



World TVET
Database
United States of
America

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Country profiles are compiled from a variety of national and international sources and have been informed and validated by UNEVOC Centres in the country or other TVET national authorities.

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Abbreviations

CCTC	Common Career Technical Core
CPs	Career Pathways
CTE	Career Technical Education
GED	General Educational Development
NASDCTEC	National Association of State Directors of Career Technical Education Consortium
NCNF	National Career Clusters Framework
NQF	National Qualifications Framework
OVAE	Office of Vocational and Adult Education
TVET	Technical and Vocational Education and Training
US	United States

TVETipedia Glossary

Below are listed TVET terms mentioned in this report. Click on a term to read its definitions on the UNESCO-UNEVOC TVETipedia glossary.

Accountability	Knowledge
Accreditation	Labour market
Adult learning/education	Lifelong Learning
Apprenticeship	National Qualifications Framework
Assessment	Non-formal education
Certificate	Occupation
Certification	Post-secondary education
Diploma	Qualification
Employer	Quality
Employment	Quality Assurance
Evaluation	Skills
Flexibility	Standard
Further education	Teacher
Higher education	Teacher In VET
In-company training	Trainer
Informal Learning	TVET
Job	Work experience

United States of America

Population:	321,774,000 (2015)
Youth population ¹ :	44,010,000 (2015)
Median population age:	38.0 (2015)
Annual population growth (2010-2015) ² :	0.75%



Data © OpenStreetMap Design © Mapbox

1. TVET mission, strategy and legislation

TVET mission

The federal TVET mission is to promote education about work, for work, or education through work. Additionally each State has its own TVET mission depending on the regional labour needs. TVET is known in the United States as Career and Technical Education (CTE).

TVET strategy

The US vocational improvement strategy promotes links between secondary and postsecondary vocational programmes to prepare students better for their transition from school to careers. The strategic goals for vocational education, as stated in Strategic Plan FY 2011-2014, are to increase college access, quality, and completion rates by improving higher education and lifelong learning opportunities for youth and adults:

- Access: improve the affordability of and access to college and workforce training;
- Quality: foster institutional quality, accountability, and transparency to ensure that postsecondary education credentials represent effective preparation for students to excel in a global society and a changing economy; and
- Completion: increase degree and certificate completion and job placement rates in high-need and high-skilled areas.

The national policy focuses on developing the academic and technical skills of students, at secondary and postsecondary levels, by:

- developing challenging academic and technical standards and supporting students in meeting such standards, including preparation for high skill, high wage, or high demand occupations in current or emerging professions;
- promoting services and activities that integrate rigorous and challenging academic and technical training, which link secondary and postsecondary TVET programmes;
- increasing State and local flexibility in providing services and activities designed to develop, implement, and improve TVET;

¹ Population aged 14-25

² All statistics compiled from the United Nation's Population Division's *World Population Prospects, the 2015 Revision* (<http://esa.un.org/unpd/wpp/DVD/>)

- conducting and disseminating national research and information on best practices that improve TVET programmes, services, and activities;
- providing technical assistance that promotes leadership, initial preparation, and professional development at the State and local levels and that improves the quality of TVET teachers, faculty, administrators, and counsellors;
- supporting partnerships among secondary schools, postsecondary institutions, baccalaureate degree granting institutions, local workforce investment boards, business and industry, and intermediaries; and
- providing individuals with opportunities throughout their lifetimes to develop, in conjunction with other education and training programmes, the required knowledge and skills to keep the United States competitive.

TVET legislation

TVET has been integrated into the United States' education system through a number of legislations that have been enacted since 1917. The Smith-Hughes Act of 1917 was the first authorisation for the Federal funding of vocational education. Subsequent legislations for vocational education have been enacted as follows:

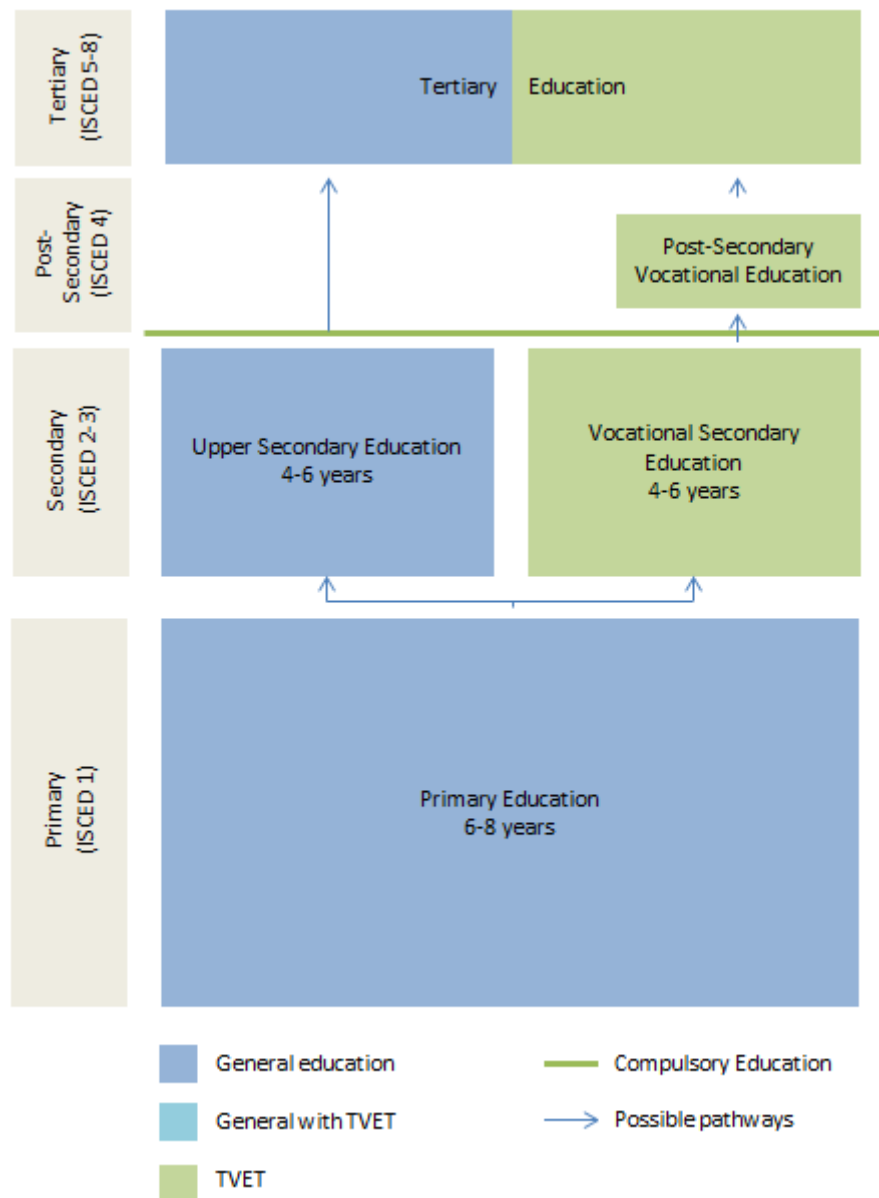
- The Rehabilitation Act of 1973 was the Federal legislation that authorised the formula grant programmes of vocational rehabilitation, supported employment, independent living, and client assistance. It also authorised a variety of training and service discretionary grants administered by the Rehabilitation Services Administration.
- The Carl D. Perkins Act of 1984 aimed to help states expand and improve their vocational education programmes, especially in high-poverty areas.
- Perkins was re-authorised as the Carl D. Perkins Vocational and Applied Technology Act (Perkins II) in 1990. The Act introduced Tech-Prep as a response to increasing recognition that most technical careers require more than a high school education.
- The Tech-Prep Education Act was created by the 1990 Perkins Act (Title III E). The Act aimed to help students prepare better for future careers.
- The Carl D. Perkins Career and Technical Education Act of 1998 (Perkins III) [http://cte.ed.gov/docs/PL105_332.pdf]. The Act proposed to develop more fully the academic, vocational, and technical skills of secondary students and postsecondary students.
- The Workforce Investment Act of 1998 oversaw employment, training, literacy and vocational rehabilitation programs in the United States. The Act established training centres, individual training accounts and State and local Workforce Investment boards.
- The Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) [http://cte.ed.gov/docs/perkins_iv.pdf] required all recipients of its funds to offer a programme of study that combines at least two years of secondary education with postsecondary education or training that may extend to the baccalaureate.

- The Elementary and Secondary Education Act of 2002 funds K-12 education in the states and emphasises equal access to education, high standards and accountability.

Sources:

Careertech (2014). The CTE Vision. <http://www.careertech.org/cte-vision>. Accessed: 08.07.2014.
Stone III, J.R., & Lewis, M.V. (2010). Governance of Vocational Education and Training in the United States. Oxford: Research in Comparative and International Education, Volume 5.
U.S. Department of Education (2011). Strategic Plan for Fiscal Years 2011-2014. Washington: U.S. Department of Education. <http://www2.ed.gov/about/reports/strat/plan2011-14/plan-2011.pdf>. Accessed: 21.08.2013.

2. TVET formal, non-formal and informal systems



Scheme compiled by UNESCO-UNEVOC from Digest of Education Statistics, National Center for Education Statistics.

Formal TVET system

TVET programmes in the United States are aligned according to National Career Clusters (agriculture, architecture government, finance etc.) and are taught in non-parallel subsystems with few structural connections between them. US TVET takes place in:

- a public education system largely limited to high school;

- community or technical colleges serving a wide range of public needs;
- various government programmes;
- a miniscule apprenticeship system; and
- a large business-based training system disconnected from all of the others.

In total, about 12.5 million high school and college students are enrolled in CTE in the United States.

Students ordinarily after spending 6 to 8 years in elementary school continue a 4- to 6-year programme in academic, vocational or technical secondary school. Students normally complete the high school programme through grade 12 by age 18. Education at the secondary level is provided in a range of institutional settings—including junior high schools, high schools, senior high schools, and combined elementary/secondary schools—that vary in structure from locality to locality. The average high school student takes more TVET credits than any other subject area except English. Relatively few students, however, take a sufficient number of credits to lead to an industry-recognised credential.

High school graduates who decide to continue their education may enter a technical or vocational institution, a two-year community or junior college, or a 4-year college or university. A 2-year college normally offers the first 2 years of a standard 4-year college curriculum and a selection of terminal TVET programmes. Academic courses completed at a 2-year college are usually transferable for credit at a 4-year college or university. Post-secondary TVET also includes offerings from proprietary post-secondary schools, adult learning centres, professional associations or labour unions, and government agencies.

Tech-Prep

Tech-Prep combines academic and vocational courses and through articulation agreements it links high school studies to advanced technical education in community and technical colleges, apprenticeship programmes or other post-secondary institutions. A key feature of Tech-Prep programmes is to apply academic instruction through teaching academic subjects in a practical, hands-on way, drawing on careers of interest as a context for examples, assignments, and projects.

The agreement outlines the criteria students must meet in order to receive post-secondary credit for the courses studied at the secondary level. The credits the students earn in high school are redeemed at the post-secondary level as they continue taking courses in the same occupational area.

Career Pathways (CPs)

CPs specify the knowledge and skills that students must acquire at the secondary and postsecondary levels in order to be better prepared for occupations within various career clusters. CPs are adopted by the Office of Vocational and Adult Education (OVAE) and defined as a coherent, articulated sequence of rigorous academic and career courses, commencing in the ninth grade. A Career Pathway is developed, implemented, and maintained in partnership with

secondary and post-secondary education, business, and employers. CPs are available to all students, including adult learners, and are designed to lead to rewarding careers.

The Job Corps

Another federal programme, the Job Corps, targets at-risk youth and combines intensive skill training and academics designed to help youth obtain a General Educational Development (GED) certificate by passing a series of standardised tests normed to reflect a level of skills and knowledge equivalent to that signified by a regular high school diploma.

The Job Accommodations Network

Another federally funded programme that targets youth with disabilities is the Job Accommodations Network. It is not merely a programme but a technical assistance service provided to employers to attract, hire, and retain young workers with disabilities.

Non-formal and informal TVET systems

Apprenticeship Programmes are often targeting apprentices who have some years of experience. Community and technical colleges are the main providers of most apprenticeship programmes, while other apprenticeship programmes are offered at employer-owned or employer-operated facilities and trade schools. In 2009, Apprenticeship Programmes registered with the federal government consisted of approximately 500,000 participants; meanwhile, the Center for American Progress estimated an additional 500,000 to one million apprentices are not registered.

In-company training represents a significant proportion of TVET in the United States. It is provided by companies to their employees independent of government or educational connections. For instance, the American Society for Training and Development declares that in-company training constitutes a larger investment in TVET than that provided through public schools and colleges; a total of \$154 billion in 2008. It is within this business-based system that most occupational training and certification for workers takes place.

Sources:

- Careertech (2014). Career Technical Education. <http://www.careertech.org/CTE>. Accessed: 08.07.2014.
- Gonzalez, Jennifer (2010). Apprenticeship Programs Expand With Help of Community Colleges. Washington: The Chronicle of Higher Education, Volume 57.
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- U.S. Department of Education (2011). Digest of Education Statistics. Washington: Institute of Education Science (ies) and National Center for Education Statistics (NCES) http://nces.ed.gov/programs/digest/d07/figures/fig_01.asp. Accessed: 22.08.2013.

3. Governance and financing

Governance

The United States' public education system is composed of a decentralised structure with control coming from a combination of the local, state and federal levels. The federal government has no direct governance of state and local education. Instead, the federal government enacts legislation that makes funds available to the states. The responsibility for education is given to each individual state, with which they create a legislative framework for every public school within the state to follow. Decisions about curricula, specific course content, and course levels are made at the state or local level.

States are divided into school districts, or local education agencies, that are composed of local boards made up of elected citizens from their school's geographic area. The local boards are designed to ensure that education is responsive to local values and priorities, while remaining somewhat removed from the politics influencing general government.

Local educational agencies (of which there are more than 14,000) have the primary responsibility for governance of TVET in the United States. Local agencies operate within a framework of state legislation and regulations that are heavily influenced by federal legislation.

The diversity of this system is further complicated by the variety of ways that states assign responsibility for the administration of TVET, secondary and postsecondary education. Almost all government-supported skill training outside the education system occurs through the Office of Apprenticeship and the Job Corps, both of which are administered by the federal Department of Labor. The number of trainees in these programmes is much lower than that of those receiving skill training from educational institutions.

Financing

TVET receives funding from all three levels of government: federal, state and local levels. The federal government offers funds to the states to support TVET. The Office of Vocational and Adult Education (OVAE) is the unit of the US Department of Education that is responsible for implementing federal TVET legislations. In order to receive federal funds, all states must submit a plan to OVAE that describes how they will use the funds. In turn, the states then require the local educational agencies to submit a plan for how their school district will use the funds the state will receive.

If the state plan is accepted, OVAE requires each state to submit annual reports regarding how the funds have been used in addition to evaluation data on the effectiveness of the programmes that received the funds.

Sources:

Stone III, J.R., & Lewis, M.V. (2010). Governance of Vocational Education and Training in the United States. Oxford: Research in Comparative and International Education, Volume 5.

4. TVET teachers and trainers

All states require teachers in public schools to be licensed or certified, with each state having various requirements for certification. Typically, TVET teachers have a bachelor's degree and work experience in the field they want to teach. As a result, many teachers spend time working before moving into teaching. For prospective teachers whose highest level of education is a high school diploma, extensive experience is required and depending on the subject being taught, some TVET programmes may require different types of certification.

There are a variety of ways that someone can become licensed to teach as a TVET teacher:

- obtain a bachelor's degree from a teacher preparation programme in which they major in a content area, such as agriculture, and take classes in education and child psychology;
- have a bachelor's degree in the field they teach, such as engineering, computer science, or business; or
- have a high school diploma and significant work experience in the field they teach, such as automotive mechanics or culinary arts.

Teachers without training in education must enrol in an alternative certification programme to receive the teacher training they need to get a state teacher's license.

Those who teach in private schools are not required to be licensed. Requirements for certification vary by state. However, most states require completing a teacher preparation programme and at least a bachelor's degree or work experience in the field. Teacher preparation programmes include supervised experience in teaching, which is typically gained through student teaching.

Some states require a minimum grade point average. States normally require candidates to pass a general teaching certification test, as well as a test of their knowledge in the subject they will teach. Teachers often must take annual professional development classes to keep their license. Most states require teachers to pass a background check, and some states require teachers to complete a master's degree after receiving their certification.

All states offer an alternative route to certification for people who already have a bachelor's degree or work experience in their field but lack the education courses required for certification. Some alternative certification programmes allow candidates to begin teaching immediately, under the supervision of an experienced teacher. These programmes cover teaching methods and child development. When they finish the programme, candidates are awarded full certification. Other programmes require students to take classes in education before teaching. Students may be awarded a master's degree after completing either of these programmes.

Experienced teachers can advance to become mentors or lead teachers, working with less experienced teachers to help them improve their teaching skills. With additional education or certification, teachers may become school counsellors, school librarians, or instructional coordinators. Some become assistant principals or principals, positions that generally require additional training in education administration or leadership.

After gaining enough experience, some TVET teachers instruct at community colleges.

According to the Bureau of Labor Statistics' Occupational Outlook Handbook for Career and Technical Education Teachers, some important competencies defined essential for TVET teachers are as follows:

- Communication skills: TVET teachers must collaborate with other teachers and members of the community, additionally they need to discuss students' needs with parents and administrators;
- Creativity: TVET Teachers must be able to develop interesting lesson plans to keep students' attention and to teach students who learn in different ways;
- Instructional skills: TVET teachers need to be able to explain difficult concepts in terms that students understand. They help students develop skills through a variety of teaching techniques;
- Organisational skills: TVET Teachers in middle school and high school have many students in different classes throughout the day. They must be able to organise their materials and their time well; and
- Patience: Working with students of different abilities and backgrounds can be difficult. TVET Teachers must be patient with students who struggle with material.

Sources:

Bureau of Labor Statistics (2013). Occupational Outlook Handbook, 2012-13 Edition, Career and Technical Education Teachers. Washington: U.S. Department of Labor.
<http://www.bls.gov/ooh/education-training-and-library/career-and-technical-education-teachers.htm#tab-1>. Accessed: 22.08.2013.

5. Qualifications and Qualifications Frameworks

Post-secondary vocational education

Programme	Duration	Qualification
Postsecondary (Associate's degree level)	1-2 years	Postsecondary award, certificate, diploma
Postsecondary (Bachelor's degree level)	2-4 years	Postsecondary award, certificate, diploma

In addition, there are short programmes of less than one year that provide training or refresher courses in specific subjects. These may result in the award of an educational certificate or diploma, but often result in a certification by industry or a professional association and do not carry academic credit.

National Qualifications Framework (NQF)

There is no national qualifications framework in the US.

Quality assurance

The federal role in quality assurance is limited to research and statistics, broad policy leadership, and the approval of accrediting agencies for the purpose of certifying institutions and programmes that may receive federal assistance and which students who receive federal loans and grants may attend. Since 2010 Common Core State Standards have been adopted by over 45 states. These standards help to identify types and ranges of college-and career-ready skills (such as communication, research, and problem solving skills) and use these as a foundation for student learning.

The approval of institutions and programmes is generally undertaken by state agencies and accrediting agencies, with the latter also responsible for the establishment and maintenance of academic and administrative standards. Professional and academic disciplinary associations also play a role in influencing and assessing quality. Educational potential, progress, and outcomes, as well as inputs and outputs, are measured by surveys, studies, tests, and other assessments at the national, regional, state and institutional levels.

Sources:

- Careertech (2014). Common Core State Standards. <http://www.careertech.org/common-core-state-standards>. Accessed: 08.07.2014.
- International Affairs Office, U.S. Department of Education (2008). Structure of the U.S. Education System; Career and Technical Qualifications. Washington: USNEI www2.ed.gov/about/offices/list/ous/international/usnei/us/cte.doc. Accessed: 28.08.2013.
- Stone III, J.R. (2012). Work and Education in America; Reflection on US Perspectives on VET. Dordrecht: Springer Science+Business Media B.V.
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6. Current reforms, major projects and challenges

Current reforms and major projects

TVET is experiencing a resurgence of interest in the United States. In principle, the current and ongoing reform seeks to upgrade the quality and image of secondary TVET and to use TVET to improve academic outcomes and transition to college.

There are many efforts seeking to integrate TVET fully into the mainstream of US public education and overcome its second-class status. Many communities are investing in new vocational high schools, regional career centres, career academies, and other delivery models. The new investments and projects build on the previous success of TVET and incorporate new curricula and methods to prepare TVET students for the emerging workplace.

For instance, in June 2012, the National Association of State Directors of Career Technical Education Consortium (NASDCTEC) developed the Common Career Technical Core (CCTC). The

CCTC is a state-led initiative designed to align TVET (or CTE) programmes across the United States in order to ensure that TVET programmes are consistent throughout the country. By collecting data from educators, business, industry and state leaders, the CCTC sets the TVET standards that are intended to be essential for all students to build their knowledge having equal access to a quality education and career opportunities. The vision of NASDCTEC focuses on five principles:

- TVET is critical to ensuring that the United States leads in global competitiveness;
- TVET is a result-driven system that demonstrates a positive return on investment;
- TVET cooperates actively with employers to design and provide high quality and dynamic programmes;
- TVET prepares students to succeed in further education and careers; and
- TVET is delivered through comprehensive programmes of study aligned to the National Career Clusters Framework (NCNF).

Challenges

There is a need to construct an agreed-upon system of standards and assessments to make TVET, secondary or postsecondary, a viable alternative to a college degree and a signal to the labour market of workers' readiness. The state-led initiative (CCTE) described above is a move to address such a challenge.

There is also a lack of connection between TVET at secondary school and postsecondary or community college. Current federal policy thus encourages linking secondary TVET to post-secondary TVET to labour-market and the most recent federal TVET legislation attempts to address this challenge through Programs of Study (POS), the next generation of Tech-Prep.

Sources:

- Green, Kimberly (2012). Common Career Technical Core; Common Standards, Common Vision for CTE. Chicago: Techniques, Volume 87 (6), 44-47.
- Stone III, J.R., & Lewis, M.V. (2010). Governance of Vocational Education and Training in the United States. Oxford: Research in Comparative and International Education, Volume 5.

7. Links to UNEVOC centres and TVET institutions

UNEVOC Centres

- [<http://www.unevoc.unesco.org/go.php?q=UNEVOC+Network++Centre&tid=883> UNESCO-UNEVOC U.S. Centre on Education and Training for Employment (CETE)]

TVET Institutions

- [<http://www.ed.gov> U.S. Department of Education]
- [<http://www2.ed.gov/about/offices/list/ovae/pi/cte/index.html> Office of Vocational and Adult Education (OVAE)]
- [<http://cte.ed.gov/index.cfm> Perkins Collaborative Resource Network (PCRN)]
- [<http://www.dol.gov> U.S. Department of Labor]

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Further reading

Kis, Viktória (2011). Learning for Jobs. OECD Reviews of Vocational Education and Training. United States: Texas. <http://www.oecd.org/unitedstates/47150751.pdf>. Accessed: 08.07.2014.

Kuczera, M. and S. Field (2013). Skills beyond School Review of the United States, OECD Reviews of Vocational Education and Training, OECD Publishing. <http://www.oecd.org/edu/skills-beyond-school/ASkillsbeyondSchoolReviewoftheUnitedStates.pdf>. Accessed: 08.07.2014.

Kuczera, Malgorzata (2011). Learning for Jobs. OECD Reviews of Vocational Education and Training. United States: South Carolina. <http://www.oecd.org/unitedstates/46897597.pdf>. Accessed: 08.07.2014.