Work-Based Learning Best Practices from the Swiss Apprenticeship System
Business Experiential Learning Commission

• aka “The BEL Commission”

• Created by Governor Hickenlooper’s Executive Order B 2015-004

• Chaired by Intertech Plastic’s CEO, Noel Ginsberg and led by business leaders from across multiple industries.

• In Partnership with the Colorado Workforce Development Council
  • Colorado Department of Labor & Employment
  • Colorado Department of Higher Education
  • Colorado Office of Economic Development

• Business and state leaders partnering with local communities to expand work-based learning opportunities
Colorado Workforce Development Council

• Governor Appointed
• Business Led
• Coalition of industry, state agencies and local partners
• Charged with the alignment of education, training, workforce and economic development.
• Vision: Every Colorado business has access to a skilled workforce and every Coloradan has access to meaningful employment, resulting in state wide economic vitality.
Learning from the global “gold standard”

<table>
<thead>
<tr>
<th>Swiss Vocational Education System (VET) Features</th>
<th>Swiss Workforce and Education Outcomes</th>
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<tbody>
<tr>
<td>70% of Swiss students choose to participate in the country’s VET system, which is widely considered to be the global “gold standard” in career-focused education</td>
<td>The reforms that shaped the vocational educational model contributed to some tremendous outcomes for the country</td>
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<td><strong>Balanced mix of theory and practice</strong>—50%+ time spent learning in the workplace</td>
<td>• 99% secondary completion rate</td>
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<td><strong>Truly industry-driven curriculum</strong> across all learning environments</td>
<td>• 2.4% youth unemployment; 3.2% overall</td>
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<td><strong>Sustainable “earn while you learn” training model</strong> through apprenticeship wages and ROI for industry</td>
<td>• 59% higher ed attainment rate for apprenticeship grads</td>
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<td>• <strong>Educational permeability</strong>—no degree path is limiting</td>
<td>• On average, 30% higher earnings for apprenticeship grads in equivalent professions</td>
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<td>• $80,000+ GDP per capita; virtually no poverty</td>
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More information on pages to follow
Swiss model for career pathways

- Standard, compulsory school in core subjects through the age of 15/16 (usually ends in U.S. equivalent of 10th grade)
- Extensive career/higher education advising available to students and families
- 70% of students voluntarily select the option to pursue a three- to four-year apprenticeship
  - e.g. 3 days work; 2 days school
  - paid work experience and training
  - zero stigma
- Career education focus: all industries, not “just the trades”; no stigma
- Provider of career education is primarily companies and industry associations
Intermediaries

- Industry groups that facilitate the education process
  - Develop competency based curriculum
  - Provide facilities and trainers
  - Broker students between training and career
Switzerland’s higher education system is entirely permeable; VET students can pursue higher education, and general education students can pursue professional education. There is no stigma.
Key Swiss VET Features

Truly industry-driven education

Curricula for occupation is developed based on a set of competencies developed through regional workforce development infrastructure

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<th>Technical skills</th>
<th>Host company</th>
<th>IC</th>
<th>Voc. school</th>
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<td>PMB1.1 Mental manufacturing methods</td>
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<td>PMB1.1.1 Occupational safety relating to manual manufacturing</td>
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<td>PMB1.2.1 Understanding work order</td>
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<td>PMB1.4 Using hand tools</td>
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<td>PMB1.4.4 Drilling workplaces</td>
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<td>PMB2.1 Machine manufacturing methods</td>
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<td>PMB2.1.1 Occupational safety relating to machine manufacturing</td>
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<td>PMB2.2.1 Observing regulations relating to occupational safety in machine manufacturing</td>
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<td>PMB2.2.3 Turning workplaces using conventional methods</td>
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One document outlines the entire set of competencies for a particular entry-level occupation; competencies include:

- Technical skills (tool usage, safety…)
- Soft skills (communication, optimism…)
- Method skills (design thinking, project management…)

Each competency is taught in the most appropriate venue (school, training program, workplace); research shows that soft skills are best learned in the workplace.
Key Swiss VET Features

Sustainable training model

Key Takeaways from Zurich

- ETH Zurich has developed robust models to set wages appropriately and can advise on the appropriate level by company; this is a key draw to students

- There is an ROI to industry because apprentices perform productive work as they become increasingly skilled
Our vision for the future

Now…

• Business serves as advisors to schools on a limited basis

• Students receive all of their learning in the classroom

• Students are educated first at school and second by industry

In ten years…

• Businesses are engaged with the education system by becoming Certified Centers of Learning (CCOLs)

• 70% of students spend two days in the classroom and three days in a residency program starting at grade 12 or earlier

• Students participate in a parallel learning system, with theory in the classroom and practice in industry (paid work-based training)
Workforce development ecosystem

After the pilot, BASIC will house the long-term Residency infrastructure and focus on scaling the program—both within DPS and throughout the state.

Businesses and Schools in Collaboration (BASIC)
Backbone organization for statewide scaling of work-based learning—including Residency

Colorado Workforce Development Council (coalition of agencies)
Facilitates competency development through Sector Partnerships

Statewide Intermediaries: Trade Associations
Colorado Advanced Manufacturing Alliance (CAMA)
Colorado Technology Association (CTA)
Colorado Bankers Association (CBA)
Colorado Hospital Association (CHA)
More associations...

Regional Intermediaries
Chambers of Commerce
Sector Partnerships (CWDC)

Provider System
K-12 System (DPS Pilot)
Community Colleges
Four-Year Universities
Training Providers
Workforce Centers

Business Engagement
Certified Centers of Learning (CCOL)
BASIC: a transformational shift

BASIC is a scalable, industry-driven framework for business engagement in the education process resulting in...

- Businesses becoming classrooms
- Philanthropy becoming positive investment

These shifts drive truly market-driven experiential learning and training

Driven by a network of Certified Centers of Learning (CCOLs)

Standards developed and assessed by industry associations in partnership with education to ensure relevance and quality for both the business and the student

Phase 1: align existing programs, promote best practices

Phase 2: support creation of new workplace learning opportunities
BASIC/CareerResidency pilot: overview

• **Three industries, select high-skill positions:**
  • Advanced Manufacturing (General Technician), Tech (IT Specialist), Banking (TBD)
  • High-demand industries; high-skill; high-wage occupations

• **Two phases:** Phase 1 is planning (1 year); Phase 2 is pilot implementation (2 Years)

• **One milestone checkpoint:** T+12 months—confirm plan and needs for Phase 2 (years 2 and 3 of pilot)

• **Targeted program launch:**
  • CareerResidency Summer Module and feeder program: Summer 2016
  • CareerResidency (intensive modules): 2017-2018 school year
  • First CareerResidency graduates (with associates degree): May 2019
The CareerResidency Model

Freshman
Expose

Sophomore
Navigate

Junior
Engage

Senior
Connect

Year 13?
Advance?

Tier 1 Courses:
Intro and Survey

Tier 2 Courses:
Specialized

Tier 3 Courses:
Specialized

Tier 4 Courses:
High School Diploma

Community College
AA/AS

Option to earn industry certifications and college credit

CareerX:
Group Job Shadow Program

Summer Learning Programs

CareerCoach:
Mentoring

Optional continued mentoring…

CareerResidency Summer Module
Structured Internship Program (feeder to CareerResidency)

CareerCollaborate:
Industry Consulting Project

The CareerResidency begins with a structured internship program (a feeder to the Residency) that would build on the DPS CareerConnect model and provide the ultimate connection to a variety of college and career options in high-opportunity industries.

These courses and programs are already in place to help students envision and pursue their own personalized college and career paths in high-opportunity industries.
CareerResidency: key features

**CareerResidency Summer Module:**
Structured internship program feeding into CareerResidency

- Beginning in the summer between 10th and 11th grade, pursue a six-week internship that focuses on career exploration and soft skills development, in addition to workplace experience.
- Also incorporates extensive recruitment and screening to residency. Program is necessary to prepare students and build pipeline.

**CareerResidency (intensive modules):**
Leading to an associate's degree and/or industry certificates

- Starting in 12th grade, students spend 3 days learning in the workplace—and getting paid for doing productive work!
- At end of 12th grade, students earn a high school diploma and industry credentials, along with college credit (option to enter workforce or continue towards associate's degree).
- By Year 13 (or potentially Year 14 in the future), earn associate's degree with workforce demand AND credit articulation to a bachelor's degree.
Pilot CareerResidency: ten-year outcomes

- Business participation in the residency is cost neutral or profitable
- Industry achieves an 80% retention rate of residents transitioning into their businesses
- 100% certified competency based curriculum that is linked to the theory taught in the classroom
- The existing Colorado workforce named within the top three reasons companies relocate to our State
- Achieve 90% student graduation rate from the K-12 education system for students that participate in career pathways and residencies
- Achieve a 95% employment for students that have completed their residency program
CareerResidency: ROI to all stakeholders

**Students**: Better prep for postsecondary. Better employability, earnings and advancement opportunities

**School System**: +30 percentage point difference in probability of graduation

**Employers**: Productivity outweighs training costs resulting in profitable model. Eliminate critical skills gap.

**City/State**: Material reduction in youth unemployment. Higher educational attainment, higher skills. Driver of economic development.
NAIL IT! and SCALE IT!

• BASIC Residency will be piloted
  • Initially in Denver Public Schools Career Connect Initiative
  • Initially in four industries:
    • Advanced Manufacturing
    • Information Technology
    • Finance / Banking

• The BEL Commission will ensure that BASIC is scaled throughout the state to any school district and industry that is willing to invest in it.

• The CWDC will work with partners to identify and implement policy and practice to ensure effective implementation of expanded work-based learning opportunities for Colorado.