

How Youth Apprenticeship Can Unlock The Future of Work for California's Youth



Vinz Koller – Apprenticeshipographer
Ryan Gensler - EVP CareerWise USA

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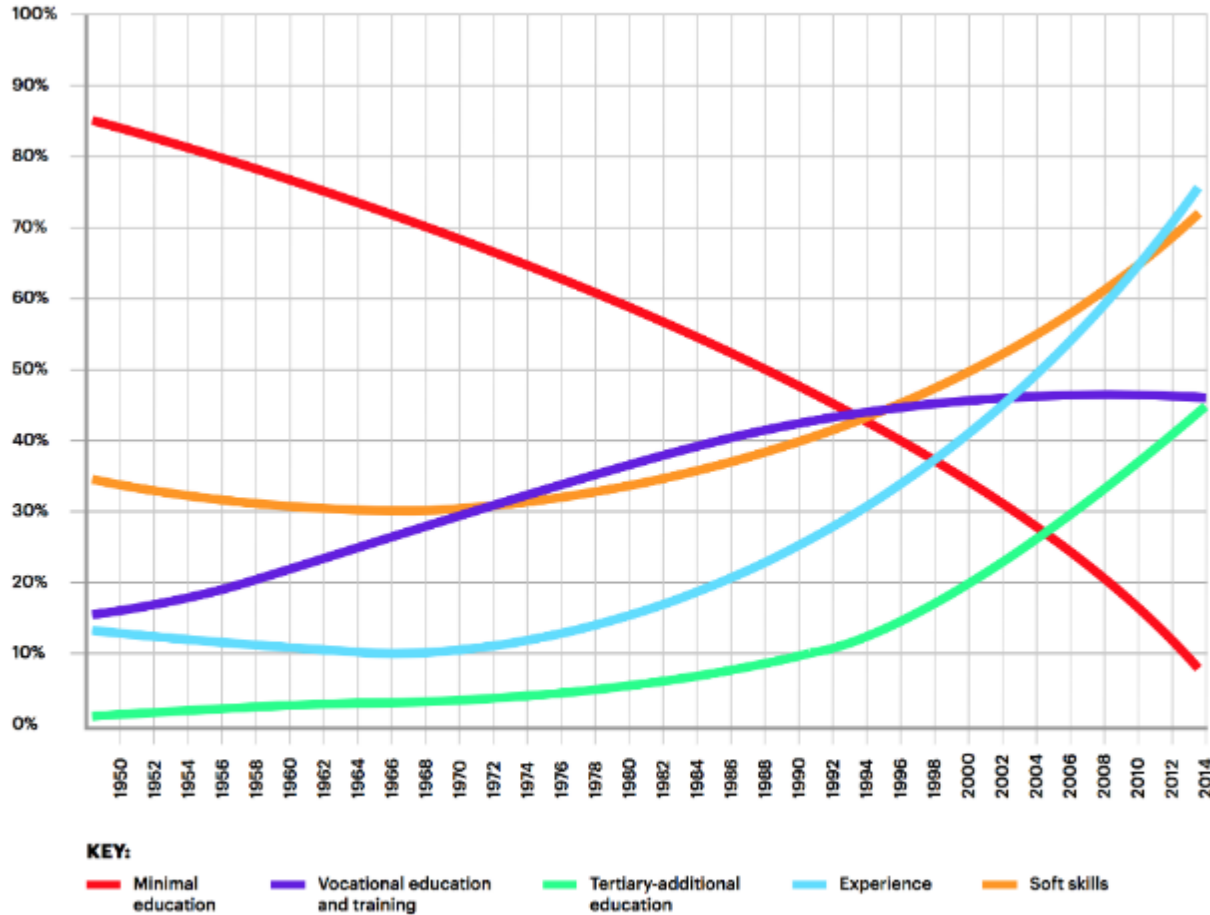
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Agenda

- Context
- Quality Principles
- Youth Apprenticeship
Around the World
- Adaptations in the US
 - WI
 - IN
 - CO
 - WA
- Lessons for CA



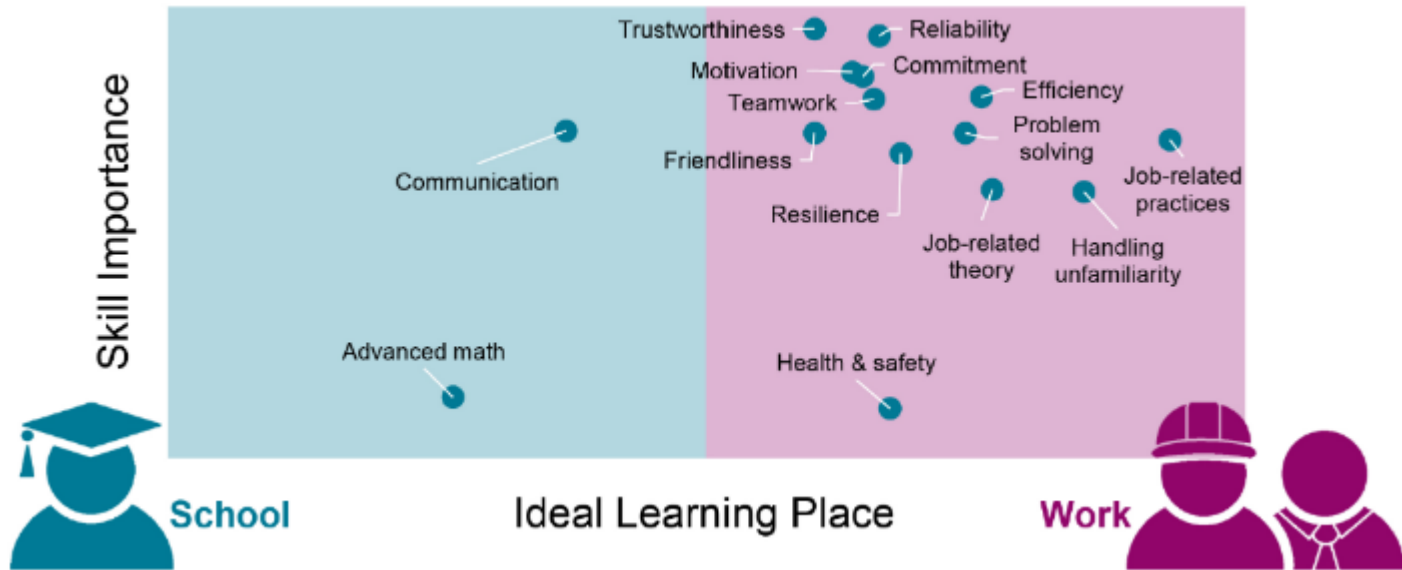
Job Market Demand 1950-2014



From Dr. Katie Caves, KOF, ETH Zurich

(Source: Based on data given to the authors by those responsible for the Job Market Monitor, University of Zurich.)

Evidence from CO: Where are Key Skills Best Learned?



For every 100 ninth-graders in California...



87 graduate from
high school within
five years



67.8 enroll in college within 16
months of high school graduation



30.5 graduate from college within six years



23.9 earn a four-year degree



Source: Ed100 analysis of available California and national data, 2021, by Sam Hiken and Jeff Camp. Rates of high school graduation, college enrollment, and college completion have risen significantly over time. Compare this graphic to [2006](#)).





What is Youth Apprenticeship?

Paid Experience

Paid, on-the-job learning under the supervision of skilled employee mentors

Formal Instruction

Classroom-based, or related technical instruction

Skills Assessments

Ongoing assessment against established skills and competencies

Credentials

Culmination in a portable, industry-recognized credential **AND** postsecondary credit

HIGH SCHOOL

YEAR 1



High school classes
& college courses

Paid on-the-job learning

YEAR 2



High school classes
& college courses

Paid on-the-job learning



HIGH SCHOOL
GRADUATION

YEAR 3

PROGRAM COMPLETION

- ✓ High school diploma
- ✓ Professional network & mentors
- ✓ Paid work experience
- ✓ Transferable college credit and an industry recognized credential

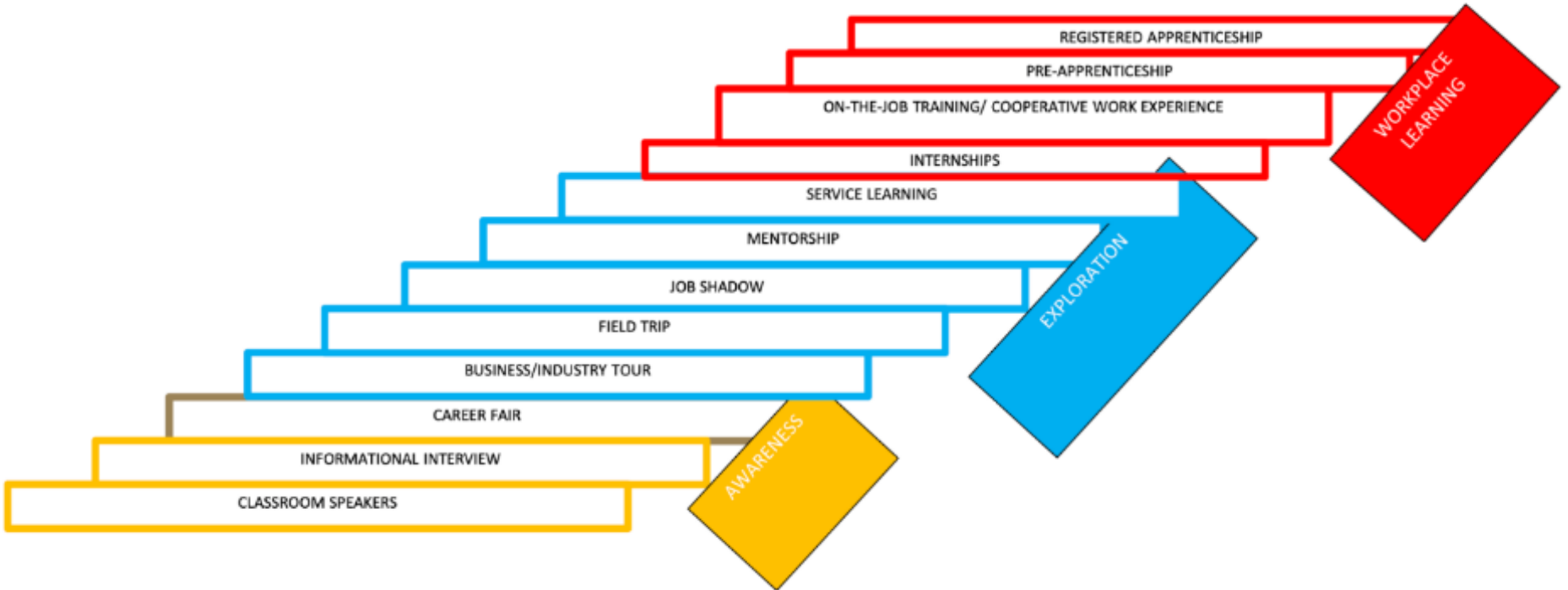
College courses



Paid on-the-job learning

COLLEGE

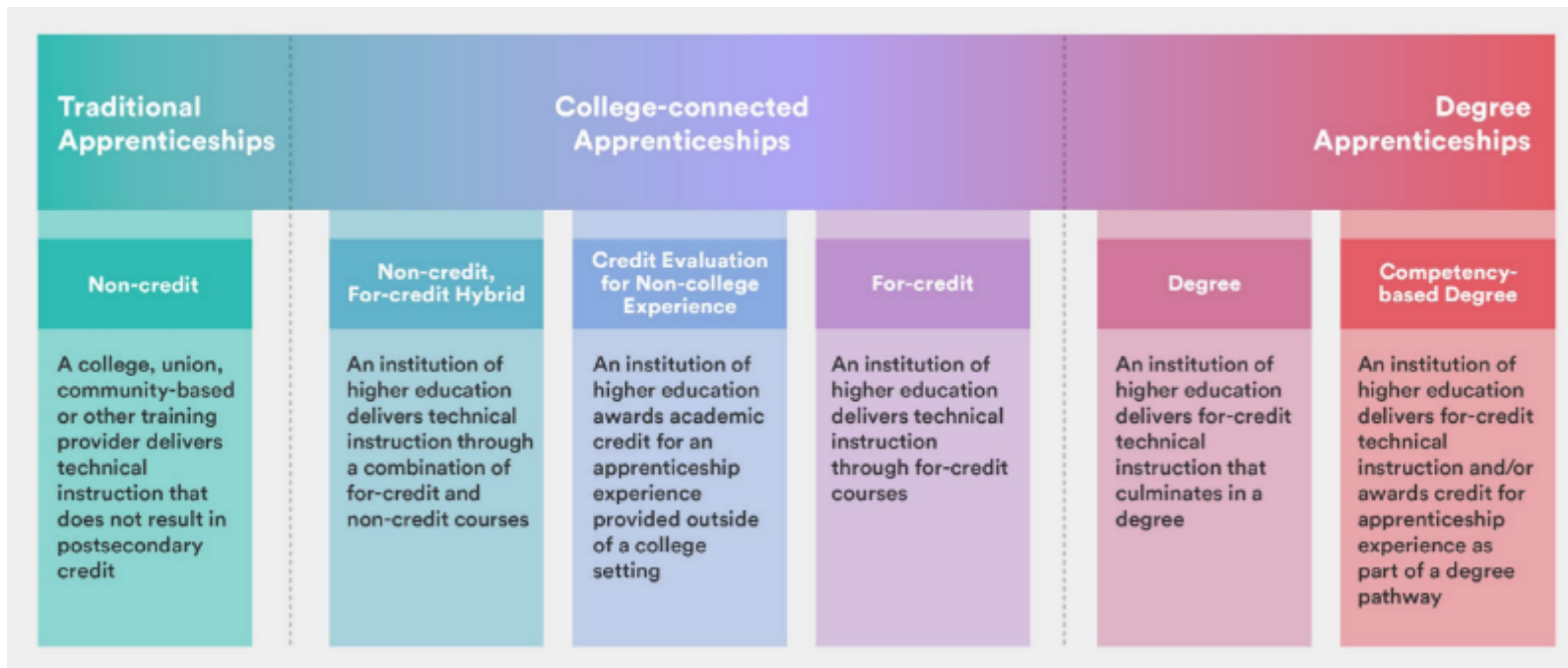
Integration into Workbased Learning Continuum



Source: Iowa Work-Based Learning Guide

<https://www.educateiowa.gov/documents/iowa-work-based-learning/2017/10/iowa-work-based-learning-guide>

Connecting Apprenticeship to College – and to Credit



From Lul Tesfai, *Creating Pathways to Postsecondary Credentials Through Apprenticeships*
newamerica.org/pathways-to-apprenticeship

PAYA'S GUIDING PRINCIPLES FOR A HIGH-QUALITY YOUTH APPRENTICESHIP PROGRAM

CAREER-ORIENTED

Learning is structured around knowledge, skills, and competencies that lead to career with family-supporting wages.

EQUITABLE

Learning is accessible to every student, with targeted supports for those adversely impacted by long-standing inequities in our education system and labor market.

PORTABLE

Learning leads to postsecondary credentials and transferable college credit that expands options for students.

ADAPTABLE

Learning is designed collaboratively to be recognized and valued across an industry or sector.

ACCOUNTABLE

Student, employer, and program outcomes are monitored using transparent metrics to support improvement.

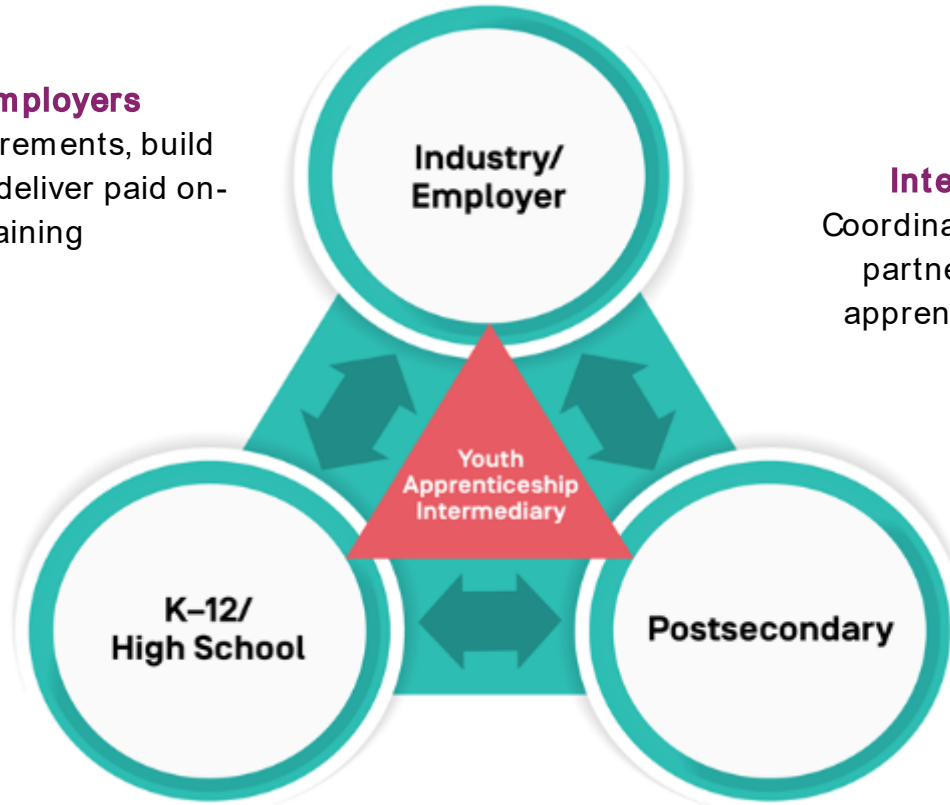
Youth Apprenticeship Partnerships

Industry & Employers

identify skills requirements, build training plans, and deliver paid on-the-job training

Intermediaries

Coordinate the activity of partners to support apprentice & program success



High Schools

design and deliver related instruction and supports, and help students graduate

Colleges & Universities

design and deliver related instruction, assess learning, grant credit and credentials

Part II – Apprenticeship Around the World



Apprenticeship in the UK



Apprenticeship Guide - Find An Apprenticeship

[FIND APPRENTICESHIPS ↻](#)[CURRENT APPRENTICES ↻](#)[APPRENTICESHIP STORIES ↻](#)

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Apprenticeship in the UK



		LEVEL				
UNIVERSITY	8	Doctorate PhD				
	7	Master's Degree MA, MSc, MPhil				Degree Apprenticeships
	6	Undergraduate Degree BA, BSc				
	5			Foundation degree FdA, FdSc	Higher National Diploma HND	Higher Apprenticeships
	4				Higher National Certificate HNC	
COLLEGE	3	A level	A2 AS	BTEC Nationals		Advanced Apprenticeships
SCHOOL	2	GCSE Grades 9-4		BTEC Firsts		
	1	GCSE Grades 3-1				

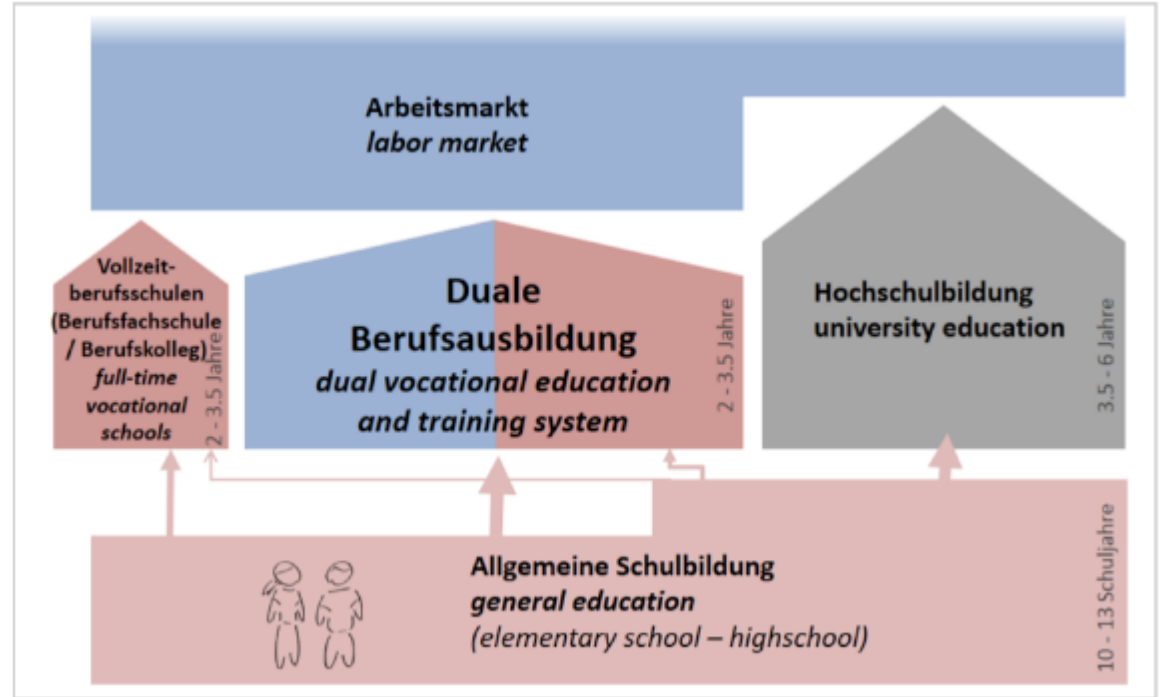
Apprenticeship in the UK



The
Apprenticeship
Levy



Apprenticeship in Germany



**Youth
Apprenticeship
Swiss
Style**



The gold standard

VET provides apprenticeship opportunities to 70% of Swiss students across 58,000 companies and over 230 occupational pathways

<4% youth unemployment rate

70% of all students choose apprenticeships, no stigma – most CEO's have been apprentices

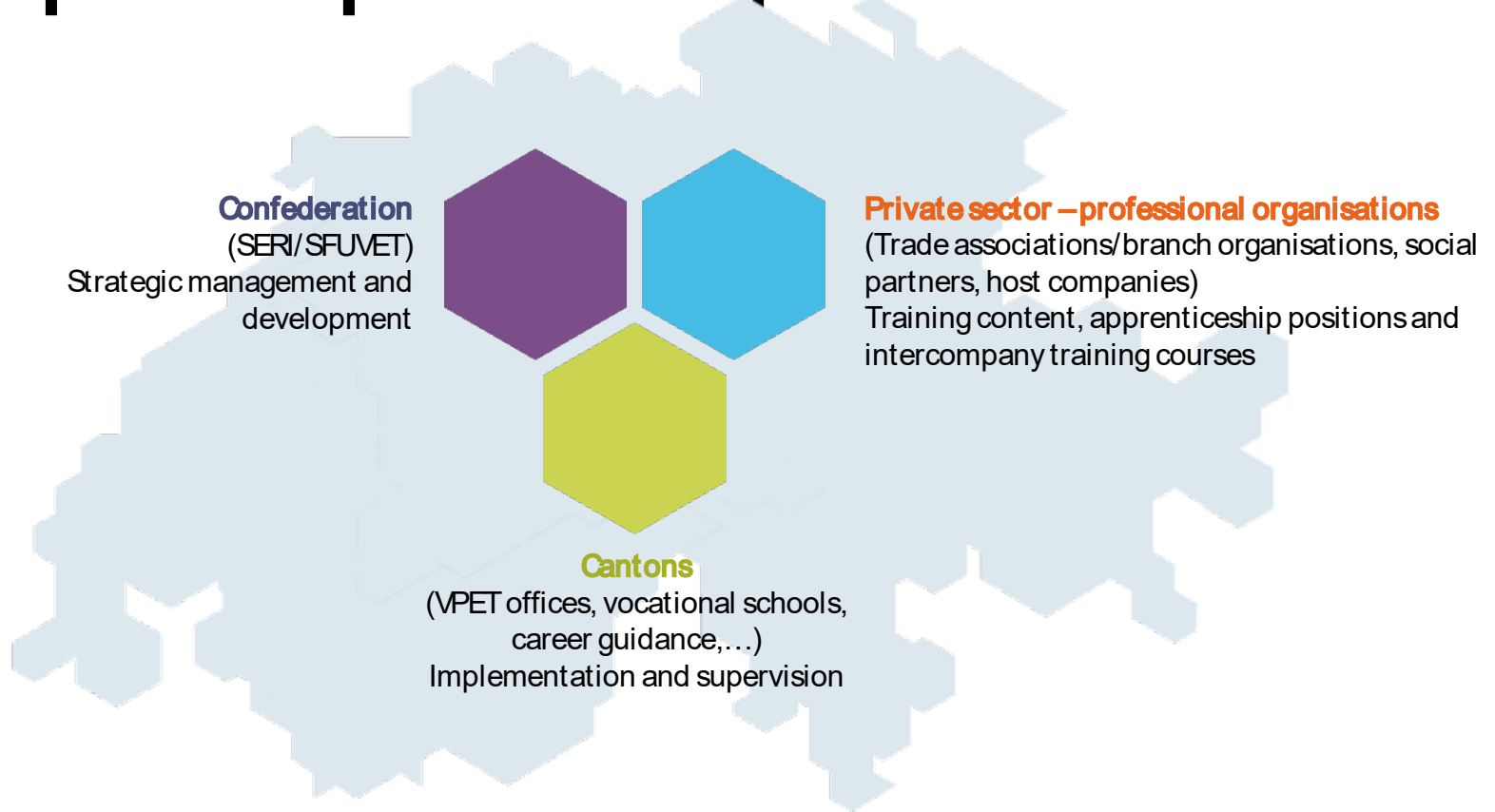
40% of companies participate in the apprenticeship program

About **97%** of all students have graduated with a VET Diploma (Vocational Education & Training) or other high school degree

Swiss companies earn a **10%** ROI during apprenticeship

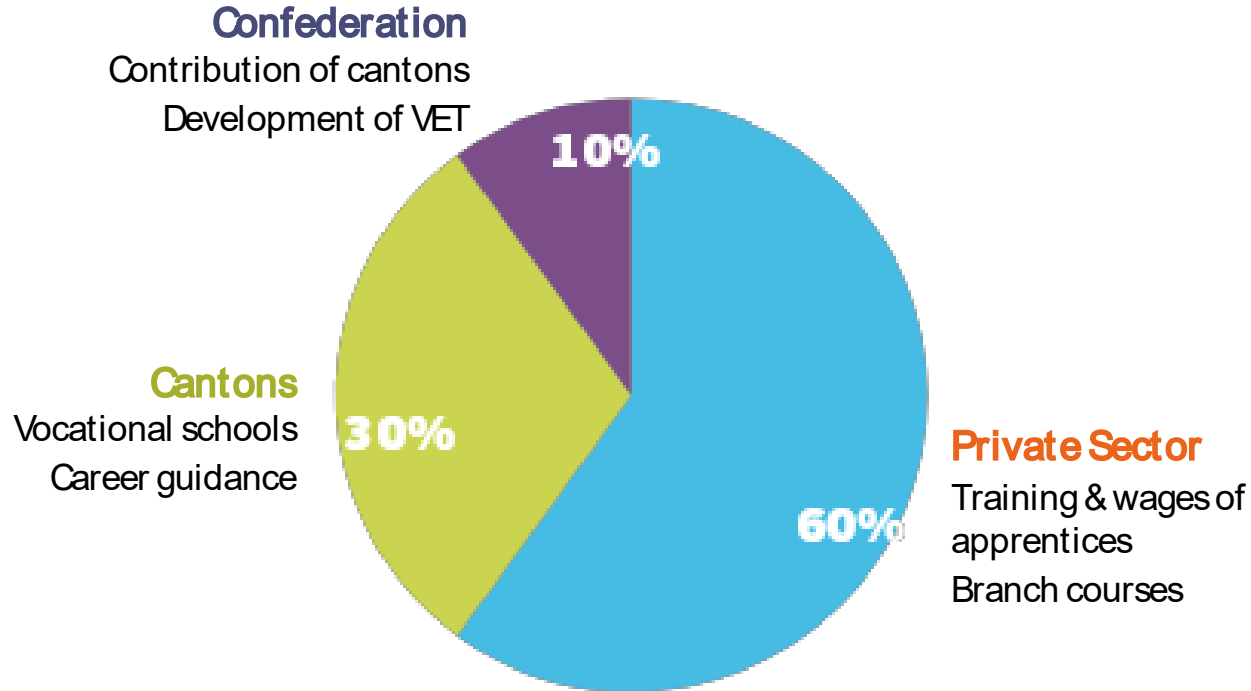


Public-private partnership in VET



Funding of VET system

Costs



The 10 most frequently chosen professions

Occupations	Total
Commercial employee Federal VET Diploma (all profiles)	12814
Health care worker Federal VET Diploma	4920
Retail clerk Federal VET Diploma	4339
Social care worker Federal VET Diploma	3795
IT technician Federal VET Diploma	2194
Electrician Federal VET Diploma	1891
Logistician Federal VET Diploma	1778
Retail assistant Federal VET Certificate	1556
Cook Federal VET Diploma	1540
Draughtsman Federal VET Diploma	1536

Federal Statistical Office (2020c). Including school-based VET programme

Permeability

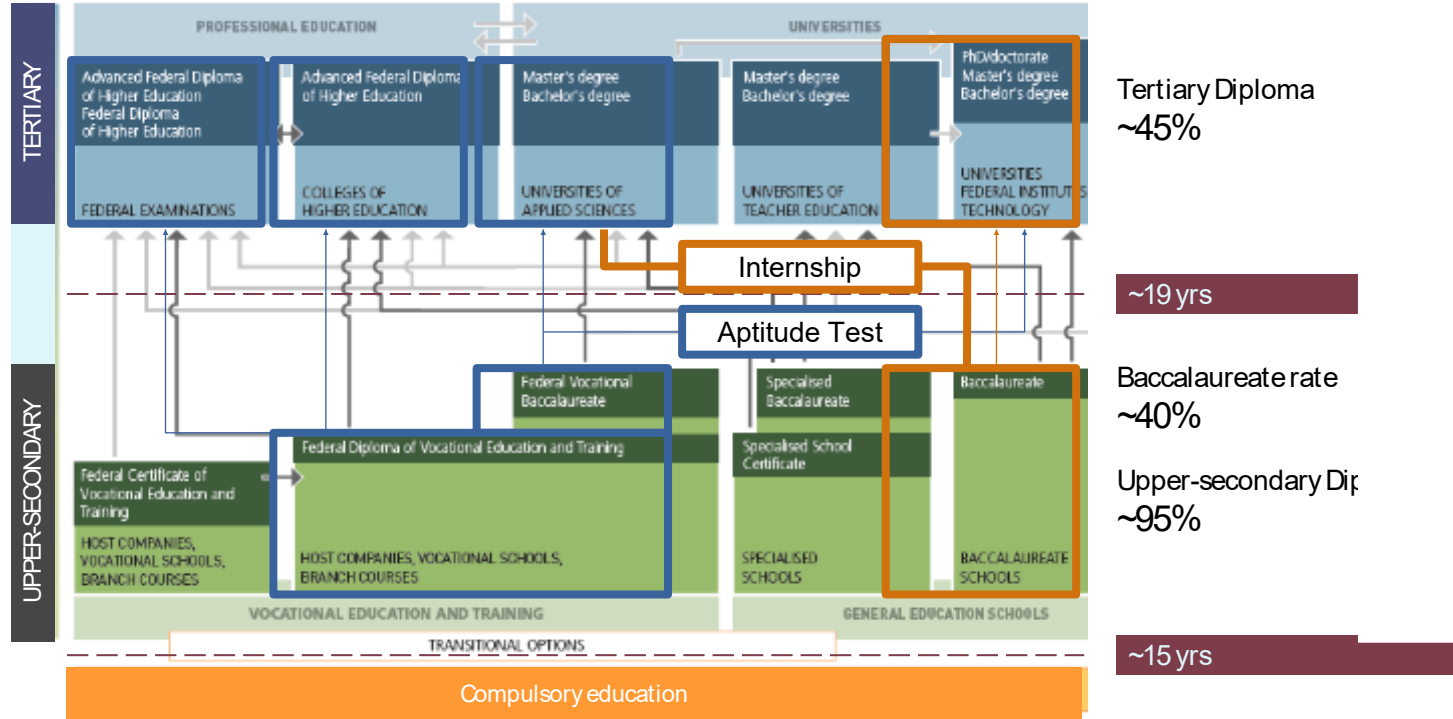
**TRAIN AS A HAIRDRESSER
BECOME A BIOLOGIST**



**TRAIN AS A MECHANICAL ENGINEER,
BECOME A DENTAL TECHNICIAN.**
PROFESSIONALS GO FAR.



Swiss education system



Dual-track VET programs: apprenticeships

Federal VET Diploma (3-4 years)

Federal VET Certificate (2 years)

Practice



In-company training at host companies,
3 – 4 days per week



Industry specific courses at specialized training centres,
several times a year

Theory



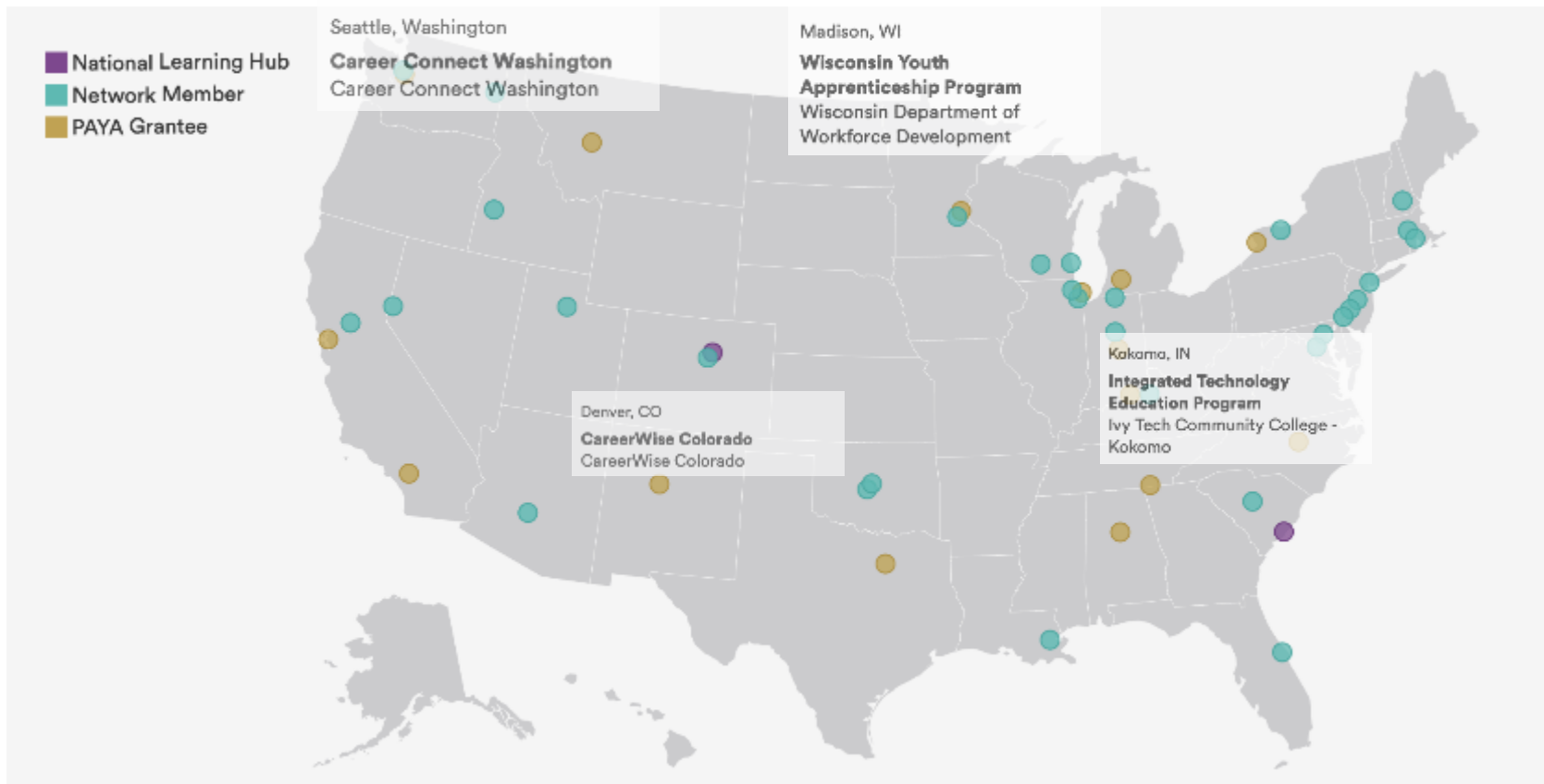
Classroom instruction at vocational schools,
1 – 2 days per week

Summary of the strengths of vocational education and training in Switzerland



- ✔ Integration into the Swiss education system
- ✔ Public–private partnership
- ✔ Permeability
- ✔ Labour market orientation
- ✔ Cost efficiency
- ✔ Situation based approach

Part III – Youth Apprenticeship in the US



Part III – Youth Apprenticeship in the US Wisconsin



<https://www.yawisconsin.org/>

Part III – Wisconsin, cont'd



Agriculture, Food & Natural Resources

Careers involve working with plants, animals, and the environment.



Architecture & Construction

Careers involve designing and building homes, roads and other structures.



Arts, A/V Technology & Communications

Careers involve creative tasks, such as performing or writing.



Finance

Careers involve managing and working with money.



Health Sciences

Careers involve helping people and animals with the medical care they need to get or stay healthy.



Hospitality & Tourism

Careers involve providing people with food, lodging, and related services.



Information Technology

Careers involve working with computer hardware, software, or network systems.



Manufacturing

Careers involve making products, such as food, cars, and household goods.



Marketing

Careers involve promoting and selling products and services.



Science, Technology, Engineering, & Mathematics (STEM)

Careers involve solving problems through research and design.



Transportation, Distribution, & Logistics

Careers involve moving people and products from one place to another.

<https://dwd.wisconsin.gov/apprenticeship/ya-applicants.htm>

Part III – Youth Apprenticeship in the US Indiana

The image shows a screenshot of the Modern Apprenticeship website. The header features the logo "Modern Apprenticeship" with a blue arrow pointing right, and the tagline "FOR HIGH SCHOOL STUDENTS" below it. To the right of the logo are two navigation links: "Home" and "Our Partners". Below the header is a dark blue navigation bar with three links: "High School Students", "Parents", and "Employers". The main content area has a blue background with a faded image of a woman and a man looking at a laptop. On the left, the text "Modern Apprenticeship" is written in white, followed by "MAP" in large, bold, teal letters with a blue arrow pointing right. Below "MAP" is the tagline "FOR HIGH SCHOOL STUDENTS". A teal circle with a white arrow pointing right is positioned to the right of the "MAP" text. At the bottom, the text "The journey to success has many paths. Find yours." is written in white.

Modern Apprenticeship
FOR HIGH SCHOOL STUDENTS

Home Our Partners

High School Students Parents Employers

Modern
Apprenticeship
MAP
FOR HIGH SCHOOL STUDENTS

The journey to success has many paths. Find yours.

Indiana is building their system with intentional collaboration across systems *and* between systems and programs

Policy + Guidance from State Partners



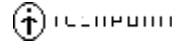
Advancing the Key Enabling Environment



UNIVERSITY OF INDIANAPOLIS



Statewide Employer Leadership



Practitioners
Network



EmployIndy



Indiana is building their system with intentional collaboration across systems *and* between systems and programs

Policy + Guidance from State Partners

- labor law and liability
- funding
- governance and accountability

Advancing the Key Enabling Environment

- wbl incorporated in programs of study
- grad pathways
- local flexibility

Statewide Employer Leadership

- industry defined standards and sector strategies
- employer engagement

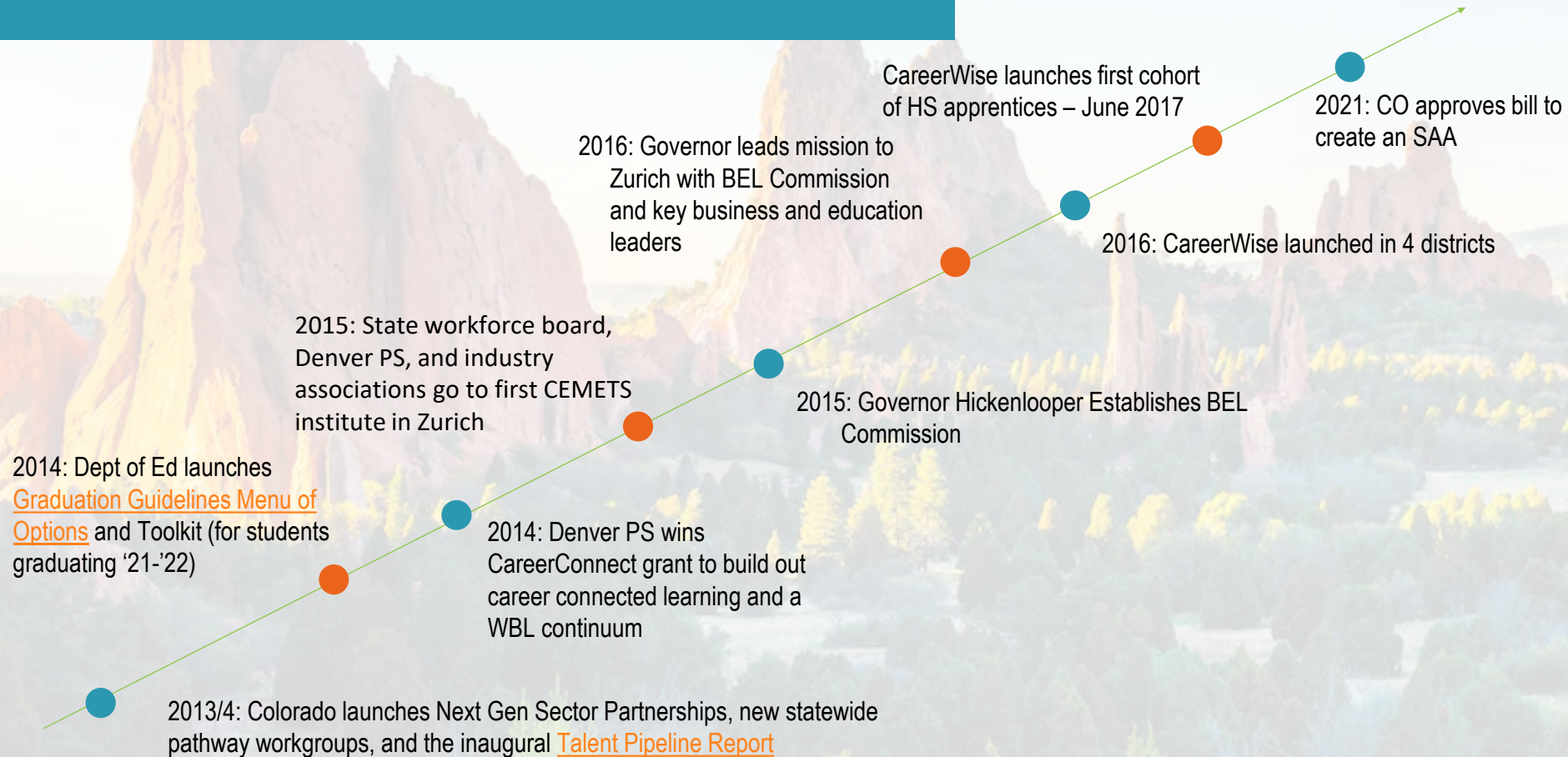
Practitioners Network

- pilot apprenticeships thru intermediaries
- inform the system work
- regionally implemented

Part III – Youth Apprenticeship in the US Colorado



Building a Strong Foundation



Graduation Guidelines: A Menu of Options

LEAs determine how their students show career and post-secondary readiness for graduation including options like:

- industry certifications,
- capstones, and
- performance or portfolio assessments

GRADUATION GUIDELINES | FACT SHEET

Menu of College and Career-Ready Demonstrations

High school graduation requirements are set by local school boards. They must align with the Colorado Graduation Guidelines, which are designed to help all students and families in Colorado plan for success after high school.

Local school boards and districts select from this menu to create a list of options that their students must use to show what they know of can do in order to graduate from high school. School districts may offer some or all of the state menu options, may make a cut across on an included assessment and may add graduation requirements in other content areas.

Graduation Guidelines begin with the implementation of Individual Career and Academic Plans (ICAP): 21st Century Essential Skills, and Colorado Academic Standards for all content areas, including one course in Civics, and July 2023, one course that incorporates Civics and Career Studies.

Students must demonstrate readiness for college and career level on at least one measure in Reading, Writing and Communicating, and one measure in Mathematics.

Districts have the authority to provide accommodations to students in meeting the college and career demonstration necessary to earn a standard high school diploma for English learners, gifted students and students with disabilities.

MENU OF OPTIONS: This menu lists the minimum scores required.

ACCUPLACER			
CLASSIC	Reading, Writing and Communicating 63 on Reading Comprehension OR 70 on Sentence Skills	Mathematics 63 on Elementary Algebra	ACCUPLACER is a computerized test that assesses reading, writing, math and mathematics. The results of the assessment, in conjunction with other student background, professional interests, are used by educators to assess and determine the next best course.
HCT	Reading, Writing and Communicating: 265 on Reading OR 228 on Sentence Writing	Mathematics: 255 on Arithmetic (IAR) OR 230 on Quantitative Reasoning, Algebra, and Statistics (IAR)	

ACT		
Reading, Writing and Communicating 18 on ACT English	Mathematics 19 on ACT Math	ACT is a national college admission test that measures four subjects - English, reading, math and science. The higher a student scores on each subject, the better.

ACT WorkKeys - National Career Readiness Certificate	
Reading, Writing, Communicating, and Mathematics Score of 3 or higher	ACT WorkKeys is an assessment that tests a student's job skills in applied reading, writing, mathematics and occupational skills. Scores are based on 100 questions that help employers select, hire, train, develop and retain a high-achieving workforce. Scores are most useful to the business level (a score of at least 2) - all of the scores will be used for the national, state, industry and portfolio documents - and then used for ACT National Career Readiness Certificate.

A student must reach the language in English for Colorado Academic Standards, and to better reflect the skills necessary for success in life after high school, "English" and "Writing" have been incrementally defined as "Reading, Writing, and Communicating" and "Mathematics."

District Guidance: www.cde.state.co.us/postsecondary/graduationguidelines 06/08/2022

Menu of College and Career-Ready Demonstrations, Page 2

Advanced Placement		
Reading, Writing and Communicating 3	Mathematics 2	AP courses test students' ability to perform at a college level. AP courses are more rigorous than standard high school courses and are designed to challenge students to learn at a college level.

ASVAB	
Reading, Writing, Communicating, and Mathematics 51 on the AFQT	The Armed Services Vocational Aptitude Battery (ASVAB) is a career assessment tool that helps determine students' eligibility and suitability for careers in the military. Students who score at least 51 on the AFQT are eligible for service jobs and other benefits that require a high school diploma and a good conduct. Students who score the ASVAB are not required to enter the military.

Concurrent Enrollment		
Reading, Writing and Communicating Passing grade per district and higher education policy	Mathematics Passing grade per district and higher education policy	Concurrent enrollment courses allow students the opportunity to enroll in postsecondary courses, in addition to earning high school and college credit. Subject to local and state policies, if an education program provides a credit for concurrent enrollment, the district may receive credit for the course. If the program is already open to a non-enrolling course or a credit-bearing course, and if provided by a college-level course that is approved or approved for approval, and is not a duplicate of any other course.

District Capstone		
Reading, Writing and Communicating Individual	Mathematics Individual	A capstone is the culminating activity of a student's program of study that demonstrates mastery and synthesis of learning. Capstone projects are designed, defined, and often include a portfolio of student work.

Industry Certificate		
Reading, Writing and Communicating Individual	Mathematics Individual	Industry certificates are a creditable skill requirement for business, technology, and other fields. They are earned through a combination of classroom, experiential, and on-the-job training, and they validate a knowledge base and skills that are necessary in a particular industry.

International Baccalaureate (IB)		
Reading, Writing and Communicating 4	Mathematics 4	IB courses are designed to be the equivalent of college-level courses. Students who score 4 or higher on the IB diploma are eligible for college credit.

SAT - Scores reported for SAT (2016)		
Reading, Writing and Communicating 470	Mathematics 520	The SAT is a college entrance exam. The SAT includes sections on reading, writing and math. The higher possible score for each section is 800.

Collaboratively developed, standards-based performance assessment		
Reading, Writing and Communicating Statewide scoring criteria	Mathematics Statewide scoring criteria	An alternative, standards-based assessment is a collection of student work that is developed through the process of a complex project or problem.

District Guidance: www.cde.state.co.us/postsecondary/graduationguidelines

06/08/2022

COLORADO'S WORK-BASED LEARNING CONTINUUM

Work-based learning is a continuum of activities that occur, in part or in whole, in the workplace, providing the learner with hands-on, real world experience.

LEARNING ABOUT WORK

Career awareness and exploration helps individuals build awareness of the variety of careers available and provides experiences that help inform career decisions.

- Career Counseling
- Career Planning
- Career Fairs
- Career Presentations
- Industry Speakers
- Informational Interviews
- Mentoring
- Worksite Tours
- Project-based Learning

LEARNING THROUGH WORK

Career preparation supports career readiness and includes extended direct interaction with professionals from industry and the community.

- Clinical Experiences
- Credit-for-work Experiences
- Internships
- Pre-apprenticeship
- Industry-sponsored Project
- Supervised Entrepreneurship Experience

LEARNING AT WORK

Career training occurs at a work site and prepares individuals for employment.

- Apprenticeship
- On-the-job Training
- Employee Development

Education Coordinated



Business Led

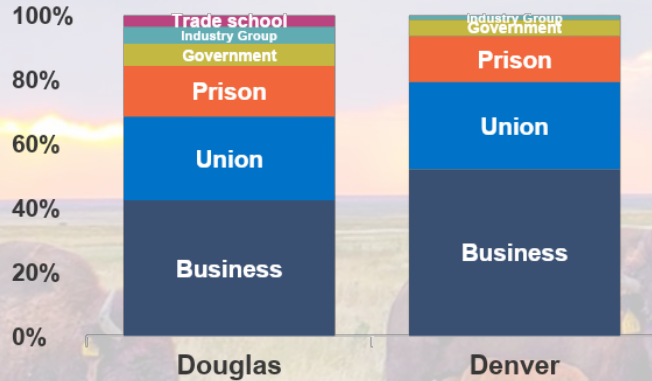
OUTCOMES:

Skilled Talent for Business + Meaningful Careers for Students & Job Seekers

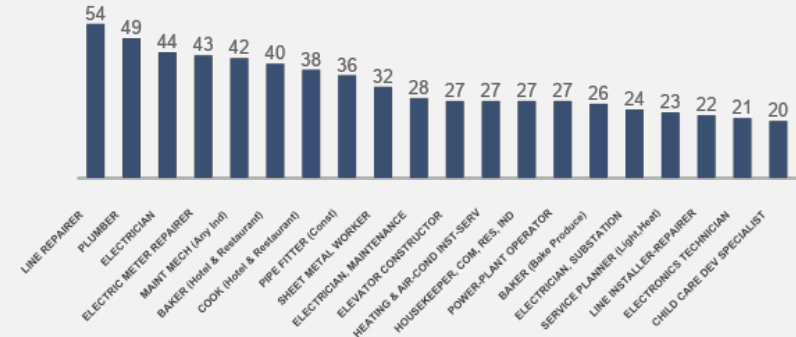
In 2015 apprenticeships were concentrated in construction trades with few intermediaries and few youth options

- Apprenticeships in Colorado are primarily ad-hoc and driven by Businesses and Unions (with significant support from technical or community colleges)

Apprenticeship sponsors by category for Douglas and Denver Counties



Top 20 types of apprenticeships in Colorado (registered apprenticeships by number of sponsors)



Challenges with current approach in Colorado:

No standard competencies or curriculum

Limited scope

No coordination

Limited permeability

Limited awareness

COLORADO PARTNERSHIPS

VARIOUS STATE AGENCIES ENSURE SYSTEMIC ALIGNMENT AND STATEWIDE SCALE



- BEL Commission**
- Align state workforce training strategies with **business needs**
 - Promote experiential learning
 - Identify legislative opportunities to support business engagement in training and education



- Colorado Department of Education**
- Expand CareerWise apprenticeships to ensure career readiness and to serve as a bridge to post-secondary education
 - Provide technical assistance to schools to expand work-based learning readiness



- Colorado Office of Economic Development & International Trade**
- Align economic development messaging and incentives to leverage as companies consider moving to, and expanding within Colorado
 - Promote locally developed, LMI driven workforce training system to support economic growth



- Colorado Department of Labor & Employment**
- Created Work Based Learning Unit to build out more streamlined system of apprenticeship registration
 - Lead efforts to rebrand and market apprenticeships across the state



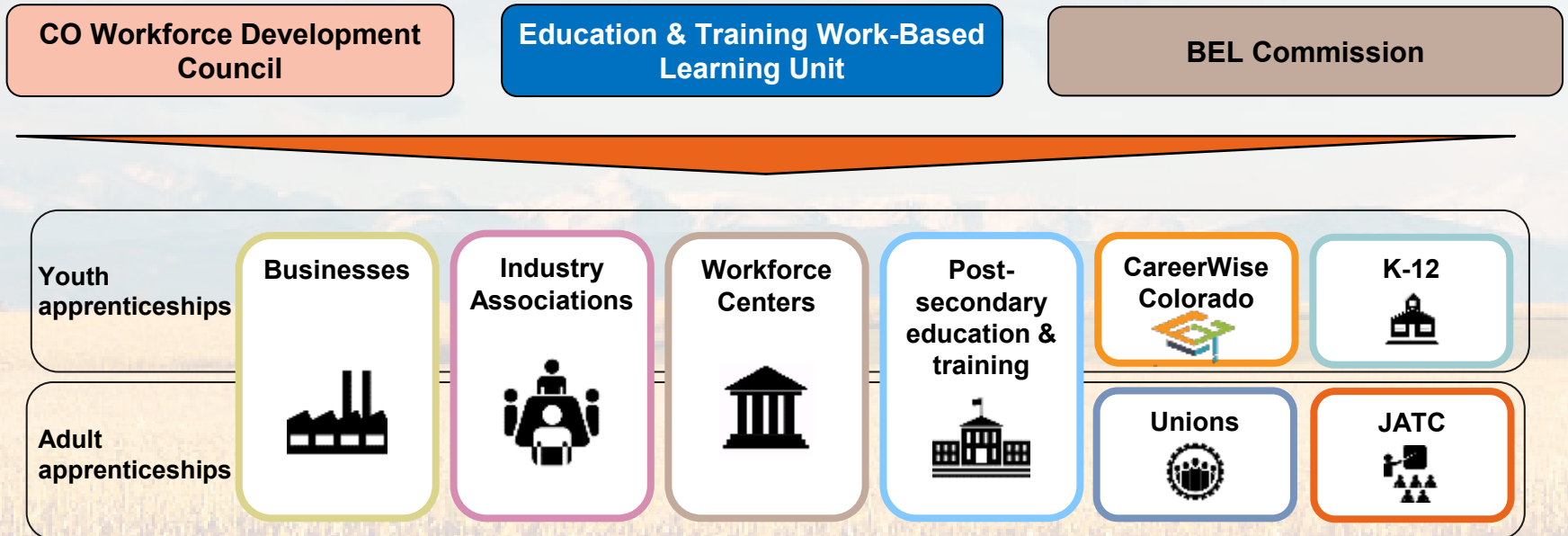
- Colorado Department of Higher Education**
- Align post-secondary to industry identified competencies
 - Standardize competency crosswalk for college credit across the state



- Colorado Workforce Development Council**
- Integrate state and local talent development strategies to align and streamline efforts with industry needs for talent
 - Build community engagement through Sector Partnerships and Trade Associations
 - Support training plan development through career pathways and competency work

Gov Hickenlooper catalyzed the infrastructure to build a system of apprenticeship in Colorado

Overall framework for the experiential learning system in Colorado:



As of 2023...

Legislation created the new State Apprenticeship Agency to increase capacity for support of apprenticeship broadly for adults and youth alike. For Youth Apprenticeship- employers and schools have the option to leverage CareerWise group sponsored programs and infrastructure or register directly through the new SAA office.



Accountability



Office of the
Future of Work

CO State
Apprenticeship
Agency

Intermediary Coordination and Implementation



System Supports



CAREERWISE INTERMEDIARY FUNCTIONS

RECRUITING

- School partnerships
 - Family outreach
- Skills assessment, and hiring fairs
- Promote employers, industries, jobs

PROGRAM DESIGN

- Recommended job progression
- Competency rubrics
- Related instruction planning

REGISTRATION

- Group sponsorship
- Administrative and reporting support



SYSTEM COORDINATION AND ADVOCACY

EMPLOYER TRAINING

- Upskilling young employees
- Quarterly supervisor training
- Intergenerational communication

APPRENTICE TRAINING

- Annual “bootcamp”
- Professional development
- Quarterly group training




QUALITY ASSURANCE

- Data review and continuous improvement
- CSM: Point of contact for all parties through the life of the program

HOW IT WORKS

Apprentices split time between school and work, operating on a schedule that works for both students and businesses.

SAMPLE THREE-YEAR APPRENTICE SCHEDULE

	YEAR 1	YEAR 2	YEAR 3
 AT HIGH SCHOOL Core academic courses at school, some community college coursework	~3 days per week	~2 days per week	NA
 ON-THE-JOB On-the-job training, in the form of occupation, rotation or projects	12 - 16 hours per week	20 - 24 hours per week	32 - 40 hours per week
 EXTERNAL TRAINING Industry certifications and college coursework	ON THE JOB UPSKILLING & CERTIFICATION Apprentice upskills for specific occupation and earns an industry relevant certification.		Community college coursework approved by business and apprentice.

AFTER APPRENTICESHIP

YEAR 1 YEAR 2 YEAR 3



AT HIGH SCHOOL

Core academic courses at school (e.g., math), some community college coursework

~3
days a week

~2
days a week

NA



ON-THE-JOB

On-the-job training, in form of occupation, rotation or projects

12 - 16
hours a week

20 - 24
hours a week

32-40
hours a week



AT TRAINING CENTER

Multi-skill training curriculum in pathway-specific skills

COLLEGE COURSES AND/OR TECHNICAL TRAINING BASED ON APPRENTICE GOALS & READINESS

The instruction students receive provides them with debt-free college credit and a nationally-recognized industry certification. Typically, courses are taken in the second half of apprenticeship.

Student signs on as a full-time

EMPLOYEE



OPTIONS MULTIPLIER



Student continues

EDUCATION

with 2- or 4-year degree

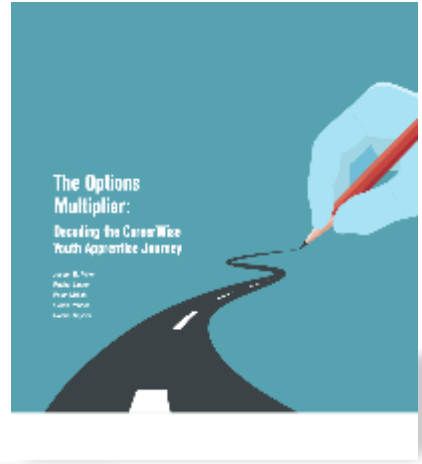
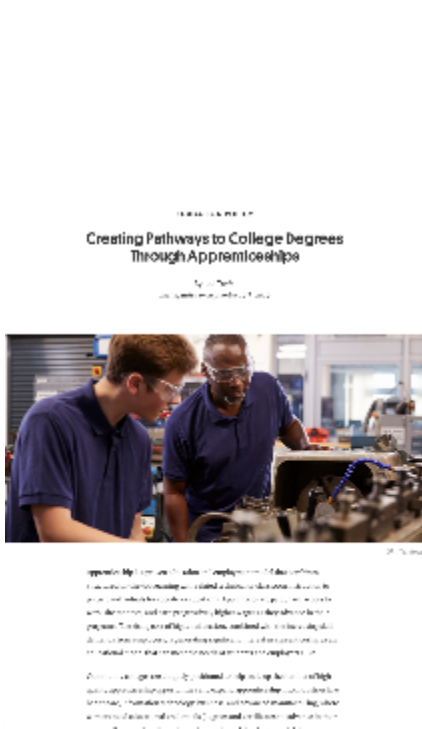
...or Both!



Part V – Your Questions and Comments



Reading Room:



More Information

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