



Skill Standards

Based on
NSRP Skill Standards Initiatives
1996 to 2005

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***Skill
Standards***



A Common Language



- If we are to share people or training efficiently we need a common language to describe requirements and capabilities.

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Elements of Skill Standard Sets

- The Standard: (1) a statement of work, and (2) criteria for determining if the work has been done properly.
- Assessment: means of measuring the worker's performance to the standard
- Certification: Formal documentation of knowledge, skill and ability

Within a framework of common terminology,
language, symbols





Why Do Skill Standards? I



Internal to a company:

- Formalize hiring/advancement at yards
- Establish commonality/equitability among trades/descriptions/apprenticeships
- Tool for a multi-skilled Workforce (Workforce flexibility, Cross training across positions)
- Shift labor based on need
- Meet customer requirement (such as welding standards)
- Correct quality performance and efficiency





Why Do Skill Standards? II



External to a company

- Develop “common” language for teaming
- Easier for vocational/community college to support the industry
- Easier and faster to hire subcontractors or contract workers
- Use public training \$\$ efficiently – meet common needs
- Toolset for technology transfer (*Gap analysis*)
- Connect shipbuilding industry with other manufacturing organizations – political mass





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Skill Standards Initiatives

- Project 9-96. *Assist U.S. shipyards to develop and maintain a skilled workforce*
- Project 9-98. *Leading and Sustaining Multi-skilled Work Groups*
- Skill Standards White Paper
- Skill Standards Action Committee
- A total of 23 deliverables

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Skill Standard Products



- Skill Standards Listing
- Model Training Plan
- Assessment Design Process
- Training Program Development Manual
- Prototype Certification Program
- Shipfitter Pilot Assessment Project





Finding Common Ground



- Shipyards vary widely in products, trades organization, and tooling.

However

- The same basic operations are needed to build or repair any ship.

Challenge

- How to package our information, derived from operations, so that it would adapt to individual shipyard environments

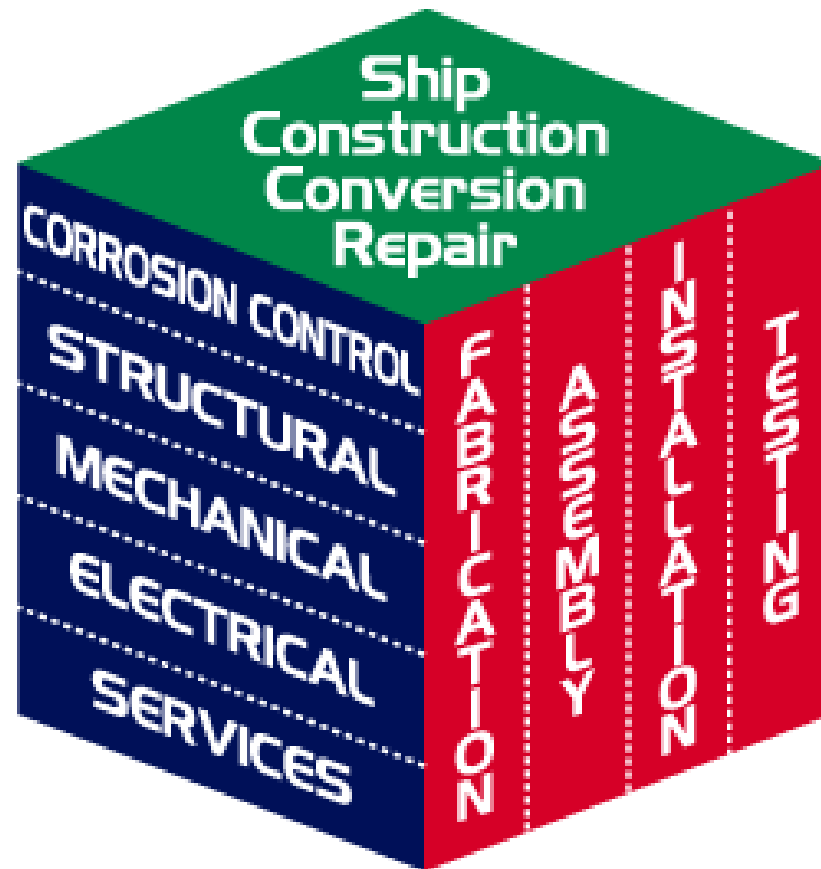
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The Cube



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Skill Standards



The Skill Standard



- Adapted from the Concrete Workers Skill Standards
 - Scenario
 - Industrial Standards
 - Tasks
 - Knowledge, Skills, and Abilities (KSAs)
 - Arranged in Groups,





Skill Standard Organization



- Structural: Fabrication; Marking, Cutting, Beveling Plates and Profiles
- Structural: Fabrication; Bending and Shaping Plates and Profiles
- Structural: Assembly; Assembling a Structure on the Panel Line
- Structural: Installation; Erecting a Module on Board
- Structural: Installation; Installing Outfitting Items on Modules
- Structural: Testing; Testing Tank/Compartment Tightness





Tasks: Marking, Cutting, Beveling Plates and Profiles

- 1 Perform pre-operational checks on burning machines
- 2 Review fabrication plans, shop orders, and road maps
- 3 Set up work piece and burning machines
- 4 Operate burning machines
- 5 Monitor machine performance
- 6 Hand bevel plates and shapes as required
- 7 Grind rough edges
- 8 Complete required documentation
- 9 Ship plates/profiles to the next workstation





Knowledge and Skill Group



2500 Tag-Out System

- 1 Knowledge of the purpose of danger (red) and caution (yellow) tags
- 2 Knowledge of the restrictions imposed by tags
- 3 Knowledge of the responsibility for placing tags
- 4 Knowledge of the responsibility for removing tags
- 5 Ability to determine when tags are required
- 6 Knowledge of actions required for lost or misplaced tags



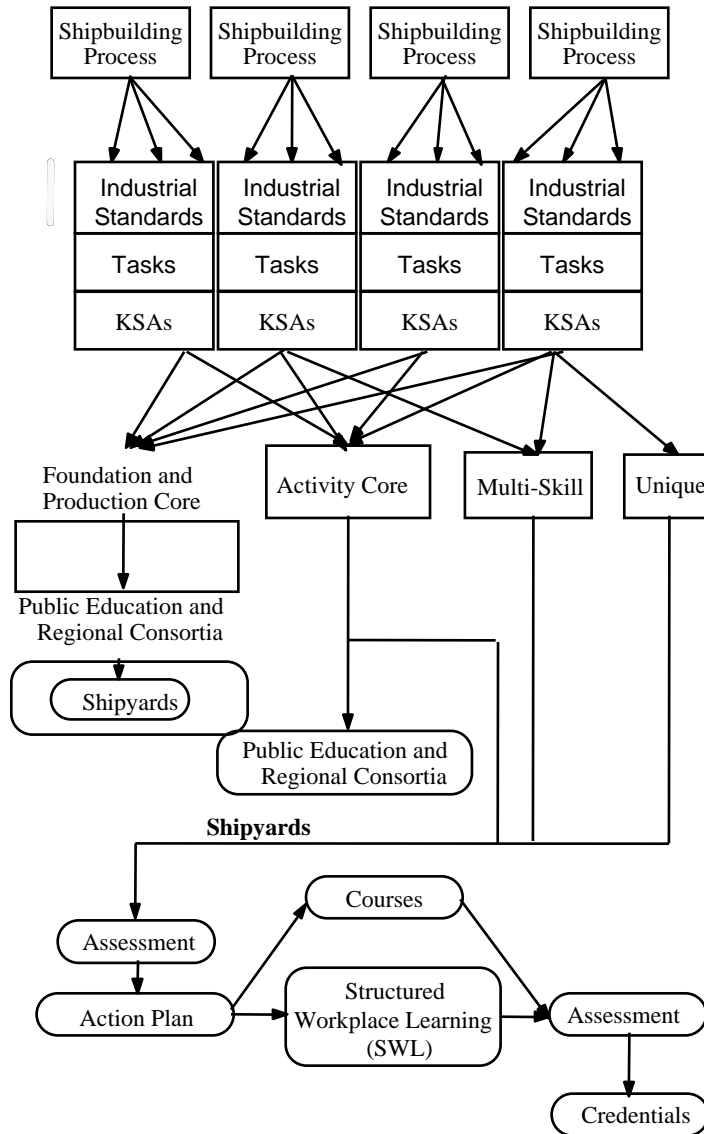


Skills Database



- Scenarios 38
- Tasks 277
- KSA groups 400
- KSAs 2341





Skill Standards

Training Plan

Implementation



Problems



- Calibrating existing structure in terms of skills requires resources.
- When you need the information it is usually in a time frame that it seems too late to start calibration





Pilot Assessment Overview



- Shipfitter Assessment Package
 - * Directions to Assesses
 - * Technical, Academic and Employability Knowledge and Skills
 - * Assessment Description
 - * Directions for Assessment Administrator
 - * Mock-Up Description
 - * Performance Checklist and Performance Indicators
 - * Training Action Plan





Shipfitter Pilot Assessment



- Three Sites
 - * Jeffboat
 - * BIW
 - * SENESCO





Model for Portable Certification

- § Pilot Assessment Final Report
 - Jeffboat's Shipfitter Assessment
- § Model for Portable Certification
 - Shipbuilding Industry Shipfitter Certification Booklet
 - Sample Shipfitter Certificate





Relationship with NSSB and MSSC

- Have maintained a contact with NSSB and MSSC with the intent of adapting incorporating MSSC standards as part of the total Shipbuilding/Ship Repair standards
- McGraw-Hill textbook review panel
 - Manufacturing Today
 - A Safe and Productive Workplace





Flutters



- One Yard
 - An initiative to cross reference NSRP Skills list to Navy Trade Skills Designator (TSDs) to facilitate crossing shipyard workforce to Navy requirements.
 - Not Pursued
- Todd Skills Project
 - Final report detailing the “Core” skill set standards, assessment and certification methodology and results of the pilot implementation.
 - Not Pursued





Considerations



- No single entity addresses skill standards for the industry.
- Funding to come principally from within the industry.

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Some Goals to Consider I



- Update the current standards to reflect continuing change in shipyard tooling and processes
- Adapt the updated standards for web-enabled distribution
- Incorporate common skills vocabulary/language for U.S. shipyards
- Navy, Public, Private yards and unions agree/accept skill standards (compatibility share)





Program Growth



- Ongoing tools to sustain (*who will do this?*) (*resources*)
- Continuous improvement strategies
- Skills standards assessment tool (universal + portable)
- A skills certification program

