# Skill Connect Assessments

Industry-driven assessments for the next generation

**63rd Annual GACTE Summer Leadership Conference
July 19, 2010**

**Today's discussion:**

- Skill Connect Assessments

  – Features

  – How they look and work

  – Reporting: what they'll tell you

  – Feedback from the market

  – Schedule

  – Price

- Q&A

**Designed to meet the needs of both education and industry:**

•Interactive

•Industry-driven

•Up-to-date

•Real-time feedback

•Affordable

•Meets Perkins IV requirements



SkillsUSA.

Work Force Ready System™

The Way Ahead

Skill Connect Assessments
■ Interactive
■ Industry-driven
■ Real-time feedback
■ Affordable
■ 46 Technical areas

www.workforcereadysystem.org

# SkillsUSA ®

# Work Force Ready System™

# The Development Process

- Online, native assessment. (Didn't originate as a paper-pencil test)
- Interactive questions with media-rich content (videos, animation, images)
  - More closely assesses student practical knowledge than text-only
  - More engaging – less test fatigue!
- Screen readers for students with IEPs
- Compression technology minimizes bandwidth issues
- Developed through a rigorous, educationally-sound process
  - Based on critical competencies, standards and criteria as defined by industry
  - Comply with standards for testing

# The development process

*A rigorous, sound process monitored closely by a team of psychometricians…*

1. **Validation of the technical standard**
2. **Construction of the assessment matrix**
3. **Validation of the assessment matrix**
4. **Assessment item development**
5. **Validation of assessment items**
6. **Field testing (pilots)**
7. **Analysis of field test results**
8. **Deployment**

# Work Force Ready System™

# Assessments Progress

# Assessment progress

- Introduced "free preview" opportunity; 2000+ instructors have since previewed an assessment

- Launched Skill Connect Assessments

- 40 Skill Connect assessments available today & 4 Co-brand ASE assessments
  - To date, more than 47,000 assessments have been taken
  - 50 states & 2 territories have purchased or previewed assessments

# Assessment progress

- Developed new partnerships with GAERF/PrintED
- ASE/NATEF/AYES
- NCCER
- Others

# Assessments

**Available Now**
3D Visualization & Animation
Advertising Design
Architectural Drafting
Audio-Radio Production
Automated Manufacturing Technology
Aviation Maintenance (Secondary)
Aviation Maintenance (Post-Secondary)
Cabinetmaking
CNC Milling and Turning Technology
Commercial Baking
Computer Maintenance Technology
Computer Programming
Cosmetology
Culinary Arts
Employability
Internetworking
Major Appliance Repair
Mechatronics
Medical Assisting
Nail Care
Nurse Assisting
Photography
Plumbing
Power Equipment Technology
Practical Nursing
Residential Wiring
Robotics
Technical Drafting
Television Video Production
Welding

**Available Now (Co-brand)**
**ASE-AYES-SkillsUSA Co-brand**
Automotive Refinishing
Automotive Service Technology
Collision Repair Technology
Diesel Equipment

**Now Available**
Carpentry
Customer Service
Criminal Justice/CSI
Engineering Technology
Electronics Application & Technology
Marine Service Technology
Masonry
Screen Printing Technology

**On or Before January 2011**
Dental Assisting
HVAC & Refrigeration
Motorcycle Service Technology
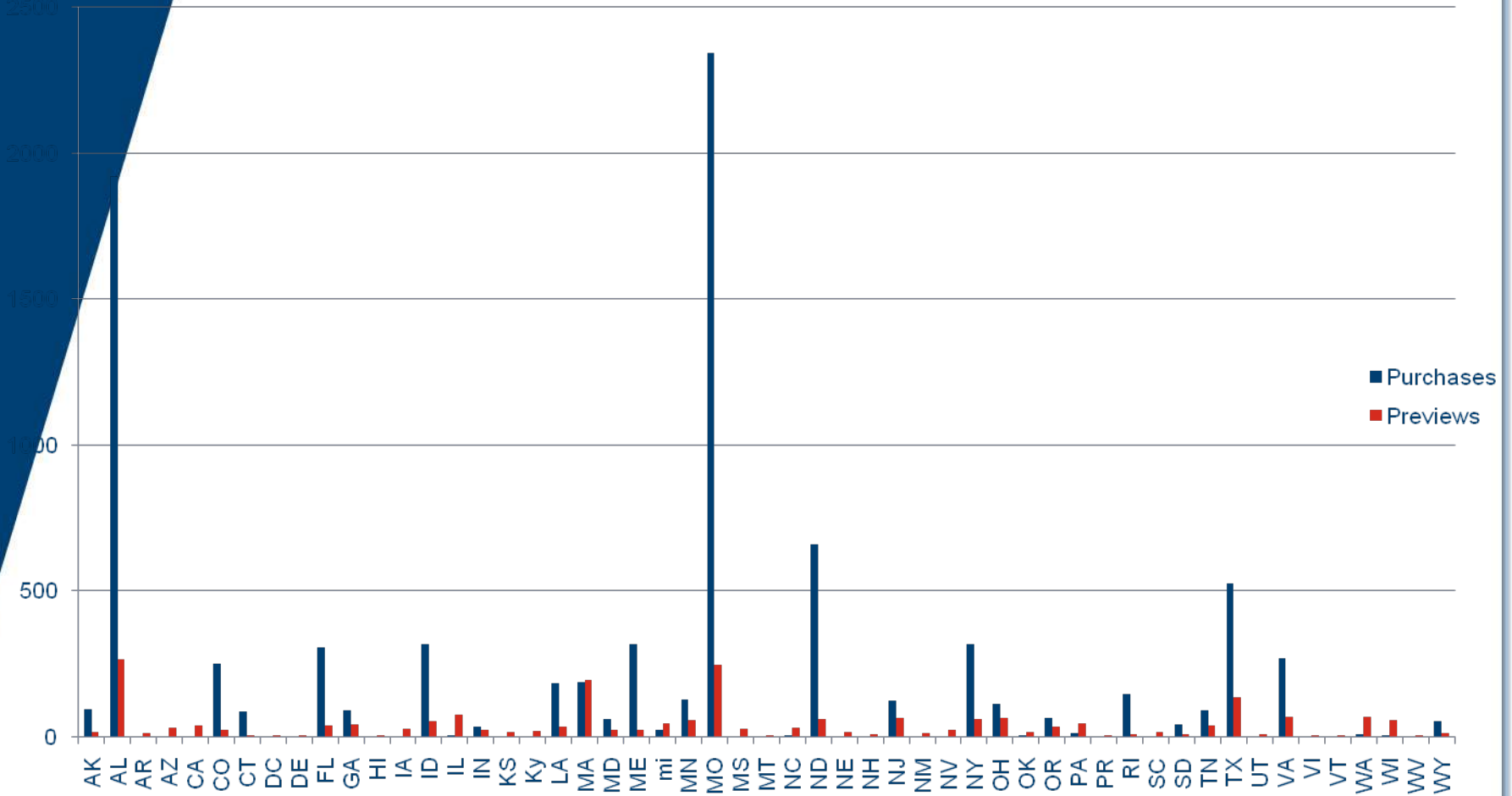
# Assessment sales – 2009/10

- Assessment season 2009-2010
- 8000+ assessments sold this year
  28.5 assessments per school on average
- Large majority sold at Member Price (89%)
- Customers or previewers in 50 states & 2 territories
- Most popular include:
- Employability (54% of all sales)
  - Advertising Design
  - Nurse Assisting
  - Commercial Baking

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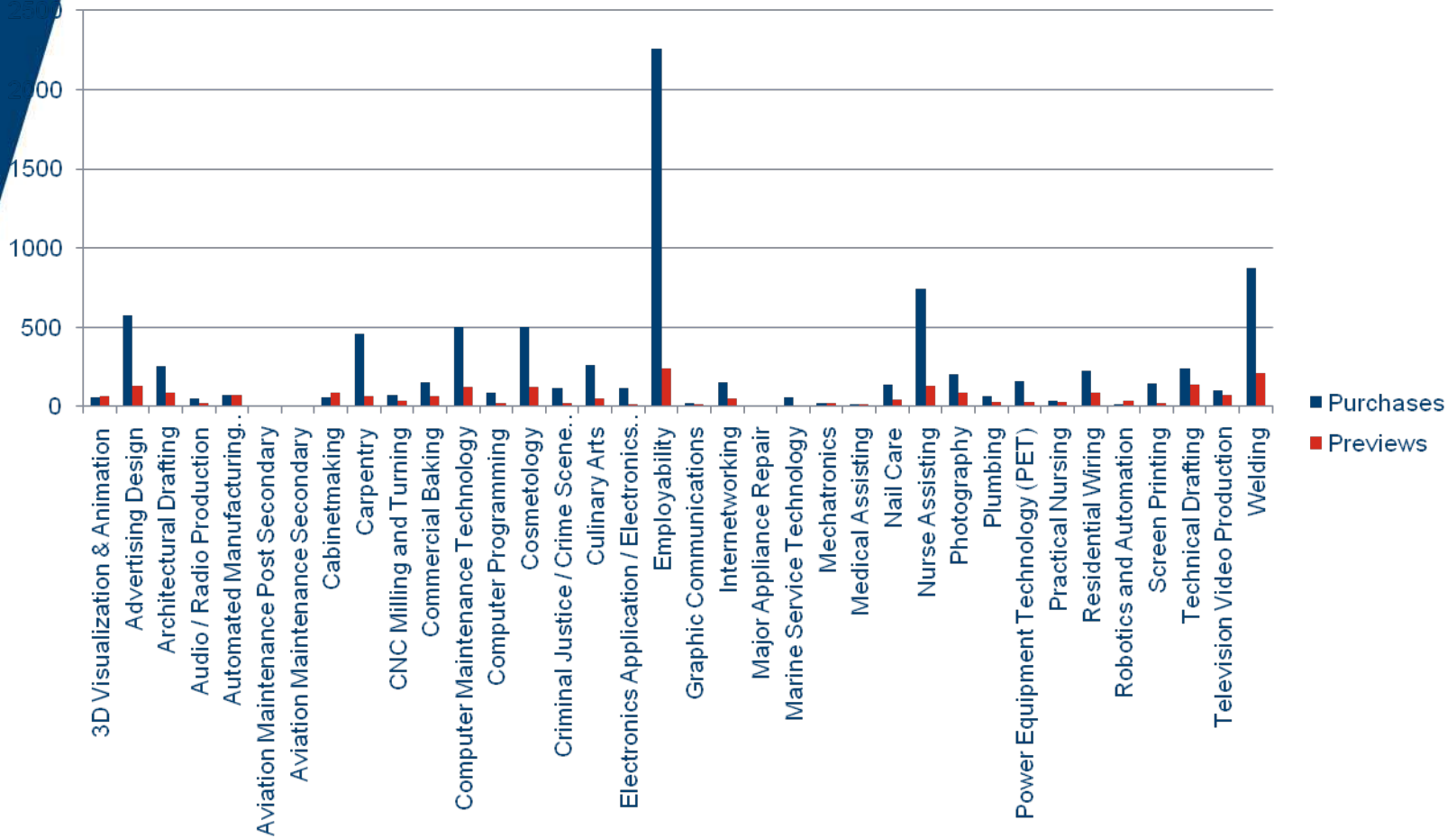
# Assessments by State



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# Work Force Ready System™
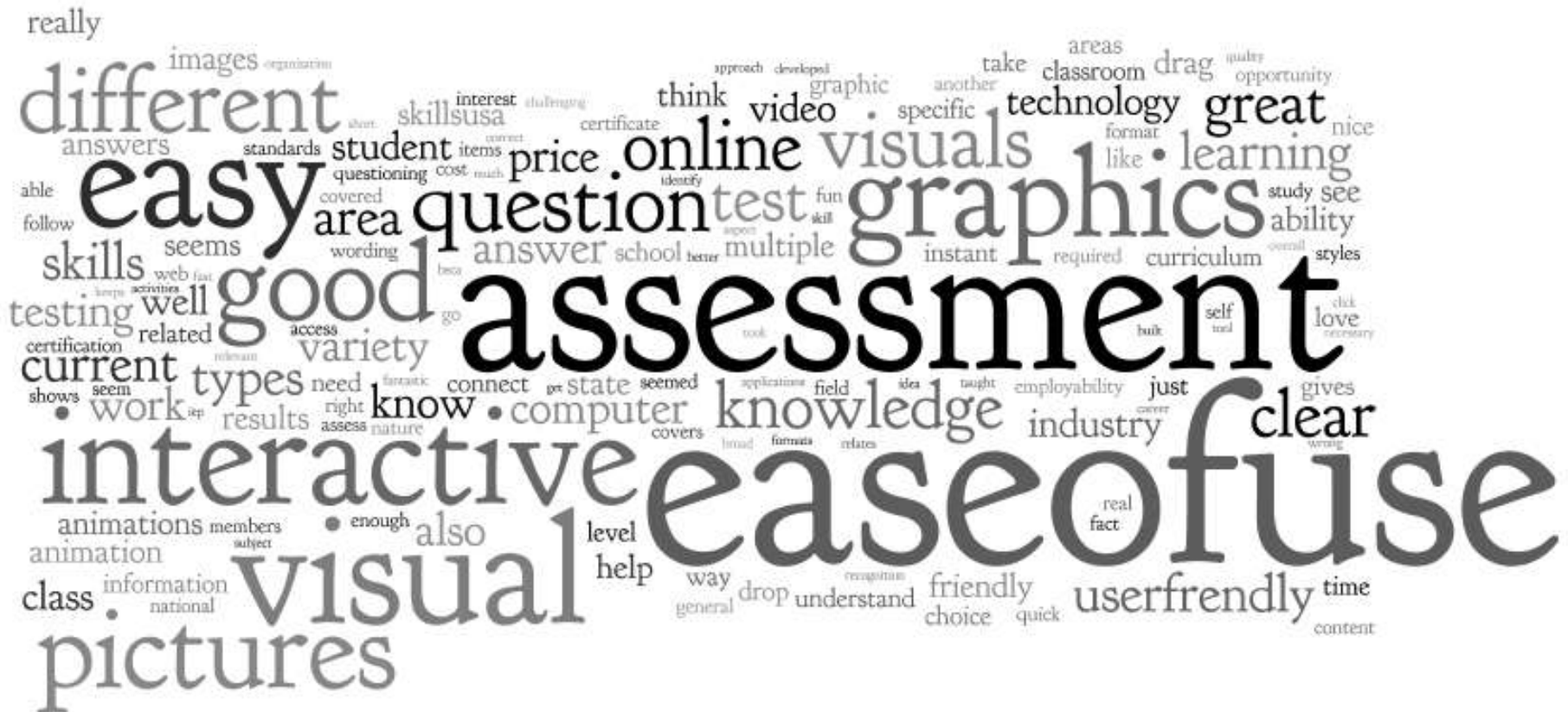
## How They Can Be Used

- Focus is on the students
- Candidates prove skills and knowledge to instructors and employers
- Support instructional programs as
- Pre-assessments
  - End-of-program evaluation
  - Prepare for industry certification (on-ramp)
  - Instructors demonstrate the value of their programs

# SkillsUSA

## Work Force Ready System™

# Feedback

What did you like best about the Skill Connect Assessments?

*Based on 327 participants in a survey at NLSC*

- *"The Skill Connect Assessment is much easier than the assessment we've been using. I liked the colors, and it's just a better assessment. Students related to it better than any other assessments they have taken. It was so nice to have the results in the same day! This seems like the way to go with assessments in the future."*

- **Dave Owens
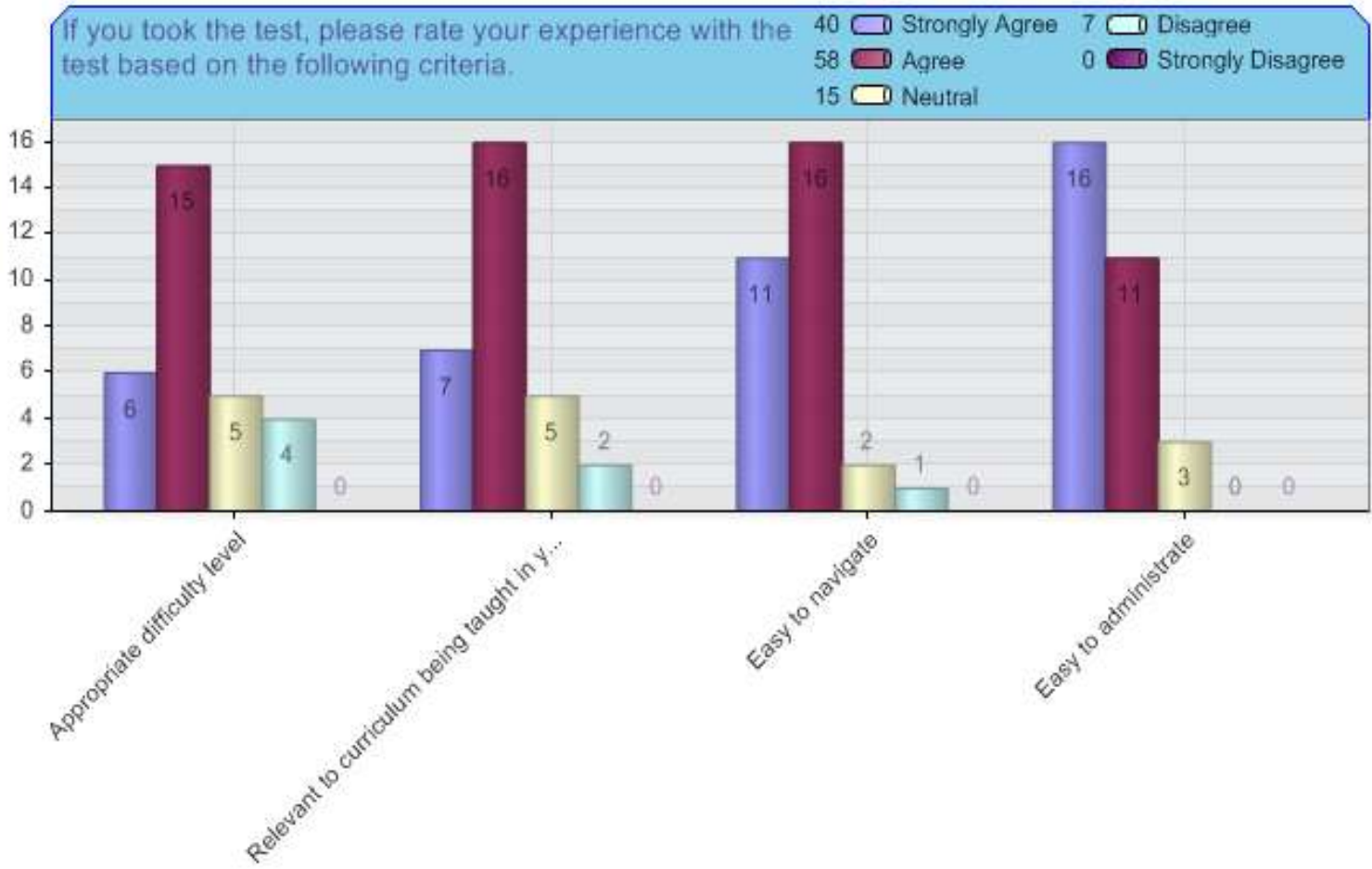Barry Tech, NY**

# More accurate than written exam

- *"It was better than taking a written exam. The interactivity made it a more accurate presentation to help me understand the questions and answers."*

  – **Joshua, Student**
  **N. Kansas City School District, MO**

If you took the test, please rate your experience with the test based on the following criteria.

- Each assessment includes approximately **50 questions** of different question types
  - 4 **equivalent** forms (A, B, C, D) for item security
  - A student takes only one form
- Tests are **all online**
- Approximately **one hour to administer**
- Students and instructors get **immediate results**
- Skill Connect Certificates available immediately for students who achieve industry-defined cut score

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# Skill Connect Certificates

**Competency areas from national industry standards**

**Company logos**



SkillsUSA.

## Skill Connect
A COMPONENT OF THE SkillsUSA WORK FORCE READY SYSTEM
www.workforcereadysystem.org

**Competency Areas Tested**

Structured Cabling
LAN Network Troubleshooting
Basic Router Configuration
Advanced Router Configuration
LAN/WAN Design
End to End Networking
Online Written Test
Technical Assistance Call ( TAC )
Professionalism (Resume, Teamwork, Dress, Timesheet)

has earned successful scores on the
**SkillsUSA Internetworking**
**Proficiency Assessment**

This online assessment was designed based on SkillsUSA Championships®
national standards developed by the following organizations:

ADTRAN    Learning Institute    CISCO SYSTEMS FOUNDATION    CWA

FLUKE networks    PANDUIT    SIGMAnet®

# AUTOMATED MANUFACTURING TECHNOLOGY BLUEPRINT

This Blueprint contains the subject matter content of this Skill Connect Assessment. This Blueprint does **NOT** contain the information one would need to fully prepare for a SkillsUSA Championships contest. Please refer to the *SkillsUSA Championships Technical Standards* CD-ROM for the current year or purchase and download the relevant "Contest Singles." Both are available through *www.skillsusa.org* > Shop > Educational Materials Catalog.

## Standards and Competencies

### Perform mathematical and measurement calculations used in automated manufacturing situations

- Measure work pieces to the nearest .001 inch
- Calculate CNC speed and feeds
- Calculate stock utilization and setup
- Calculate tolerances
- Calculate various variables to estimate costs and material usage written evaluation

### Design, sketch and plan machine work to U.S. National CAD Standards

- Transfer information from provided drawing to CAD drawing
- Create CAD file for manufacturing using standard CAD terminology and standard practice
- Initiate manufacturing documentation process
- Generate a process plan
- Plot a CAD file
- Export a CAD file
- Process Engineering Change Orders (ECO)
- Repeat steps as necessary to accommodate ECO

### Create a toolpath (CAM file) and the CNC code to related duty tasks of the National Institute for Metalworking Skills (NIMS) Duties and Standards for Machining Skills, Level I

- Create process plan (job plan)
- Read-in CAD export file
- Create toolpath
- Verify toolpath
- Create CNC code
- Send CNC code to machine tool
- Process Engineering Change Orders (ECO)
- Repeat steps as necessary to accommodate ECO

### Perform CNC machining functions given a scenario to the related duty tasks of the National Institute for Metalworking Skills (NIMS) Duties and Standards for Machining Skills, Level I

- Verify CNC file existence
- Verify toolpath
- Set up fixture(s) and tooling on machine
- Set up part(s) on mill
- Set all offsets and tooling
- Adjust machine speeds and feeds as needed
- Complete an in-process quality assurance process
- Perform tool changes
- Perform multiple machining operations in one setup
- Demonstrate proficiency in using a CNC machine tool and produce part(s)

**SkillsUSA**

- Use Total Quality Management practices to verify process and part
- Process Engineering Change Orders (ECO)
- Repeat steps as necessary to accommodate ECO

**Perform and inspect part(s) using a Total Quality Management process**
- Verify part(s) to provided standards
- Verify part(s) to ECO standards
- Document process of verification and inspection

**Demonstrate safety practices in a working situation to the related duty tasks of the National Institute for Metalworking Skills (NIMS) Duties and Standards for Machining Skills-Level I**
- Carry out assigned responsibilities while adhering to safe practices in accordance with OSHA requirements and guidelines
- Document safety activities as require
- Demonstrate safety procedures in running and programming a CNC machine tool

**Produce welds using a Gas Tungsten Arc Welding (GTAW process to AWS QC10 standards**
- Solve various solutions to the process that is involved in quoting a job in a rapid prototyping environment

**Demonstrate professional development skills in a simulated customer-service or employment situation. Examples may include:**
- Job interview
- Customer service scenario
- Communications
- Decision making, problem solving and/or critical thinking

## Committee Identified Academic Skills
The SkillsUSA national technical committee has identified that the following academic skills are embedded in the automated manufacturing technology training program and assessment:

### Math Skills
- Use fractions to solve practical problems
- Use proportions and ratios to solve practical problems
- Use scientific notation
- Solve single variable algebraic expressions
- Solve multiple variable algebraic expressions
- Measure angles
- Find surface area and perimeter of two-dimensional objects
- Find volume and surface area of three- dimensional objects
- Construct three-dimensional models
- Apply Pythagorean Theorem
- Solve problems using proportions, formulas and functions
- Find slope of a line
- Solve practical problems involving complementary, supplementary and congruent angles
- Solve problems involving symmetry and transformation

### Science Skills
Use knowledge of physical properties (shape, density, solubility, odor, melting point, boiling point, color)

### Language Arts Skills
- Provide information in conversations and in group discussions

- Demonstrate comprehension of a variety of informational texts
- Organize and synthesize information for use in written and oral presentations
- Demonstrate knowledge of appropriate reference materials

**Connections to National Standards**
State-level academic curriculum specialists identified the following connections to national academic standards.

**Math Standards**
- Numbers and operations
- Geometry
- Measurement
- Data analysis and probability
- Problem solving
- Communication
- Connections
- Representation

*Source:* NCTM Principles and Standards for School Mathematics. To view high school standards, visit: standards.nctm.org/document/chapter7/index.htm. Select "Standards" from menu.

**Science Standards**

Understands the structure and properties of matter
Understands the sources and properties of energy
Understands the nature of scientific inquiry

*Source:* McREL compendium of national science standards. To view and search the compendium, visit: www.mcrel.org/standards-benchmarks/.

**Language Arts Standards**

Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics)
Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes
Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language and genre to create, critique, and discuss print and nonprint texts
Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge
Students participate as knowledgeable, reflective, creative and critical members of a variety of literacy communities
Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information)

*Source:* IRA/NCTE Standards for the English Language Arts. To view the standards, visit: www.readwritethink.org/standards/index.html.

- **Robust, real-time and dynamic reporting** – reports available immediately after assessments submitted
- ***All reports can be printed AND exported to a CSV file*** *(Excel readable)*
- Course (school)-specific reports for teachers
- Aggregated reports for administrators

# Assessment Grades (course)

LearnMate ▸ Employability-NLSC ▸ Grades ▸ Report ▸ Grade report ▸ Grade report

Grade report | My report preferences

Page: 1 2 3 4 5 6 7 8 9 10 11 (Next)

| LAST NAME ↑ / FIRST NAME | ✓ EMPLOYABILITY - FORM A ⇅ | ✓ EMPLOYABILITY - FORM B ⇅ | ✓ EMPLOYABILITY - FORM C ⇅ | ✓ EMPLOYABILITY - FORM D ⇅ | $\bar{x}$ COURSE TOTAL ⇅ |
|---|---|---|---|---|---|
| | | | EMPLOYABILITY⊟ | | |
| APPLEBEE KYERA | - | 64 | - | - | 64 |
| ARROJA SAUL | - | - | 32 | - | 32 |
| ASHLEY BRIGHAM | 24 | - | - | - | 24 |
| BARRY SMITH | - | 78 | - | - | 78 |
| BECKER JOSHUA | - | - | 74 | - | 74 |
| BLACK REBECCA | - | - | - | 60 | 60 |
| BLUEFELD CARL | - | 38 | - | - | 38 |
| BOND BARRY | - | - | 68 | - | 68 |
| BONNETT DARRYL | 58 | - | - | - | 58 |
| BROOKINGS JAMAL | - | - | 56 | - | 56 |
| COURSE AVERAGE: | 63.89 (38) | 58.48 (25) | 61.22 (18) | 65.88 (16) | 62.33 (97) |
| ORGANIZATION AVERAGE: | 63.89 (38) | 58.48 (25) | 61.22 (18) | 65.88 (16) | 62.33 (97) |
| STATE AVERAGE: | 64.51 (39) | 58.85 (26) | 61.37 (19) | 65.88 (16) | 62.66 (100) |
| NATIONAL AVERAGE: | 69.06 (102) | 64.05 (77) | 64.06 (66) | 70.33 (55) | 66.91 (300) |

Export to CSV | Print

**Shows final grades for students in a course (assessment), as compared to the course, school, state and national average.**

| ASSESSMENT GRADES REPORT | | |
|---|---|---|
| COURSE/ASSESSMENT | TOTAL SUBMISSIONS (INCLUDING SUB-ORGS) | AVERAGE GRADE |
| AMT-Missouri | 5 | 72.30 |
| AMT – Form A | 1 | 72.00 |
| AMT – Form B | 1 | 59.00 |
| AMT – Form C | 2 | 74.25 |
| AMT – Form D | 1 | 82.00 |
| AdvDesign-Missouri | 137 | 66.85 |
| Advertising Design - Form A | 42 | 67.24 |
| Advertising Design - Form B | 35 | 65.28 |
| Advertising Design - Form C | 33 | 66.22 |
| Advertising Design - Form D | 27 | 69.06 |
| CMT-Missouri | 121 | 61.46 |
| Computer Maintenance Technology - Form A | 42 | 63.63 |
| Computer Maintenance Technology - Form B | 37 | 57.74 |
| Computer Maintenance Technology - Form C | 27 | 60.78 |
| Computer Maintenance Technology - Form D | 15 | 65.77 |
| Employability-Missouri | 100 | 62.66 |
| Employability - Form A | 39 | 64.51 |
| Employability - Form B | 26 | 58.85 |
| Employability - Form C | 19 | 61.37 |
| Employability - Form D | 16 | 65.88 |
| Internetworking-Missouri | 8 | 46.68 |
| Internetworking - Form A | 2 | 55.69 |

Shows administrators the # of submissions and average score per assessment form. (Missouri in this case)

## Certificates Issued

### Dependent Activities For Certificate

✔ Assessment: Employability - Form B  Cut rate for Employability - Form B: 73%

### General

| | |
|---|---|
| Course name: | **Employability** |
| Total number of users in course: | **97** |
| Total number of users who submitted dependent activities: | **25** |
| Total number of certificates issued: | **1** |
| Average score for students who submitted dependent activities: | **58.48%** |

| AWARDED TO | CERTIFICATE STATUS | CERTIFICATE PRINTED | GRADE |
|---|---|---|---|
| Applebee, Kyera | Ineligible | No | 64.00% |
| arroja, saul | N/A | No | |
| ashley, brigham | N/A | No | |
| Barry, Smith | View Certificate<br>Monday, 11 May 2009, 08:00 AM | No | 78.00% |
| Becker, Joshua | N/A | No | |
| Black, Rebecca | N/A | No | |
| Bluefeld, Carl | Ineligible | No | 38.00% |
| Bond, Barry | N/A | No | |

Shows teachers how many students in a school received certificates for an assessment vs. how many were ineligible. Also shows cut rate, # of users who took the test form and average score per form.

# Certificates Issued (Aggregated)

## Certificates Issued report

| CERTIFICATE NAME | ORGANIZATION | ORGANIZATION SPECIFIC | | AGGREGATED (INCLUDING SUB-ORGS) | |
| --- | --- | --- | --- | --- | --- |
| | | # OF STUDENTS WHO TOOK ACTIVITY | # CERTIFICATES ISSUED | # OF STUDENTS WHO TOOK ACTIVITY | # CERTIFICATES ISSUED |
| Cosmetology: Skill Connect Certificate (Form A) (Cosmetology) | TEXAS | N/A | N/A | 2 | 2 |
| | Blair Magnet School | N/A | N/A | N/A | N/A |
| | Walter Johnson Career and Technical Center | 2 | 2 | N/A | N/A |
| | Winston Churchill High School | N/A | N/A | N/A | N/A |
| Cosmetology: Skill Connect Certificate (Form B) (Cosmetology) | TEXAS | N/A | N/A | 3 | 2 |
| | Blair Magnet School | N/A | N/A | N/A | N/A |
| | Walter Johnson Career and Technical Center | 3 | 2 | N/A | N/A |
| | Winston Churchill High School | N/A | N/A | N/A | N/A |
| Cosmetology: Skill Connect Certificate (Form C) (Cosmetology) | TEXAS | N/A | N/A | 6 | 3 |
| | Blair Magnet School | N/A | N/A | N/A | N/A |

Shows administrators the number of certificates issued for each assessment form per school and per state.

# Competency Profile

## Competency Profile Report

STUDENT: BECKER JOSHUA

**Standard Name: Employability - Skill Connect Assessment Blueprint**

1.0: Demonstrate effective communication skills (such as public speaking, listening, reading, and writing) to function successfully in a variety of settings including school, home and work.

| Competencies | Exposed | Assessed | |
|---|---|---|---|
| 1.1: Identify communication strengths and weaknesses | n/a | 1/1 (100.00%) | ▪ Employability - Form C (1) |
| 1.2: Explain the importance of writing effectively | n/a | 0/1 (0.00%) | ▪ Employability - Form C (1) |
| 1.6: Review a professional journal | n/a | 1/1 (100.00%) | ▪ Employability - Form C (1) |
| 1.7: Complete a job application | n/a | 2/2 (100.00%) | ▪ Employability - Form C (2) |
| 1.8: Research resume writing | n/a | 2/2 (100.00%) | ▪ Employability - Form C (2) |

2.0: Develop an understanding of effective customer relations and demonstrate proper customer service behavior.

| Competencies | Exposed | Assessed | |
|---|---|---|---|
| 2.2: Identify customer expectations | n/a | 1/1 (100.00%) | ▪ Employability - Form C (1) |
| 2.3: Develop customer service skills | n/a | 4/4 (100.00%) | ▪ Employability - Form C (4) |

3.0: Demonstrate career research and career development skills.

| Competencies | Exposed | Assessed | |
|---|---|---|---|
| 3.1: Research career interests | n/a | 0/2 (0.00%) | ▪ Employability - Form C (2) |
| 3.3: Define future occupations | n/a | 1/1 (100.00%) | ▪ Employability - Form C (1) |
| 3.4: Identify personal interests | n/a | 1/1 (100.00%) | ▪ Employability - Form C (1) |
| 3.5: Evaluate career goals and establish long-term goals | n/a | 0/1 (0.00%) | ▪ Employability - Form C (1) |
| 3.6: Recognize how quickly jobs change and opportunities arise | n/a | 2/3 (66.67%) | ▪ Employability - Form C (3) |

Details student progress per competency, including the # of questions answered per competency and average score. Can be used as a skills gap analysis.

# Certificate Report

| Certificates Issued | The Certificates Issued (Aggregated) report shows for a category and all its sub-categories (i.e. state and schools OR national and then all states and schools) the number of certificates issued for a specific assessment, and the number of submissions that that average constitutes. The report has two levels. |
|---|---|

The first level shows the aggregated data per certificate.

| CERTIFICATE | TOTAL SUBMISSIONS | TOTAL CERTIFICATES AWARDED |
|---|---|---|
| [Certificate Tag1 Name] | XX | XX |
| [Certificate Tag2 Name] | XX | XX |

The second level shows detailed information for a selected category and all of its sub-categories.

| ORGANIZATION | TOTAL SUBMISSIONS | TOTAL CERTIFICATES AWARDED |
|---|---|---|
| SkillsUSA (Category) | | |
| Arizona (Category) | XX | XX |
| Gilbert HS (Course) | XX | XX |
| Maryland (Category) | XX | XX |
| Blair HS (Course) | XX | XX |
| Churchill Hs (Course) | XX | XX |
| Wootton HS (Course) | XX | XX |

# Reports

| REPORTS OVERVIEW | |
|---|---|
| **AGGREGATED (SITE) REPORTS** | |
| **Assessment Grades** | The Assessment Grades report is an aggregated report that shows the number of submits and average grade for a select assessment in all schools (courses) in a selected category (e.g. SkillsUSA or Missouri) and its sub-categories. The report works in a drill-down fashion. |

When run on an assessment, Level 1 shows aggregated data for assessment in the category selected (including all its sub-categories)

| ASSESSMENT | TOTAL SUBMISSIONS | AVG. GRADE |
|---|---|---|
| [Assessment Tag1 Name] | XX | XX.XX |
| [Assessment Tag2 Name] | XX | XX.XX |

Level 2, accessed by clicking on the assessment name, shows detailed information for selected category and all sub-categories

| | TOTAL SUBMISSIONS | AVG. GRADE |
|---|---|---|
| **SkillsUSA (Category)** | XX | XX.XX |
| **Arizona (Category)** | XX | XX.XX |
| Gilbert HS (Course) | XX | XX.XX |
| **Maryland (Category)** | XX | XX |
| Blair HS (Course) | XX | XX |
| Wootton HS (Course) | XX | XX |

# Grade Reports

## COURSE REPORTS

The Assessment Grades report displays the average grade for a select assessment in the current course, as well as the school average, parent organization average and all direct organizations of the parent category. As an example, Wootton High School of the Montgomery County school district in Maryland would see the following data for a Welding assessment:

| Organization | Average Grade |
|---|---|
| Welding: | XX.XX% |
| Wootton High School: | XX.XX% |
| Mongtomery County School District: | XX.XX% |
| Maryland: | XX.XX% |
| USA | XX.XX% |

# Demo Skill Connect Assessments

**To see 10-question mini-assessments in 37 areas:**

- Open your browser and go to http://www.skillconnect.org.
- Click **Self-enroll to system** on the right-hand side of the page.
  - Enter your personal details.Enter **demo** in the Enrollment Key field.
  - Click **Create my new account.**
- Log in with the username and password you just created.
- Click **Skill Connect Assessments** in the *My courses* list. A course opens with assessments organized by program of study.
- Click on the assessment you wish to preview.
  - Click **Attempt assessment now** to start the assessment.
  - Click **Previous** and **Next Question** to move between questions and **Submit and End Test** when you are done. Your grade will display.
- At any time, click **Assessment Demo** in the bottom blue bar to preview another assessment and/or click **Skill Connect Assessment Survey** to provide feedback on the assessments.

**Work Force Ready System™**

# Thank you GACTE for your interest in Skill Connect Assessments

Industry-driven assessments for the next generation