release of information. CompTIA will maintain a uniform certification assessment registration process for both adults and youth.

- Reviewing CompTIA assessment registration form's data fields and file specifications to determine if a data sharing or record matching strategy is feasible with Utah postsecondary education student information.
- CompTIA representatives engaging their legal council to determine what, if any, restrictions exist that would prevent the creation of a data-sharing agreement. This investigation included a review of FERPA by CompTIA's legal council to determine the ability for Utah to access assessment data as an accountability provision requirement for receipt of federal Perkins funds.
- CompTIA giving consideration to the creation of a data-sharing agreement with Utah patterned after an agreement CompTIA has established with the U.S. Department of Defense (DoD) permitting certification assessment results being shared with DoD Information Technology education and training programs.

A breakthrough occurred following CompTIA's analysis of the FERPA regulations and the applicability of the DoD data-sharing approach. CompTIA staff shared information on the DoD's Directive 8570. Directive 8570 is a policy from the Department of Defense's Information Assurance Workforce Improvement Program that requires any DoD employee and any contractor working with the DoD to possess certain Information Assurance training and certifications. The Directive makes certain that Information Assurance personnel meet training and certification requirements related to their IT security job functions.³

Implementation of Directive 8570 relies on the military's ability to obtain certification results from the IT testing provider. Since CompTIA provides approved DoD certifications for military advancement in IT career areas, there has been a data access protocol established between CompTIA and the Department of Defense. CompTIA representatives have advocated with their legal council that Utah's request for student results from certification examinations is parallel to the requests made by the Department of Defense. As of the writing of this technical assistance report, CompTIA's legal council is pursuing the feasibility of providing an access-to-data allowance for educational institutions similar to the Directive 8570 allowance for the Department of Defense.

Through technical assistance conversations between Utah CTE staff and CompTIA representatives, a greater understanding of CompTIA's assessment processes was reached. As is the case with AWS and NATEF end-of-course exams, which are administered in the CTE classroom, the instructor has immediate access to the assessment results which would facilitate the

³ U.S. Department of Defense Directive, DoD 8570.01-M; Information Assurance Workforce Improvement Plan. (<http://www.dtic.mil/whs/directives/corres/pdf/857001m.pdf>)

data collection and reporting for Perkins accountability. CompTIA offers a similar accommodation to those institutions that are recognized testing centers. A recognized testing center administers the computer-based, online exam and test takers receive immediate exam results.

By configuring a postsecondary assessment strategy that places valid and reliable technical skill assessment administration within the institution, the likelihood of securing postsecondary student-level accountability data for technical skill attainment is increased. Utah state staff will meet September 15–16, 2009 with the postsecondary CTE directors to share information on the end-of-course exams for automotive and welding. Information will also be shared on the criteria for establishing a CompTIA information technology testing center on each of Utah's postsecondary campuses that offer information technology certification or degree programs.

Recommended Actions

- Utah state staff continues work with local postsecondary institutions to evaluate current automotive, welding, and information technology assessment strategies for validity and reliability.
- Encourage postsecondary automotive, welding, and information technology programs to adopt a valid and reliable strategy that brings technical skill assessment within the institution such as end-of-course industry-based examinations (e.g., SENSE-welding or NA3SA-automotive) or establishment of an industry-recognized testing center for the administration of certification examinations.
- Continue the productive dialog with CompTIA for the potential access to data through a data-sharing allowance similar to the data access allowance provided to the Department of Defense.
- Analyze the transferability of the processes, lessons learned, and key questions confronted through the pursuit of assessment strategies for automotive, welding, and information technology and apply to other postsecondary CTE program areas that don't currently have a valid and reliable measurement of technical skill attainment.

Technical Assistance Schedule

The scope of Utah technical assistance did not include a workshop or conference. The technical assistance requested by Utah was met through a series of conference calls and one in-person meeting. Conference calls were conducted on January 15, 2009; February 12, 2009; March 5, 2009; May 26, 2009; June 2, 2009; June 12, 2009; and September 2, 2009. The in-person meeting was conducted in conjunction with the April 2009 NASDCTEc Meeting in Washington, DC. The April 2009 Utah-CompTIA face-to-face meeting in Washington,

DC was joined by selected postsecondary education representatives from other states who share interest in developing a solution to the access-to-data barrier.

Participants and/or individuals consulted during the technical assistance project include:

- Marv Johnson, Utah State Office of Education
- Gary Wixom, Utah State Board of Regents
- Andrea Hales, Utah State board of Regents
- Alan Rowland, CompTIA
- Gretchen Koch, CompTIA
- Bryan Kainwrath, CompTIA
- Dennis Marks, American Welding Society (AWS)
- Nichole Bradley, American Welding Society (AWS)
- Don Dew, National Automotive Student Skills Standards Assessment (NA3SA);
National Institute for Automotive Service Excellence (ASE)