Global Models of Career Pathways

How do we build more robust and equitable career pathways to prepare all our youth to thrive in work and life? The scope of the challenge demands that we look both in the U.S. and at top-performing systems around the world. We need **valuable models, inspiration for our immediate challenges, and insights on how to adapt** in real time for a fast-changing and uncertain future.

Key messages from top-performing systems

Career pathways are **tightly connected to national economic development** strategies and goals.

Workforce development is seen as a national security issue, **rising above party politics.**

Credentials **fully qualify students for entry-level work in well-paying jobs** with career advancement opportunities and open pathways to further education.

Pathways are high quality and equitable, organized around **national skills frameworks** agreed upon by industry, labor, education, and government.

A **future of work and learning focus** means reimagining career pathways as part of a comprehensive lifelong learning system for all.

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4 Lessons for Today's Challenges

Global career pathway models:

Develop autonomy and curiosity early. Pathways are designed to enable students' self-directed learning and develop their decision-making abilities from a young age. Swiss apprentices identify their own work placements, with assistance from counselors. In the workplace, they are treated as valued employees and given progressively more responsibility. In Singapore, career education—including career fairs and visits to worksites—is part of the curriculum and career counseling is offered to starting at age 12.

Actively connect to industry. Students apply their knowledge and skills in authentic work settings and can see the impact of their contributions. Teachers are supported to link learning and work. In Singapore and Finland, teachers have regular industry externship opportunities. In Switzerland, worksite supervisors are trained in pedagogy.

Offer valuable and transferable credentials. Students earn portable credentials with high value in the labor market. Finland's industry credentials are set by industry leaders, who work alongside government and educators. Industry upholds standards in Switzerland: employer panels assess practical projects that apprentices complete to qualify for their diplomas.

Eliminate "dead ends" for students. Top performers provide pathways to further education, including research universities. Career pathways graduates in Singapore can enter the workforce directly. They also have the option to apply to programs leading to advanced technical or academic degrees.

GLOBAL MODELS: FINLAND

At Omnia Vocational School in Espoo, Finland, each program is a school-based business. Fashion design students research the latest fashion trends, sketch chic dresses and jumpers, stitch together fabrics and produce elegant creations using state-of-the-art textile equipment. Some are used for major opera productions for the City Opera. Aspiring builders construct their own full-sized cabins from the ground up, and sell them to families in the city in search of summer homes.

5 Conditions for Success

The Swiss apprenticeship system is steered by industry, the federal government oversees qualifications and identifies key industries, and the education system organizes the school-based component.

The Finns created a common national framework of initial, further, and specialized industry credentials in each sector.

The Finnish Ministry of Education has a dedicated Anticipation Unit that monitors the economy and labor market with the aim of determining how career programs should adapt to meet employers' and the country's future needs.

In Singapore, students complete a common primary school and a lower secondary program with a core curriculum that they can personalize. All students demonstrate proficiency when they graduate.

In Switzerland, a vibrant sector of universities of applied sciences operates parallel to research universities and provides well-regarded advanced degree pathways that enroll more than two-thirds of students studying for degrees.

4 Key Trends for the Future

Global models are agile and continuously update their systems for an evolving future:

Redesigning lifelong learning to prepare for the future of work, recognizing that workers will need to upskill and pivot many times in their careers. Singapore's SkillsFuture initiative offers training vouchers to all Singaporeans, with additional funds for those at mid-career. It also incentivizes industry to offer work placements for students of all ages.

Reinventing qualifications and certifications by modularizing and personalizing their offerings to give students agency over what and how they study. Finland's competency-based qualifications permit young people and adults to work at their own pace and in different environments—workplace, classroom, online, or self-study.

Supporting all students for a successful future by redesigning the structure and content of programs to meet the needs of all students. Switzerland created a "2+2" apprenticeship for students who need more time and support. After an initial two-year program supplemented with academic and language supports, students earn a certificate qualifying them for entry-level work or continue for two more years to gain a full diploma.

Transforming learning environments by harnessing new immersive technologies to create blended AR/VR classrooms, self-study options, and opportunities to collaborate with industries across the globe. Singapore is using immersive technologies across its career programs to prepare students for complex work both today and in the future.

GLOBAL MODELS: SINGAPORE

At Singapore's Institute for Technical Education, young people train for work in retail in a real coffee shop with customers from the community. Auto mechanics train on new Mercedes and Nissan vehicles provided by those firms. Students at the Aerospace hub work on a Boeing airplane.

GLOBAL MODELS: SWITZERLAND

Imagine a teenager advising a hedge fund client, turning out parts on a multimillion dollar machine, or running a retail phone store. It may sound like a teenager's daydream, but Swiss teens take on responsibilities like these throughout their apprenticeships.

Models in the U.S.

U.S. states and districts are building career pathways for students based on these principles. Promising developments include:

Delaware has organized education and training progressions in 12 fast-growing career clusters that offer high-wage jobs for students across the state. All students have work-based learning experiences and earn credit towards Delaware Tech degrees. Half of high school students in the state enroll in these programs now and the state has a goal of 80 percent enrollment.

Indiana created a Workforce Cabinet to oversee career education and coordinate across agencies including K-12 education, higher education and economic development. All programs for secondary students include capstone experiences with work-based learning and connections to Ivy Tech and Indiana University. The state also funds programs in high-value sectors at higher levels than other programs.

South Carolina and **Colorado** support youth apprenticeship statewide and students learn and earn on the job and graduate qualified for full-time job at their host companies or others in that industry.

In **Vicksburg, Mississippi,** the Vicksburg-Warren school district partnered with local businesses and community members to design new pathways to jobs that pay well in the local community. They created three career academies and an entrepreneurship pathway to incubate new student-initiated businesses with mentorship from community leaders.

In **Donna, Texas**, the district rethought its career technical education offerings to better align with high-growth and high-wage jobs in the local community. They partnered with employers to provide new pathways for students, such as an accelerated welding programs to qualify for jobs paying six-figure salaries at SpaceX and commercial drone pilot training to fill jobs in law enforcement and commercial aerial photography.

In **Madera, California**, the district created a Technical Exploration Center for 8th graders. It has six career-themed labs—agricultural, entrepreneurship and marketing, manufacturing and engineering, health sciences, media and performing arts and public safety—offering half-day programs that introduce students to career pathway options. The programs are organized around project-based learning: the agriculture lab students design a school garden and research safety of GMO foods, public safety students conduct investigations in the community to understand evidence collection and the investigative process.

For more on these global models, see ncee.org/CareerPathwayModels

And for more on top-performing education systems, see ncee.org/top-performing-countries