National Association of Workforce Boards

SKILLS ECONOMY TOOLKIT

ACTION GUIDE: SKILLS AND CREDENTIALING TAXONOMIES

Introduction

A common language for skills is essential to a functioning skills economy. Without standardized taxonomies, employers describe skills differently from training providers, credentials aren't comparable across issuers, and workers struggle to translate their capabilities into opportunities.

Skills taxonomies provide structured frameworks for organizing and describing competencies. This guide will help you understand major taxonomy systems, map between them, and implement them effectively in your ecosystem.

Why Skill Taxonomies Matter

Skills taxonomies are the common language that makes a skills economy work. Without a shared vocabulary, "customer service" means something different to every employer; "data analysis" can refer to Excel or machine learning; and workers can't translate their abilities across industries.

A taxonomy creates consistency when everyone uses the same terms to describe skills, employers can find talent they'd otherwise miss, training providers can align programs to real demand, and workers can see which skills transfer to new careers.

The wonderful thing about the world of skills ecosystem is that you don't need to build your own; proven frameworks like O*NET, ESCO, and industry-specific taxonomies already exist. The key is to pick one that works for your region, get partners to adopt it, and use it

consistently across job postings, credentials, and training programs. When a taxonomy is in place, the entire ecosystem speaks the same language.

In summary, a skills taxonomy provides:

- **A common Language:** It enables clear communication across employers, educators, and workers
- **Comparability:** Makes credentials and skills assessments comparable
- **Portability:** Workers can carry validated skills across employers and regions
- **Matching:** Improves job matching and talent discovery
- **Planning:** Better labor market intelligence and training alignment

In this action guide, we provide some steps and tools for evaluating skills taxonomies to support your region's choice over which skills taxonomies to adopt and use.

Step 1: Understand Major Taxonomy Systems

Multiple taxonomy systems exist, each with different purposes and strengths. Understanding them helps you choose the right approach for your ecosystem.

Comparison of Major Taxonomies

Taxonomy	Description	Strengths	Best For
O*NET	U.S. Department of Labor occupational database with detailed skills, tasks, and knowledge areas	Comprehensive, regularly updated, free, U.S. standard	U.S. workforce systems, career pathways, job matching
ESCO	European Skills, Competences, Qualifications and Occupations framework	Multilingual, EU integration, cross-border portability	International initiatives, multinational employers
EMSI/Lightcast Skills	Commercial skills taxonomy based on real-time labor market data	Current trends, emerging skills, and detailed granularity	Labor market analytics, real-time skill demand
Industry-Specific	Sector-specific frameworks (e.g., NICE Cybersecurity, CompTIA IT)	Deep domain expertise, industry recognition	Specialized sectors, technical roles

🔴 ***Action Item:*** *Use the Taxonomy Selection Worksheet (Tool 1) to identify which taxonomies best fit your needs.*

Step 2: Map Between Taxonomy Systems

No single taxonomy will meet all your needs. Create crosswalks between systems to enable translation and interoperability. There are several mapping and crosswalking strategies.

Type	How It Works
One-to-One	Direct equivalent between skills in different taxonomies. E.g., O*NET 'Python Programming' = ESCO 'Python (computer programming)'
One-to-Many	One broad skill maps to multiple specific skills. E.g., O*NET 'Data Analysis' maps to multiple EMSI skills like 'SQL', 'Tableau', 'Statistical Analysis'
Hierarchical	Map parent/child relationships across frameworks. E.g., O*NET 'Computer Programming' (broad) contains 'Object-Oriented Programming' (specific)
Weighted and/or Confidence	Include confidence scores for mappings. E.g., 'Customer Service' maps to 'Client Relations' (90% confidence) and 'Technical Support' (60% confidence)

Example: O*NET to ESCO Mapping

O*NET Skill	ESCO Equivalent	Mapping Type
Active Listening	active listening	1:1 Direct
Critical Thinking	think critically	1:1 Direct
Complex Problem Solving	solve complex problems	1:1 Direct
Programming	computer programming	1:Many
	→ Python	
	→ JavaScript	

🔴 ***Action Item:*** *Use the Taxonomy Mapping Template (Tool 2) to create crosswalks between your chosen frameworks.*

Step 3: Implement Taxonomies in Your Ecosystem

Successful implementation requires phased rollout, partner training, and integration into existing systems.

Implementation Roadmap

Phase	Key Activities	Success Criteria
Phase 1: Pilot (3-6 months)	Select 2-3 priority occupations or sectors, tag training programs and credentials, and test with a small employer group	100% of pilot programs tagged, 5+ employers using taxonomy in job postings, positive stakeholder feedback
Phase 2: Scale (6-12 months)	Expand to all WIOA-funded training, integrate into workforce center systems, and launch an employer toolkit	75% of training programs tagged, 25+ employers actively using, data flowing into case management systems
Phase 3: Sustain (12+ months)	Full ecosystem adoption, ongoing maintenance, quality monitoring, continuous improvement	90%+ ecosystem coverage, self-sustaining processes, improved job matching outcomes, documented ROI

🔴 ***Action Item:*** *Use the Implementation Roadmap Template (Tool 3) to plan your phased rollout.*

Step 4: Enable Learning and Employment Records (LERs)

Learning and Employment Records (LERs) are comprehensive, portable records that combine education, training, work experience, and verified skills into a single digital credential. LERs use skills taxonomies to make achievements comparable and machine-readable.

What Goes into an LER

Component	What It Includes	Example
Education	Degrees, diplomas, coursework with associated skills and competencies	Associate Degree in Business Administration (Skills: Financial Analysis, Project Management, Excel)
Training & Certifications	Professional credentials, micro-credentials, bootcamps, continuing education	Certified Nursing Assistant, Google IT Support Certificate
Work Experience	Job titles, responsibilities, and skills developed through employment	Retail Manager (2018-2022): Team Leadership, Inventory Management, Customer Service
Skills & Competencies	Verified skills from all sources, mapped to standard taxonomies	Python (verified via coding assessment), SQL, Data Visualization

🔴 ***Action Item:*** *Use the LER Planning Worksheet (Tool 4) to design your approach to Learning and Employment Records.*

Taxonomy Tools & Templates

Use these tools to select, map, and implement skills taxonomies effectively.

TOOL 1: Taxonomy Selection Worksheet

Evaluate which taxonomy systems best meet your needs.

Criteria	O*NET	ESCO	EMSI/Other
Cost (1-5)			
U.S. Alignment (1-5)			
Industry Fit (1-5)			
Ease of Use (1-5)			
Stakeholder Buy-in (1-5)			
Total Score			

TOOL 2: Taxonomy Mapping Template

Create crosswalks between taxonomy systems.

Source Taxonomy	Target Taxonomy	Type	Confidence

Mapping Type: 1:1 (Direct), 1:Many (Broad to Specific), Many:1 (Specific to Broad)

Confidence: High (90-100%), Medium (70-89%), Low (<70%)

TOOL 3: Implementation Roadmap Template

Plan your phased taxonomy implementation.

Phase 1: Pilot (Timeline: _____)
Priority sectors/occupations: **Partners involved:** **Success metrics:**
Phase 2: Scale (Timeline: _____)
Expansion plan: **Training needed:** **Success metrics:**
Phase 3: Sustain (Timeline: _____)

Maintenance processes:

Quality monitoring:

TOOL 4: LER Planning Worksheet

Plan your Learning and Employment Record implementation.

What data sources will feed into LERs?
☐ Training provider systems ☐ Credential issuers ☐ Employer validation ☐ Assessment platforms ☐ Other: _____
Which taxonomy will you use for skills tagging?
How will workers access and share their LERs?
☐ Digital wallet or portfolio platform ☐ Workforce center portal ☐ Direct employer integration ☐ Other: _____
What privacy controls will you implement?

Next Steps

Implementing skills taxonomies is a journey. Start small, build momentum, and scale over time.

- Select your primary taxonomy based on your ecosystem needs
- Create mappings to secondary taxonomies as needed
- Launch a pilot in 2-3 priority sectors
- Train stakeholders on using taxonomies effectively
- Scale systematically across your ecosystem
- Explore LER implementation to enable portability

Additional Resources

- Action Guide: Skills Data Governance
- Action Guide: The Role of Technology in Skills Work
- O*NET Online
- ESCO Portal
- USCCF LER Toolkit

Questions, feedback, or need support with developing your skills, credentialing taxonomy, and LER strategy? Contact the National Association of Workforce Boards
www.nawb.org