Summary and policy recommendations

The hidden world of professional education and training

*Post-secondary vocational education and training plays an under-recognised role in country skill systems*

School and university, and the well-trodden path between them, play a dominant role in thinking about education policy. But outside these two institutions there exists a less well understood world of colleges, diplomas, certificates and professional examinations – the world of post-secondary vocational education and training. Many professional and technical jobs require no more than one or two years of career preparation beyond upper secondary level, and in some countries as much as one-quarter of the adult workforce have this type of qualification (see Figure 1). Nearly two-thirds of overall employment growth in the European Union (EU25) is forecast to be in the “technicians and associate professionals” category – the category most closely linked to this sector (CEDEFOP, 2012). A recent US projection is that nearly one-third of job vacancies by 2018 will require some post-secondary qualification but less than a four-year degree (Carnevale, Smith and Strohl, 2010). The aim of this OECD study (see Box 1) is to cast light on this world, as it is large, dynamic, and of key importance to country skill systems.

*Post-secondary vocational programmes requiring more than six months full-time education were examined*

In this report, post-secondary vocational education and training includes the programmes and qualifications that prepare students for particular occupations or careers that are beyond upper secondary level, and that would normally require at least six months full-time preparation. Higher level vocational qualifications, including professional bachelor degrees, are included in this definition but are not the main focus. These programmes provide higher-level, job-specific training for young school leavers; upskilling for working adults in mid-career; second chances for working adults who dropped out of earlier education; and opportunities for career shifts or to support a return to the labour market. The Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC), has been used to estimate numbers in this sector by excluding general academic qualifications from ISCED 4 and 5B (see Figure 1).
This study addresses the policy challenges arising from the increasing demand for higher level technical and professional skills. It builds on the success of the OECD’s previous study, *Learning for Jobs*, which examined vocational education and training policy at upper secondary level through 17 country reviews and a comparative report.

For the purposes of *Skills beyond School*, 20 separate country studies, involving country visits, analyses and published reports, were pursued. Full country policy reviews were conducted in Austria, Denmark, Egypt, Germany, Israel, Kazakhstan, Korea, the Netherlands, South Africa, Switzerland, the United Kingdom (England), and the United States (with case studies of Florida, Maryland and Washington State). Shorter exercises leading to a country commentary were undertaken in Belgium (Flanders), Canada, Iceland, Romania, Spain, Sweden and in Northern Ireland and Scotland in the United Kingdom. Background reports describing post-secondary systems were prepared for these countries and, in addition, for France and Hungary. These country studies, alongside a wide range of other evidence, provide the foundation for the present synthesis report.


**Figure 1. Professional education and training qualifications in the labour force**
Percentage of adults aged 20-45 who have short-cycle professional education and training as their highest qualification

1. For a definition and explanation see Box 1.4.

Notes: These data identify vocational post-secondary programmes by excluding clearly general academic qualifications (according to field of study) in ISCED 4 and 5B. Source: Survey of Adult Skills (PIAAC) (2012). [StatLink](http://dx.doi.org/10.1787/888933098440)
The guiding theme of this report is the need to work with social partners to ensure training provision matches the needs of the labour market

One of the main findings of the Learning for Jobs study was that nearly all countries face challenges in ensuring that vocational education and training systems respond effectively to the needs of the labour market. Much of the burden of policy reform falls on measures to engage industry stakeholders and develop and sustain vocational systems in close partnership with those stakeholders. At post-secondary as at upper secondary level, this requirement forms a guiding theme in response to some perennial challenges. Sometimes curricula and the mix of provision are determined by students and the limitations of the training system, and not sufficiently driven by fast-changing industry requirements. Sometimes the training workforce is insufficiently abreast of these requirements. Work-based learning is too often weak and unsystematic. Employers and trade unions are sometimes too remote from the development of qualifications, so that they end by having limited currency in the labour market.

There are also challenges specific to the post-secondary sector

But there are also challenges which are more specific to the post-secondary level. Often the sector is highly fragmented, with programmes uncomfortably poised between schools and universities, with qualifications that may not be well understood within the country – and certainly not internationally. Nomenclature is variable, and the institutional basis for the sector sometimes uncertain. Qualification systems and frameworks do not always help transparency. The needs of adults for more flexible modes of study are sometimes unmet. Effective transitions and articulation with other sectors of education and training are often elusive. The potential benefits of competence-based approaches are not always fully realised. This report explores these challenges and proposes policy solutions, drawing on extensive country experience.

Enhancing the profile of professional education and training

Stronger nomenclature would enhance the profile and brand image of the sector

Post-secondary vocational programmes go by a host of different names in different countries, hampering their capacity to compete with clearer brands, such as academic degrees. A clearly recognised international nomenclature would improve their status and make comparison easier. The Swiss terminology of “professional education and training” has been road-tested and could be adopted internationally.

Recommendation: “Professional education and training” should become the internationally accepted description of substantial post-secondary vocational programmes (more than six months full-time).
Institutional and funding barriers need to be overcome

Short-cycle (less than bachelors’ level) professional education and training programmes have been most successful in institutions separate from conventional universities and with a separate funding stream. In many countries new initiatives have successfully established higher education institutions, such as the universities of applied science, with the mission of providing bachelor programmes in technical and professional areas. Some countries have realised synergies and economies of scale through careful orchestration of institutional mergers. Often, public funding for post-secondary vocational programmes involves a mix of funding streams, and these need to be consistent with public support for tertiary education.

**Recommendations:** Professional education and training needs an institutional base that: a) offers short-cycle professional programmes in a tier of institutions separate from universities; b) makes use where relevant of the successful model of universities of applied science; c) consolidates training providers into institutions of adequate size; and d) provides a consistent framework of public funding for professional education and training, avoiding distortions, and backed by quality assurance.

In many countries the governance of post-secondary professional training involves a complex fabric of agencies, reflecting a division of responsibilities between different ministries, the relative autonomy of post-secondary institutions and the separate roles of private training providers, employers and trade unions. Such decentralised governance has advantages in terms of diversity and innovation, but it may confuse students and employers, involve some duplication of tasks such as curriculum design, and complicate transitions.

**Recommendation:** Ensure that there is an institutional framework to co-ordinate professional education and training, engaging employers and organised labour, so that programmes and qualifications are comprehensible and accessible to key stakeholders.

**ISCED 2011 should improve international statistical comparisons of professional education and training**

In place of the current ISCED 1997 categories which do not adequately separate out vocational programmes at post-secondary level, ISCED 2011, to be implemented from 2014, should, at least in principle, do a better job of identifying professional education and training. In some countries professional qualifications awarded by industry associations are not included in national education statistics, distorting both national and international comparisons.

**Recommendation:** Ensure that implementation of ISCED 2011 delivers a consistent and accurate classification of vocational programmes. Develop new indicators to evaluate the effectiveness of professional education and training. Improve the collection of data on industry-led professional examinations.
Three key elements of quality

The great benefits of work-based learning need to be realised systematically in post-secondary programmes

The workplace provides a strong learning environment, and facilitates recruitment; while trainees contribute to output. Work-based learning opportunities are also a direct expression of employer needs. At post-secondary level, only some countries systematically integrate work-based learning into their programmes as a quality assured and credit-bearing element. Where work-based learning is mandatory, public funding is limited to training institutions willing to develop the partnerships with employers that support work placements, giving employers valuable influence over training provision.

**Recommendation:** All professional education and training programmes should involve some work-based learning as a condition of receiving government funding. The work-based learning should be systematic, quality assured and credit-bearing.

Vocational teachers need both teaching skills and up-to-date industry knowledge and experience

Often there are challenges in recruiting and retaining vocational teachers who meet the demanding twin requirements of pedagogical skills and practical professional expertise. Keeping practical knowledge of the workplace up-to-date is also a major challenge. Directly recruiting practitioners from industry in mid-career can be allied with part-time working arrangements that allow teacher-practitioners to continue to work in their field. These strategies require a flexible framework of pedagogical preparation and strong leadership in professional training institutions to make the best use of a mixed teaching team.

**Recommendation:** Ensure that the workforce in professional training institutions benefit from a strong blend of pedagogical skills, industry experience and academic knowledge. Adapt qualification requirements to that end.

Basic skills are critical both for labour market success and to support further learning

Basic skills of literacy and numeracy are of increasing importance, both as a support for further learning and because of growing technical requirements in the workplace. But results from the OECD Survey of Adult Skills show that some adults – even some with post-secondary qualifications – have weak basic skills. Teaching basic skills within vocational programmes presents many challenges, particularly when students have not pursued academic styles of classroom learning for some years, or when they have a negative past experience of such learning. One promising approach is to integrate basic skills with vocational training so that these skills are acquired in meaningful practical contexts.
**Recommendation:** Professional education and training programmes should ensure adequate literacy and numeracy skills among their students alongside occupation-specific competencies. This means assessing basic skills at the outset of programmes, addressing weaknesses, and integrating basic skills development into professional programmes.

**Transparency in learning outcomes**

**Strong qualifications need employer engagement, limitations on their number, and effective assessment**

Good qualifications signal the skills needed for the job, letting employers recruit the right people and place them well. But sometimes qualifications lack value, because they fail to signal the right skillset, because employers have not been involved in their design, or find an over-complex set of qualifications too confusing. National consistency in qualifications can be balanced by local flexibility in part of the curriculum, allowing employers to engage in qualification development both collectively, at the national level, and individually and locally to ensure relevance to local employers.

**Recommendation:** Build qualifications that are meaningful to employers and useful to students by fully involving labour market actors in their design, updating and delivery; ensure the qualification system delivers a manageable number of qualifications, avoiding proliferation and overlaps; the content of qualifications should be, so far as possible, nationally consistent while allowing an element of local flexibility.

**A focus on learning outcomes, supported by strong assessments, can yield efficiencies**

A traditional qualification is obtained through a set programme of study within a defined institution. Relaxing those requirements in favour of an emphasis on learning outcomes (regardless of how they are realised) could yield multiple efficiencies. This depends on good assessments of learning outcomes. Credit can be given for pre-existing skills and knowledge through “recognition of prior learning”, but educational institutions and employers sometimes have inadequate incentives to take advantage of this approach. Some industry-based qualifications employ direct tests of competence with limited programmatic requirements.

**Recommendation:** Flexible ways of recognising skills should be encouraged, including both recognition of prior learning and competence-based examinations, supported by strong assessments.

**Effective assessment is the rock on which strong qualifications rest, confirming that qualified persons have the intended competences**

It is difficult, and potentially costly, to conduct an effective assessment of the complex package of soft and hard skills making up an occupational skillset.
While good assessments are demanding, the incentives to pursue them can be weak. Qualification providers sometimes have incentives to lower standards and increase pass rates to make their qualification more appealing to students. This is a challenge to qualifications generally, but can be a fatal blow to competence-based qualifications.

**Recommendation:** Assessments need to be reliable, consistent and demanding so that the qualifications they support are credible proofs of competence.

**Clearer pathways for learners**

**Upper secondary vocational tracks are reinforced by post-secondary options for their graduates**

The strongest vocational systems offer a wide range of opportunities to qualified apprentices and other upper secondary vocational graduates. These help the architecture of the skills system by establishing a career structure for graduates of the initial system, supporting the training of apprentice trainers, and playing a key role in developing management skills.

**Recommendation:** To meet labour market needs and the aspirations of students, ensure that graduates from upper secondary vocational programmes have the opportunity to pursue higher-level vocational and academic qualifications.

**Adult learners need flexible modes of study**

Alongside school-leavers, entrants to post-secondary programmes include many older students, such as those seeking to deepen their professional skills, make a sideways career move, or return to work after a period of absence because of domestic responsibilities (see Figure 2 for an indication of the varying extent to which post-secondary vocational systems serve an adult student population). Such adults often have to balance their pursuit of further qualifications with the demands of work and home. Often they will only be able to study part-time, and pursue the components of a programme at their own pace. Distance learning may play a larger role. They may already have relevant skills and experience, covering some parts of the programme, which it would be wasteful to repeat. These requirements are very different from those of most school-leavers.

**Recommendation:** To meet the needs of adult learners, ensure flexible modes of study, including part-time and modular arrangements, distance learning and competence-based approaches.

**Transition from professional education and training to academic programmes can be difficult**

Graduates of short-cycle professional education and training often wish to continue into connected professional bachelor and other higher education programmes. While, ideally, their existing knowledge and skills will be recognised through access to the higher level and course exemptions, obstacles
are commonly reported. Sometimes there is unclarity about how different programmes relate to one another, and inadequate incentives for higher level institutions to offer course exemptions. The potential solutions are, first, measures to improve transparency in course content so that overlaps can be addressed through course exemptions and, second, co-ordination mechanisms to facilitate articulation arrangements. For graduates of professional education and training to progress successfully, their programmes need to ensure sufficient academic preparation, including basic skills, underpinned by quality assurance.

**Recommendation:** Build articulation frameworks to support transition from professional programmes to academic tertiary education. Underpin those frameworks with measures to ensure transparency and quality in the learning outcomes from professional education and training.

**Effective career guidance is needed to help students navigate these pathways**

Many countries have sought to widen access to post-secondary education in response to both rising student aspirations and labour market demand. But students can become disengaged because they find they have made a wrong career choice, or because they are not receiving sufficient support. While growth in post-secondary programmes is expanding opportunities, it is also increasing the complexity of the choices that young people need to make. With good career guidance and information, students’ enrolment decisions and choices of subjects can reflect their needs, expectations and abilities.
Recommendation: Underpin pathways of progression with good-quality career guidance and information both before entering and during professional programmes.

Key characteristics of effective vocational systems

The OECD’s two studies, Learning for Jobs and Skills beyond School, suggest key qualities of strong vocational systems

The findings of the OECD’s recent work on post-secondary vocational education and training add to, and resonate with, results from earlier work on vocational programmes at the upper secondary level reported in Learning for Jobs (2010). The findings and recommendations of both cycles of country reviews have here been integrated to propose a set of key desirable characteristics of effective vocational systems. These include:

Deciding on provision and meeting needs: How the mix and content of vocational programmes are determined

- Mechanisms to ensure that the mix of vocational provision corresponds to the needs of the labour market.
- Adequate core academic skills, particularly literacy and numeracy built into vocational programmes.
- A range of programmes that offer opportunities for all and minimise dropout.
- Flexible modes of study suitable to adults with working and home commitments.
- Higher-level vocational qualifications, and avenues of progression from initial vocational programmes to both higher-level vocational and academic programmes.

Delivering quality: How vocational skills are imparted to learners

- High-quality apprenticeship systems, covering a wide range of professional domains and including higher-level apprenticeships.
- Work-based learning systematically integrated into all vocational programmes.
- A vocational teaching workforce that offers a balance of teaching skills and up-to-date industry knowledge and experience.

Using learning outcomes: How skills are assessed, certified and exploited

- Qualifications developed with labour market actors.
- Qualifications reflecting labour market needs that are nationally consistent but flexible enough to allow for a locally negotiated element.
- Qualifications systems and frameworks that keep qualification numbers manageable.
● High-quality assessments of vocational skills built into qualifications.
● Effective competence-based approaches, including both professional examinations and recognition of prior learning.

**Supporting conditions: The policies, practices and institutions that underpin vocational education and training**

● Vocational programmes developed in partnership and involving government, employers and trade unions.
● Effective, accessible, independent, proactive career guidance, backed by solid career information.
● Strong data on vocational programmes, including information on vocational programmes in international categorisations and labour market outcomes.
● Consistent funding arrangements so that choices are not distorted by the availability of funds.

**References**


