

Business Experiential Learning Commission (The BEL Commission)



Colorado Workforce
Development Council



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”

Swiss Vocational Education System (VET) Features

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

1

2

Balanced mix of theory and practice—
50%+ time spent learning in the workplace

3

Truly industry-driven curriculum across all learning environments

4

Sustainable “earn while you learn” training model through apprenticeship wages and ROI for industry

- **Educational permeability**—no degree path is limiting

More information on pages to follow

Swiss Workforce and Education Outcomes

The reforms that shaped the vocational educational model contributed to some tremendous outcomes for the country

- 99% secondary completion rate
- 2.4% youth unemployment; 3.2% overall
- 59% higher ed attainment rate for apprenticeship grads
- On average, 30% higher earnings for apprenticeship grads in equivalent professions
- \$80,000+ GDP per capita; virtually no poverty

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



Industrielle
Berufslehren Schweiz

libs

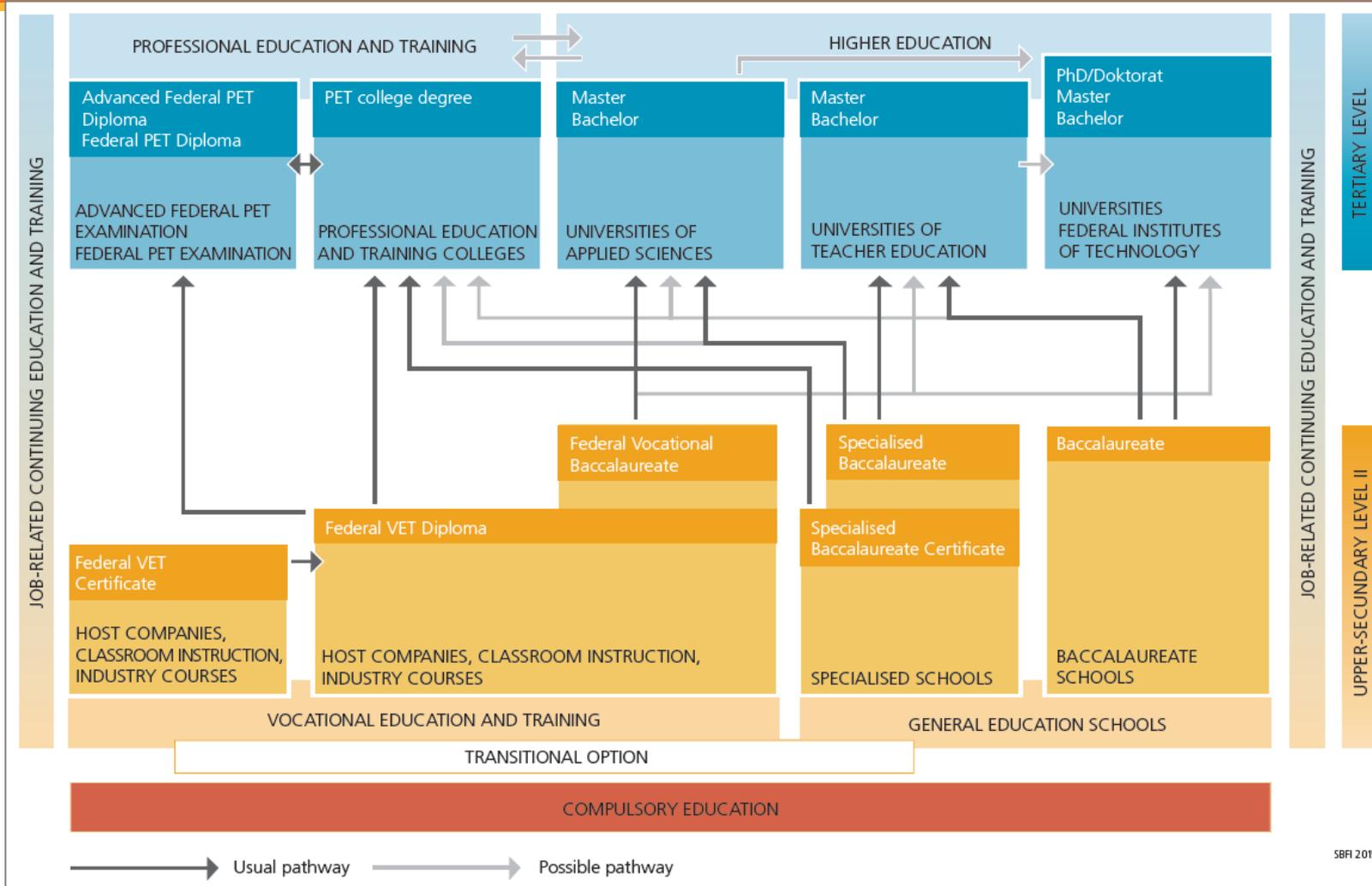
log.
in to your future
pour ton futur
per il tuo futuro



Key Swiss VET Features

Educational permeability

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

		host company		IC (days)	Voc. school
		BT/ST	IDT		
■ = Introduction, ▲ = Introduction up to 2nd year examination, □ = Application					
Technical skills					
PMB1	Manual manufacturing methods				10-12
PMB1.1	Occupational safety relating to manual manufacturing methods				
PMB1.1.1	Observing regulations relating to occupational safety in manual manufacturing	▲	□	□	
PMB1.2	Preparation of task				
PMB1.2.1	Understanding work order	▲	□	□	
PMB1.2.2	Planning work sequence	▲	□	□	
PMB1.2.3	Organising materials and auxiliary substances	▲	□	□	
PMB1.2.4	Organising equipment and tool	▲	□	□	
PMB1.2.5	Defining technological data for manual manufacturing methods	▲	□	□	
PMB1.3	Producing workpieces with manually operated machines				
PMB1.3.1	Using hand tools	□	□	▲	
PMB1.3.2	Preparing and maintaining drills	□	□	▲	
PMB1.3.3	Using drilling machine tools and clamping devices	□	□	▲	
PMB1.3.4	Drilling workpieces	□	□	▲	
PMB2	Machine manufacturing methods				28-31
PMB2.1	Occupational safety relating to machine manufacturing methods				
PMB2.1.1	Observing regulations relating to occupational safety in machine manufacturing	▲	□	□	
PMB2.2	Technological data relating to machine manufacturing methods				
PMB2.2.1	Defining technological data for machine manufacturing methods	▲	□	□	
PMB2.3	Turning workpieces using conventional methods				

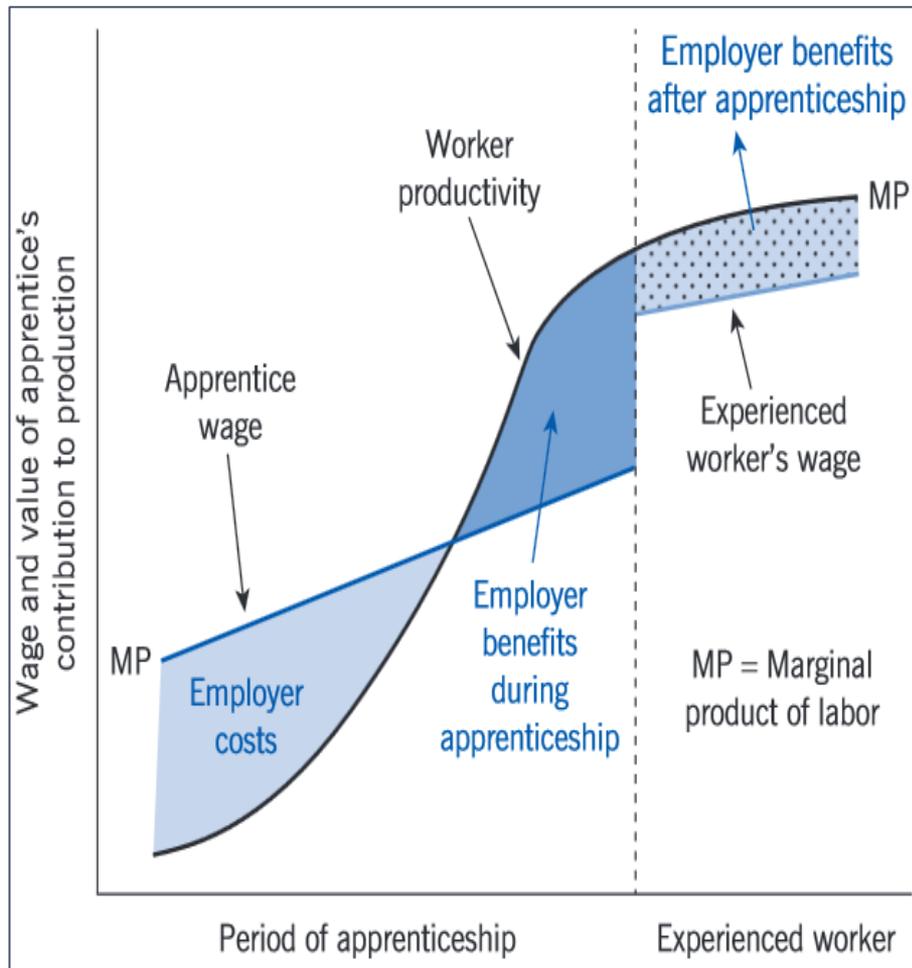
One document outlines the entire set of competencies for a particular entry-level occupation; competencies include:

- 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

Table 11.3 Gross cost, benefit, and net cost of training in Swiss firms, 2000, €

	Gross Cost	Benefit	Net Cost
Training Firms	58,295	61,276	-4,116
Nontraining Firms	72,427	31,524	28,263

Note. All values are predicted econometrically, so net costs for training firms differ somewhat from the survey-based estimates in Table 11.1.

Source: Wolter et al. (2006); converted from Swiss francs at 1€: 1.5CHF.

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

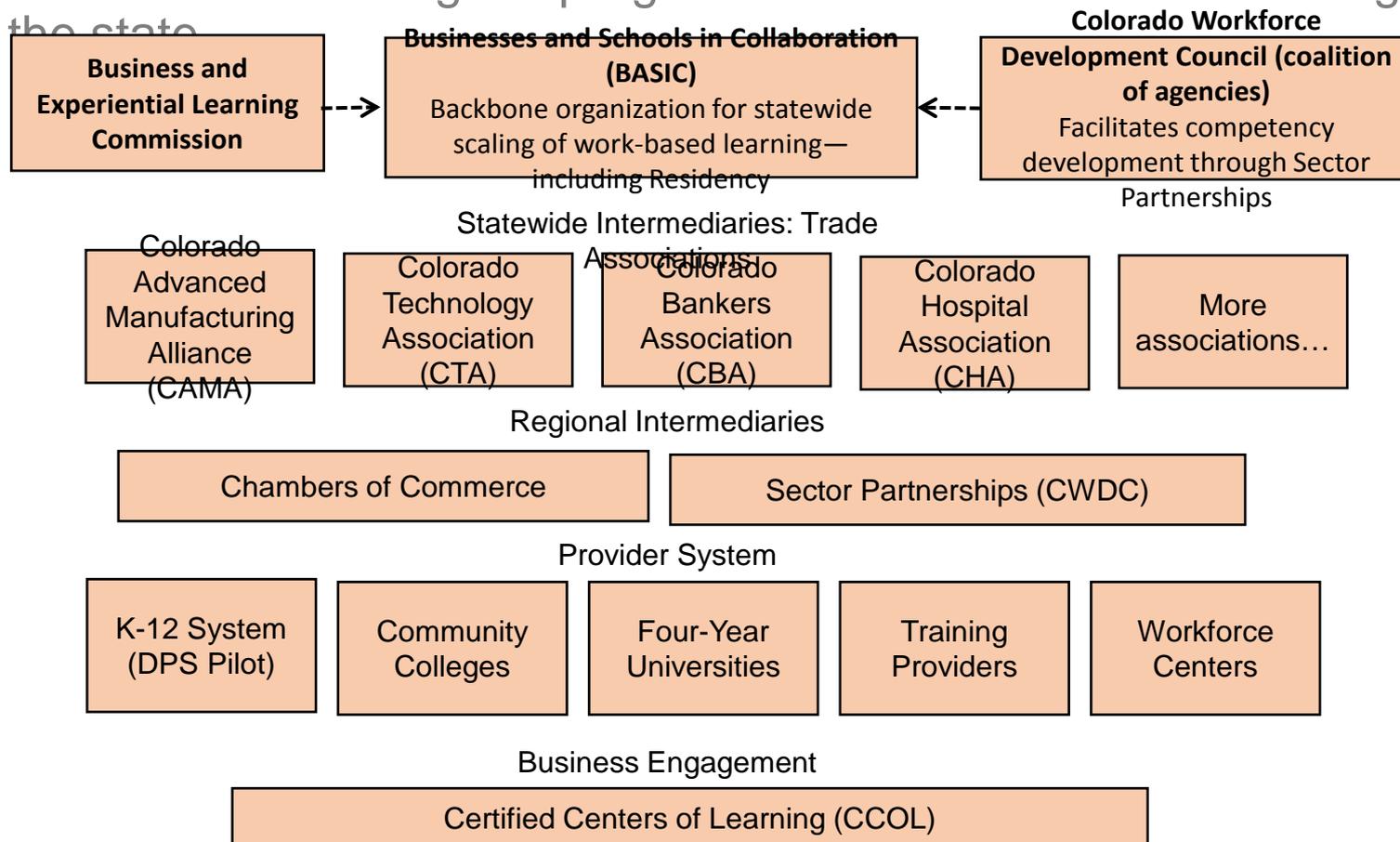


In ten years...

- 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



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

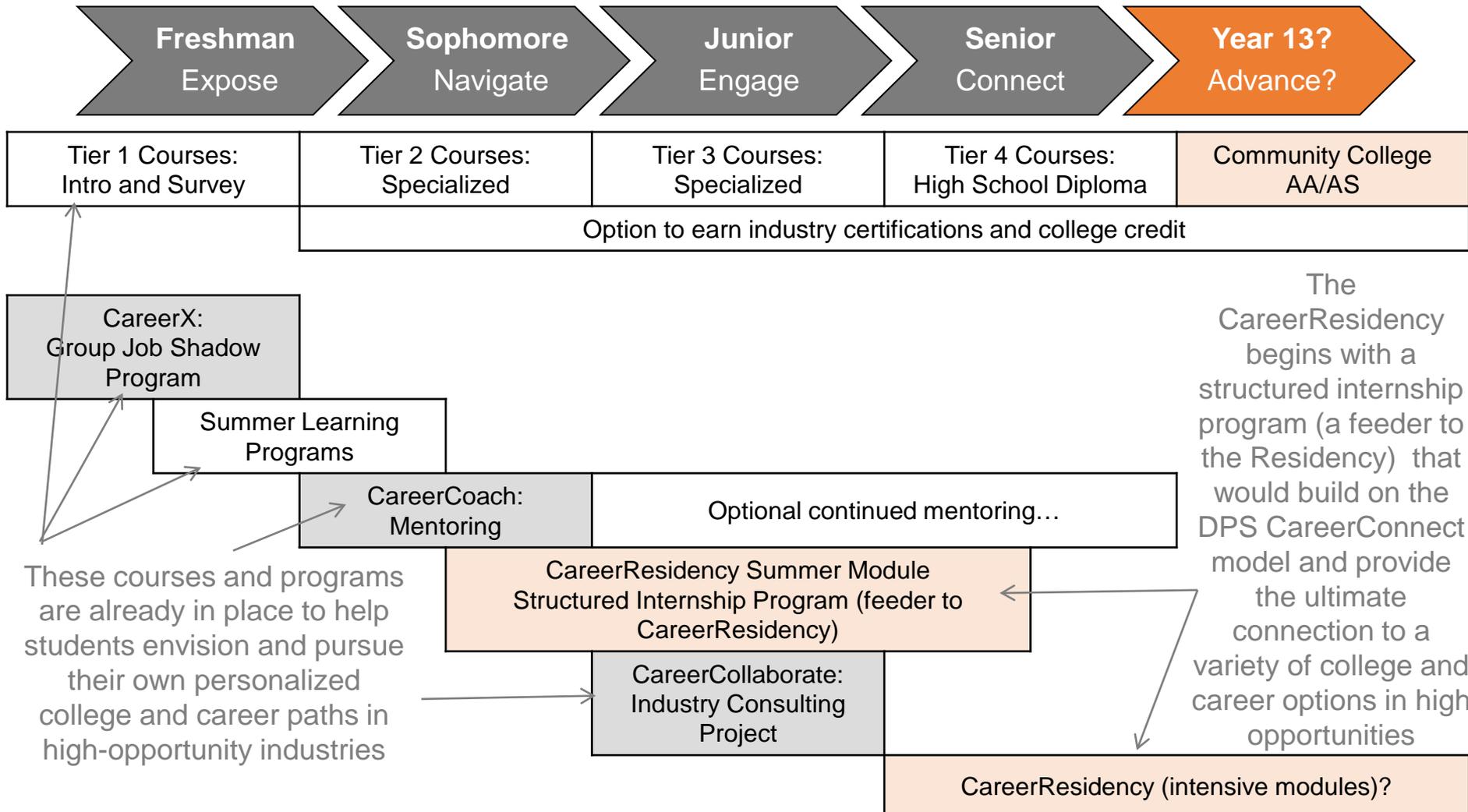
Phase 1: align existing programs, promote best practices

Phase 2: support creation of new workplace learning opportunities

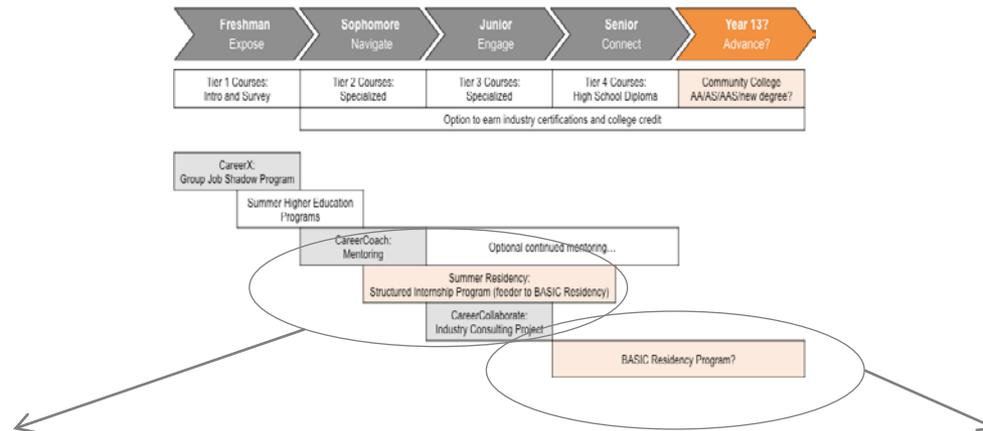
BASIC/CareerResidency pilot: overview

- **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



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 work-place experience
- Also incorporates extensive recruitment and screening to residency. Program is necessary to prepare students and build pipeline.

CareerResidency (intensive modules)
Leading to an associates 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 associates degree)
- By Year 13 (or potentially Year 14 in the future), earn associates degree with workforce demand AND credit articulation to a bachelors degree.

Pilot Career Residency: 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.