

# **A Framework for Assessment Design Skill Connect Assessments Provided by: SkillsUSA**

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## **Introduction to Skill Connect™ Assessments**

In May 2008, SkillsUSA will release the first series of Skill Connect Assessments. The goal of the Skill Connect Assessments is to develop industry-designed, valid assessment instruments capable of distinguishing between individuals of differing levels of understanding and skill in a variety of technical skill areas. In total, there will be 48 assessments. Of those, 46 will measure technical skills. These assessments will align with the industry-identified standards and competencies published in *SkillsUSA Championships: Technical Standards (most recent edition)*. Two additional assessments will measure employability/professional skills such as communication, time management, teamwork, and problem solving. There will be one employability skill assessment each for secondary and post-secondary audiences. The complete list of 48 assessments will be published on the project website, [www.workforcereadysystem.org](http://www.workforcereadysystem.org).

The assessments are designed to be used by career and technical education (CTE) programs at secondary and post-secondary levels and by entities conducting workforce development and training efforts to meet assessment and development needs for technical and employability skill attainment. Specific uses of the Skill Connect Assessments could include: identification of individual educational needs when used as a pre-assessment, identification of proficiency status at the completion of a program of study, and assistance in evaluating the effectiveness of an educational training program.

Additionally, the assessments will be made available for employers to use in identification of proficiency and skill training needs. It is expected that over time, employers will find value in recruiting and hiring those students showing a passing score on Skill Connect Assessments. SkillsUSA fully expects that the assessments will grow to be used as a valuable pre-employment assessment tool in industry, serving as an additional evaluation tool or “benchmark” in determining whether to potentially invest in the hiring and training of a job applicant.

The Skill Connect Assessments are designed to serve as a “portal” or introduction point to industry certifications provided by such associations as AWS, CompTia, ASE, etc. Students successfully passing a Skill Connect Assessment should be better prepared to begin the certification or licensure process. These assessments connect students to the next step in their professional development continuum.

The purpose of this Framework Paper is to share key points about the approach to the design, development and field testing of the Skill Connect Assessments. This framework has served as a guiding blueprint for the development process. Potential assessment users may find the framework useful to answer questions about the reliability and validation measures taken in developing the assessments.

The Skill Connect Assessments are developed and produced by the national SkillsUSA organization as part of the Work Force Ready System. Membership in SkillsUSA, however, is not a requirement to use the Skill Connect Assessments or the Work Force Ready System.

## **Background of SkillsUSA and Success in Measuring Technical Skill Attainment**

SkillsUSA has a 40-year history of using industry representatives to design authentic assessments of student technical skill attainment through national competitions no change. The authentic assessments and their related standards and competencies have been and will continue to be leveraged in the development of the Skill Connect Assessments. In many cases, the same industry representatives will serve as the subject matter experts (SMEs) for assessment design and development. It is a core value of SkillsUSA that industry representatives provide guidance on relevant technology and skills for each assessment.

A four-year grant award from the W.K. Kellogg Foundation served as a catalyst to begin the development of the Work Force Ready System and the Skill Connect Assessments that are to be a component of this system. The grant was received in 2006 and supports the development of the assessments and the implementation of SkillsUSA programs in vulnerable communities in schools and community-based organizations. SkillsUSA has conducted numerous surveys and focus groups with CTE instructors, administrators and employers to discover the needs of those using technical skill assessments in the spring and summer of 2007. This feedback identified the need for assessments that were up-to-date with industry standards, assessed technical skill areas where no assessments currently existed, and utilized a more hands-on approach.

## **Assessment Approach and Design**

SkillsUSA is known for providing real-life, hands-on application of skills. The Skill Connect Assessment endeavors to parallel SkillsUSA's successful hands-on, authentic assessment philosophy. Rich, interactive and applicable test items will be used to assess tactile experiences as closely as possible in an online environment.

Recent advances in media technology have made it possible to deliver online assessments that are much more than electronic versions of a paper-pencil test. Items will be in the form of multiple choice, true or false, fill-in-the-blank, drag-and-drop and hotspot. More than 75 percent of the items will include media such as images, video, diagrams, interactive displays, etc. The use of media and interactivity, the variety of question types available in LearnMate®, and the use of principles of Universal Design for Learning (UDL) will allow the Skill Connect Assessments to assess a broader range of competencies and to assess them more fully than text-only multiple choice items.

Each Skill Connect Assessment will consist of approximately 50 items and will take an estimated 60 minutes to complete. Items will be delivered randomly from an item bank, as will the possible answers to each question stem – all according to the assessment blueprint defined.

Assessments are designed to be summative (end of unit, end of course, end of program) – depending on the design of program curriculum. Students' scores will be criterion referenced; there will be a national cut score determined from the results of the field testing and input from the SME's serving as the technical advisory committee.

## **Item Development and Item Validation**

SkillsUSA has partnered with intelitek to lead the Skill Connect Assessment development process. Together, the team will design and implement processes to validate content standards, develop exam blueprints, develop and field test items, and deploy the delivery and management system. intelitek has extensive experience in technical skill training, with more than 25 years of

experience in developing assessments, content, hardware and software to teach highly technical skills.

The assessment development team will rely on industry-based SME's to validate competencies, generate item ideas, and provide resources for media development. Dr. Brian Cochrane of Southern New Hampshire University, an expert in CTE program design and instruction, will lead the team in these efforts. The team will be utilizing guiding principles from Grant Wiggins' *Educative Assessment* for item development and design.

Dr. Bart Pisha, a leading Universal Design expert, is also consulting on item validation and assessment design. Universal Design for Learning (UDL) is an approach to curriculum, instruction and assessment that creates learning and assessment environments designed to benefit the greatest possible range of users. The use of UDL is important in assessing the tactile nature of technical content, as well as in addressing accessibility issues for users with special needs.

### **Reliability and Field Testing Measures**

Dr. Nancy Cook-Smith of Harvard University is serving as consulting psychometrician for the process and will guide the item validation and assessment field testing efforts. The entire process will comply with the Standards for Educational & Psychological Testing published by the American Psychological Association and the National Council of Measurement in Ed. (1999).

The Skill Connect Assessments will undergo concurrent field testing to measure reliability of the test and the items. The industry SME's will be involved in analyzing and interpreting the results of these field tests and using the information to select final items and set a national cut score.

### **Access and Delivery**

Skill Connect Assessments will be delivered via an online learning management system. This system allows for the delivery of the rich, multi-media items in an accessible format. Students and instructors will have real-time access to assessment scores. Instructors will have the ability to print and deliver Skill Connect Certificates as they are earned by students. It is important to note that access to reliable Internet connection is essential to Skill Connect Assessment use.

*Additional information regarding the Skill Connect Assessments and the entire Work Force Ready System is available at [www.workforcereadysystem.org](http://www.workforcereadysystem.org). For more information about the supporting W.K. Kellogg grant, visit [www.championsforchange.org](http://www.championsforchange.org).*