

OECD Reviews of Vocational Education and Training

KEY MESSAGES AND COUNTRY SUMMARIES



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OECD WORK ON VOCATIONAL EDUCATION AND TRAINING (VET)

In a sequence of more than 40 country studies, the OECD has been reviewing vocational education and training (VET) systems around the world since 2007.

Through country visits, analyses and published reports the OECD has examined initial, largely upper secondary VET, through its Learning for Jobs study, and post-secondary VET systems through its Skills beyond School study.

All OECD countries, including accession countries, are invited to participate. Countries may:

- Pursue an individual country policy review, involving the preparation of a background report by the country, followed by two visits by an OECD team, culminating in a report covering the strengths of the country system, including innovations and reforms of general interest and significance, analysis of the main policy challenges, and OECD recommendations designed to assist policy development. It will draw on experience from other countries to support the policy advice given. This option is designed to add substantial impetus and international perspective to policy development. Full country policy reviews have been conducted, as part of the two OECD studies on VET, in Australia, Austria, Chile, China, Costa Rica, Czech Republic, Denmark, Egypt, Germany, Hungary, Ireland, Israel, Kazakhstan, Korea, Mexico, the Netherlands, Norway, South Africa, Sweden, Switzerland, the United Kingdom (England and Wales), and the United States (with case studies of Florida, Maryland and Washington State) and also the U.S states of South Carolina and Texas.
- Prepare a background report and invite an OECD team for a short visit to provide a published commentary on the background report. This option is much more modest, and is designed to assist countries to understand their own country system better in international context. Abbreviated exercises leading to a short OECD country commentary have been undertaken in Belgium (Flanders), Canada, Iceland, Romania, Spain, Sweden and in Northern Ireland and Scotland in the United Kingdom.

Two major comparative reports drawing together the policy lessons from this very large range of international experience have been published: [Learning for Jobs](#) (2010) and [Skills beyond School: Synthesis Report](#) (2014).

All our reports are available on our website: www.oecd.org/education/vet.

Since 2015 we are also working on a new study: work-based learning in vocational education and training. For further information see: www.oecd.org/edu/skills-beyond-school/work-based-learning.htm.

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KEY CHARACTERISTICS OF EFFECTIVE VOCATIONAL SYSTEMS

Set out below are a set of key characteristics of strong vocational systems. These characteristics are based on the policy recommendations for vocational education and training advanced in the OECD reports *Learning for Jobs* (2010) and *Skills beyond School: Synthesis Report* (2014).

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

Sometimes the availability of vocational programmes is driven by student demand and the capacity of training institutions, rather than by industry needs. This can be balanced by constraints on training provision where there is little demand for the skills, by an emphasis on work-based learning as a means of signalling industry needs, and by well-grounded career guidance to inform student demand.

Adequate core academic skills, particularly literacy and numeracy built into vocational programmes

Basic skills are needed both for jobs and to support further learning. Vocational programmes therefore need to assess basic skills on entry, address weaknesses, and explore ways to integrate basic skills into vocational courses.

A range of programmes that offer opportunities for all, and minimise dropout

Some types of practical and work-based vocational programmes are very effective at engaging young people who have previously become disenchanted by academic education.

Flexible modes of study suitable to adults with working and home commitments

Adults, often with home and work responsibilities, tend to prefer flexible and part-time study options and often wish to take advantage of distance learning. Programmes and policies should therefore adapt to their needs.

Higher-level vocational qualifications, and avenues of progression from initial vocational programmes to both higher-level vocational and academic programmes

Higher-level vocational qualifications for graduates of upper secondary vocational programmes, offering management and entrepreneurial skills, and skills in managing trainees, alongside a deepening of technical competences, play a key role in enhancing the attractiveness of the upper secondary vocational track. Pathways to more academic qualifications are also important.

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

Apprenticeship is an outstandingly successful model of work-based learning, and a way to develop skills and transition young people into work. It needs to be actively supported in partnership with industry, backed by quality assurance, and developed in novel territory such as in public administration.

Work-based learning systematically integrated into all vocational programmes

In apprenticeships, but also more generally, work-based learning has such profound benefits, both as a learning environment and as a means of fostering partnership with employers, that it should be integrated into all vocational programmes and form a condition of public funding. It should be systematic, quality-assured, assessed and credit-bearing.

A vocational teaching workforce that offers a balance of teaching skills and up-to-date industry knowledge and experience

This implies measures to encourage industry practitioners to teach part-time or to enter vocational teaching in mid-career.

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

Qualifications developed with labour market actors

This means that curricula, programmes and assessments are organised so as to meet the needs of industry, both in content and in modes of study.

Qualifications reflecting labour market needs that are nationally consistent but flexible enough to allow for locally negotiated element

Nationally consistent qualifications support labour market mobility, but a locally negotiated proportion of the curriculum allows provision to respond to local employer needs.

Qualifications systems and frameworks that keep qualification numbers manageable

The tendency of qualifications to proliferate, allowing confusion to dilute their signalling value, needs to be combatted by active management of the qualifications system, involving employers and trade unions.

High-quality assessments of vocational skills built into qualifications

Good assessment of complex occupational skillsets is hard, but it is an essential element of strong qualifications generally, and vital for qualifications that are competence-based.

Effective competence-based approaches, including both professional examinations and recognition of prior learning

Professional examinations are a little-recognised part of countries' skill systems and often play an important role outside the formal education system. Recognition of prior learning requires strong incentives for the different actors to make it work.

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

Typically, this will require a steering body involving the different stakeholders to co-ordinate provision, engage and involve all the stakeholders, including social partners, and address issues of coherence and co-ordination.

Effective, accessible, independent, proactive career guidance, backed by solid career information

Career guidance is still too often a weak by-product of school general counselling. The guidance profession needs to be upgraded and supported with good labour market information.

Strong data on vocational programmes, including information on vocational programmes in international categorisations and labour market outcomes

ISCED 2011 should improve the identification of vocational programmes, especially at the post-secondary level, but it needs to be well-implemented. Many countries need better information on labour market outcomes.

Consistent funding arrangements so that choices are not distorted by the availability of funds

While upper secondary vocational education and training rarely involves fees in OECD countries, post-secondary provision is subject to a range of fee regimes, not always consistent with those for other forms of tertiary education.

Australia

A Learning for Jobs Review

Hoeckel, K., et al. (2008)

STRENGTHS

Australia has a very well developed vocational education and training (VET) system, which enjoys a high degree of confidence. In particular:

- Engagement of employers is strong.
- The national qualification system is well established and understood.
- The VET system is flexible and allows for a fair amount of local autonomy and innovation to adapt learning to local circumstances.
- Data and research on most VET issues are good.

CHALLENGES

- The division of responsibilities between the Commonwealth and state and territory governments is unclear.
- Principles underpinning funding are not apparent and nor consistent with human capital policies and principles.
- The use of skills forecasting creates some difficulties.
- There are some weaknesses and gaps in the relevant data.
- Apprenticeships are rigid and seem to depend on duration rather than competence.
- Training package development and implementation processes are inefficient.
- The ageing of the teacher labour force is a serious problem.

RECOMMENDATIONS

1. Commonwealth, state and territory governments should seek to agree common principles for VET funding and provision and to achieve as much administrative consistency as possible, bearing in mind the appropriate interests of local democracy in a context of devolved government. Costs and benefits arising from local variations and from duplication of responsibilities should be quantified.
2. Students should be entitled to pursue VET qualifications without charge up to the level normally attained at the end of schooling, that is, up to Certificate II or III. Fees for higher-level VET qualifications should be levied on the same broad basis as for higher education and defrayed through HECS income-contingent loans.
3. Students entitled to funding should be able to choose VET providers. Open competition should be accompanied by support measures designed to ensure that a good range of provision is accessible to all, including disadvantaged groups, that better information is available to potential students on the quality of providers, and that different types of providers can compete on a fair basis.
4. Skills forecasts are often unreliable and should not be the foundation of central planning. In future, there should be more emphasis on a system driven by student demand balanced by employer willingness to offer workplace training.
5. A broader range of quality and outcome data at the provider level should be developed and made available. This will support student choice and provision driven by student demand. Data should become a systematic

element of programme and policy decision making. Efforts should be made to fill the data gaps, including an extension of the Student Outcome Survey.

6. The commendable reforms that base apprenticeships on competencies now need to be translated into action, allowing flexibility in the length of apprenticeships and supporting that through a common procedure for their assessment. Costs and benefits of apprenticeships should be analysed, reforms should be evaluated and the results used for policy planning. Ways of integrating apprentices into the production process earlier during their training should be explored.
7. Training packages should be replaced by simple and much briefer statements of skills standards. Consistency in standards throughout Australia should be achieved through a common assessment procedure to determine whether the necessary skills have been acquired.
8. Initiatives in which trainers work part-time in VET providers and part-time in industry should be encouraged. Innovative strategies are necessary to sustain the numbers and skills of the teacher and trainer labour force in providers. Better data on VET teachers and trainers should be systematically collected, published and used for planning and evaluation purposes.

Austria

A Learning for Jobs Review

Hoeckel, K. (2010)

STRENGTHS

The Austrian vocational education and training (VET) system has a number of strengths:

- The dual system has many commendable features, with well-structured apprenticeships that integrate learning in schools and workplace training.
- Youth unemployment rates are low and the transition from education to first employment is smooth by international standards.
- Social partner involvement at all levels, in VET policy design and delivery, is strong, with effective co-operation between different stakeholders.
- The VET system caters for a broad range of needs, providing safety nets for those with weak school results or from disadvantaged backgrounds, but also offering five year VET college programmes providing high level technical training.
- The VET system offers different progress routes at various levels, avoiding dead-ends and linking VET to general tertiary education through the Berufsreifeprüfung (professional baccalaureate).
- The current teacher workforce in VET schools seems to be well prepared and industry experience is mandatory; many schools have flexible arrangements, with teachers working part-time in industry. Recent reforms have changed the requirements on VET teachers but the effects are not yet apparent.
- Completion rates in upper secondary education are high by international standards.

CHALLENGES

- The VET system has a structural anomaly in the 9th grade, with a double transition for apprentices and some students spending a year in an inappropriate track.
- Some VET qualifications may be too narrow to provide an adequate foundation for a career as well as a first job.
- Quality assurance of apprenticeship training does not guarantee minimum standards.
- Workshop-based dual programmes (Überbetriebliche Ausbildung) are costly and risk reducing the incentives for employers to provide apprenticeships.
- Quality career guidance based on labour market information is not available to all VET students.
- Provision of basic literacy and numeracy skills to VET students is – particularly in the dual system - limited.

RECOMMENDATIONS

1. Reform the 9th grade, reducing double transitions and ensuring that all students are channelled into the right programme and receive appropriate preparation for their apprenticeship or full-time school-based VET course.
2. Use modules, training firm alliances and apprenticeship experiences as means to counter-balance the tendency of employers to create their own separately defined specific qualifications. Make the VET provision on the school side more flexible to allow for a more rational provision.

3. Enhance quality and ensure minimum standards in apprenticeship training in firms, through effective monitoring and support to training firms. Consider different self-assessment tools and the possibility to make some form of quality control (through the mid-term test or inspection) mandatory.
4. Keep the focus of *Überbetriebliche Ausbildung* courses on leading young people into regular apprenticeships. Redirect resources from such courses to preparing young people for regular apprenticeships.
5. Ensure that good quality career guidance is available to all. Focus the preparation of career guidance professionals stronger on labour market information and improve the availability and presentation of relevant evidence.
6. Introduce systematic assessment to identify basic skills gaps among VET students and target help at those who need it most. Strengthen the focus on literacy and numeracy in the VET system, and consider reforming the curriculum of vocational schools to this end using innovative teaching methods.

Austria

A Skills beyond School Review

Musset, P., et al. (2013)

STRENGTHS

- The system is highly diverse with different programmes and institutions offering access for a wide range of social groups and different modes of provision. A range of pathways have been developed to allow graduates of vocational programmes to access further and higher education. These are substantial achievements.
- In vocational education and training (VET) colleges, student numbers have continued to grow. Graduates of the VET colleges can expect relatively high earnings in the labour market, but can also continue studying through entry to bachelors programmes – and they are doing so in increasing numbers.
- Launched in the early 1990s, the *Fachhochschulen* have proved extremely popular, with student numbers tripling in less than ten years. Relatively quickly, the sector has built a high reputation amongst students, employers and the general public.
- Professional examinations present an effective system for upskilling graduate apprentices, offering a route to higher earnings and more senior positions in enterprises, and a way to independence, as owners of small business.
- The social partners have high levels of engagement in the postsecondary VET system, notably through the Economic Chamber and the Chamber of Labour – both bodies also running their own training arms. The social partners are also active members of many commissions and co-ordination councils and have substantial influence on the VET system.

CHALLENGES AND RECOMMENDATIONS

- In Austria, the postsecondary VET system is composed of many different institutions, subject to different and uncoordinated governance systems. This diversity has many strengths, allowing innovation and entrepreneurial approaches, as well as accommodating the needs of many different groups of students. The challenge is to ensure that this diversity is adequately managed and co-ordinated, recognising that it is, by and large, funded from the public purse.
 - *Building on recent initiatives by the government and the social partners, establish a national advisory body on VET, involving all the key stakeholders. Its objective would be to ensure more strategic coherence and co-ordination in the VET system without damaging its vibrant diversity.*
- Given the rising aspirations of young people and increased demand for higher level skills, the issue of access to further learning opportunities is critical. There are two key challenges. First, although many graduates of VET colleges go on to *Fachhochschulen*, they often fail to receive adequate recognition for their VET college qualifications in terms of exemptions from course requirements. Second, although pathways have been created for apprentices and others without the Matura qualification to enter tertiary education, they are little used.
 - *To improve access to Fachhochschulen and universities: establish a commission to develop an effective articulation arrangement between VET colleges and Fachhochschulen; take steps to improve the access of apprentice and vocational school graduates into tertiary education.*

- Workplace training is an exceptionally effective means of vocational training. While workplace training in different forms is very widespread in VET college programmes, it is not mandatory.
 - *Workplace training should be a substantial and mandatory part of VET college programmes; learning objectives for workplace training should be built into the curriculum and into the quality assurance arrangements.*

- The mix of training provision (as between different fields and contents) in postsecondary VET is mainly driven by student preferences, and may therefore not fully reflect the needs of the economy.
 - *Building on existing initiatives, institutional mechanisms should be developed to ensure that the mix of provision in Fachhochschulen and VET colleges takes account of employers' needs alongside student demand.*

Belgium (Flanders)

A Learning for Jobs Review

Kis, V. (2010a)

STRENGTHS

- There is a good range of vocational options at different levels. Initial secondary education offers full-time and part-time programmes, while continuing vocational education and training (VET) provides further learning and second chance opportunities in centres for adult education, and training centres of the Flemish Employment and Vocational Training Agency (VDAB) and the Flemish Agency for Entrepreneurial Training (*Syntra Vlaanderen*).
- The average performance of 15-year-olds in reading, mathematics and science is very strong by international standards, as indicated by PISA assessments, in which Flanders has been consistently among the best performing countries.
- A commitment to universal upper secondary education is embedded in compulsory education up to age 18, with the possibility of part-time education from age 16.
- Policy development is dynamic, as illustrated by the recent green paper entitled “Quality and opportunities for every pupil”, the “Competence Agenda” and the “Pact 2020” agreement concluded between the government and social partners. Evidence is used extensively in reforms.
- The Flemish VET system gives commendable attention to entrepreneurial training through *Syntra Vlaanderen*, which offers flexible routes to acquire entrepreneurial competences.

CHALLENGES

- A proportion of students have weak literacy and numeracy skills.
- Students are tracked at a young age (14, with institutional transition at age 12) and there are limited opportunities for upward progression between secondary tracks.
- The share of unqualified school leavers is high. In 2006, 12.4% of 18-24-year olds did not have a secondary qualification and did not follow secondary education.
- Some parts of the VET system make limited use of workplace training, and the effectiveness of quality assurance mechanisms for workplace training also varies.
- The mix of provision is dominated by student preferences in school-based VET, with limited mechanisms to take into account labour market needs.
- The quality of career guidance provided in compulsory education, including collaboration between schools and pupil guidance centres, is variable. Sources of career information are fragmented.

RECOMMENDATIONS

1. Strengthen the core general skills component in programmes that currently contain limited general education, in particular in BSO (vocational secondary education), DBSO (part-time vocational secondary education) and *Syntra* apprenticeships. For those who wish to obtain general education beyond the core general skills component, create options to do so.
2. Systematically identify those with literacy and numeracy problems at the beginning of VET programmes and provide targeted support to those in need. Enhance data and research on the achievement of the final

objectives and on ways to achieve these. We welcome the ongoing sample-based standardised assessment of the final objectives and recommend extending this approach.

3. Postpone tracking at least until the age of 14 and make education in the period preceding tracking fully comprehensive.
4. Sustain and further develop workplace training. Ensure the quality of workplace training, by controlling its content, strengthening the assessment of competences and providing an appropriate level of preparation to those who supervise students.
5. Ensure the mix of provision is more responsive to labour market needs by taking the availability of workplace training into account to balance the influence of student preference in upper secondary VET. This should be complemented with high quality career guidance. Reform the elements of funding that risk distorting the mix of VET provision.
6. Strengthen and develop career guidance by:
 - Ensuring that career guidance receives attention, separately from psychological counselling, and is not submerged by it. Consider the establishment of a separate career advisor profession.
 - Ensuring that individuals receive guidance that is objective and independent from the providers of education and training programmes.
 - Creating a comprehensive website with career information about all levels of education and training.

Belgium (Flanders)

A Skills beyond School Commentary

Musset, P. (2013)

STRENGTHS

- Decentralisation and local autonomy supports an innovative and entrepreneurial approach at institutional and local level.
- The adult education system is strong, with centres for adult education throughout the country playing a key role in second chance education as well as in higher level vocational skills development.
- Recent policy initiatives aim to improve strategic coherence in the system without damaging its diversity.
- The qualifications framework provides a systematic means of organising and relating different programmes of study.
- Recent legislation supports the development of recognition of prior learning in Flanders.
- Transitions from vocational programmes to both the labour market and higher education are relatively smooth.

CHALLENGES

- Some programmes are insufficiently informed by the needs of the labour market.
- The involvement of employers in the content and the organisation of programmes may remain a challenge.
- Workplace training is insufficiently integrated into some programmes.
- There are too few data, particularly on labour market outcomes.
- The qualification requirements for teachers and trainers may not give sufficient weight to industry knowledge and experience.

Chile

A Learning for Jobs Review

Kis, V. and S. Field (2009)

STRENGTHS

The Chilean vocational education and training (VET) system has a number of strengths:

- It has been underpinned by a dynamic economy, with GDP growth averaging 6% over the last two decades – but Chile has not escaped the global economic slowdown in 2009.
- Society places a high value on education and training, with strong social demand for education, and fast-increasing participation in post-compulsory education; upper secondary graduation rates are up from 46% in 1995 to 71% in 2007 (EAG, 2009).
- Efforts to improve schooling quality may be paying off: the reading performance of students in PISA improved between 2000 and 2006 (PISA, 2006).
- The government's commitment to develop and reform the VET system is illustrated by the recent work of the VET Commission and the creation of the National Council for VET.

CHALLENGES

Among the challenges faced by Chile:

- The various elements of the VET system are weakly connected to each other, both in institutional and curricular terms. The initiative to create a qualifications framework is a welcome attempt to address this challenge, but its implementation faces a number of obstacles.
- The literacy and numeracy skills of 15 year olds in Chile are not as strong as they should be, and this is likely to be a particular problem among those in vocational education and training programmes.
- Workplace training, as part of VET programmes, is weakly developed. Many upper secondary VET students do not participate in workplace training and the mechanisms to assure its quality of are weak.

AMONG THE REPORT'S POLICY OPTIONS

- Systematically engage with employers, trade unions and other key stakeholders to develop and implement the qualification framework. This may involve a gradualist approach to implementation, to ensure the full buy-in of all stakeholders.
- Strengthen quality assurance throughout the VET system to support the qualifications framework – within tertiary education ensuring that the existing quality assurance arrangements can address the specificity of VET.
- Ensure that VET programmes devote sufficient space in the curriculum, and sufficient good quality teaching, to the acquisition of hard and soft general skills.
- Identify particular numeracy and literacy weaknesses among students in VET programmes and target help to those who need it.
- Starting with the initiative to set up the National Council, establish systematic architecture for consultation between the VET system and industry, allowing for consultation at sectoral and regional levels.
- Make systematic efforts to encourage workplace training in all parts of the VET system, building partnerships between VET institutions and industry; establish effective quality standards for the workplace training.

China

A Learning for Jobs Review

Kuczera, M. and S. Field (2010)

STRENGTHS

Many strengths are apparent in the Chinese system for vocational education and training in upper secondary schools. The strengths include:

- The establishment of 9 year schooling with almost all children in China now completing lower secondary education.
- A rapidly increasing number of young people now stay on in upper secondary education – now around three quarters of the cohort, and fast increasing numbers of young people in tertiary education. At upper secondary level about half the cohort (as a matter of policy) enter upper secondary vocational schools – with more than 20 million students now in vocational schools.
- A strong and simple model for upper secondary vocational education – involving a range of specialisms, a good percentage of general academic skills underpinning all the programmes, and a commitment to workplace training and close relationships with employers.
- Upper secondary education typically requires fees, but the government has introduced a number of measures, both at national and provincial level to try to overcome financial barriers and ensure that as many students stay on in school – this includes a national scheme to offer a CNY 1500 (Yuan renminbi) per year subsidy to students in VET schools, largely covering their fees, and from 2009 an initiative to make tuition free for upper secondary vocational school students.
- China has strong arrangements to ensure that teachers in vocational schools remain abreast of the requirements of modern industry. Teachers in vocational schools are required to spend one month in industry each year, or two months every two years. In addition, many schools employ a significant number of part-time teachers who also work in industry.

CHALLENGES

Workplace training

- Workplace training is actively encouraged by government subsidies and current policy is that each student should spend one year on workplace training during their upper secondary programme. But co-operation with employers is variable. But there are few quality standards for workplace training and few regional, sectoral or national bodies to engage employers and link them to the VET system.

Resources and standards

- While there are some compensatory arrangements, to a great extent the resources of any school depend on the resources of the province and county/district of which they are part. Given China's rapid but uneven economic development, the effect is to leave schools in some rural areas and poorer provinces under-resourced. There are few clear minimum standards for vocational schools in terms of equipment, teachers and so on. While there are some national guidelines, they are only implemented where resources are available. One of the main standards is that of 'key national schools', but this appears, by design, to require resources not available to most schools.

Planning and co-ordination

- Planning to meet labour market needs is insufficient. Provinces manage some schools directly through the education commission, some through other government bodies such as the agriculture bureau, while many

schools are also managed at district and county level. This creates a formidable co-ordination problem. On the demand side, data on labour market demands are often lacking.

AMONG THE REPORT'S POLICY OPTIONS

Workplace training

- Create a standard expectation of a minimum period of workplace training as an element in upper secondary vocational education and training.
- Consider carefully the use of financial incentives taking into account the limited evidence of useful impact.
- Develop a standard agreement or contract for workplace training to confirm the rights and obligations of trainees and training firms.
- Establish standards for workplace training in consultation with employers.
- Encourage local associations of training firms to manage and support workplace training offers for vocational schools.
- Develop mechanisms to engage employers at regional and sectoral level to plan provision, agree curricula and support workplace training.

Resources and standards

- Overall expenditure on education, including VET, should be increased, as recommended in previous OECD reviews of China.
- Given big regional discrepancies in available funding on education, extra resources should be allocated to the poorest localities in order to remove financial barriers to participation in VET and to improve its quality. Mechanisms to this end might include:
 - Centrally allocated per capita funding support for upper secondary education, provided by the national government directly to the counties where upper secondary (including VET provision) is most limited, and where quality (measured in terms of teacher indicators such as pupil-staff ratio and teacher qualifications) is weakest.
 - More fundamentally, enhanced fiscal transfers to ensure a stronger funding base for education at provincial and county level.
- Establish minimum quality standards for schools that all regions of China and all schools can reasonably aim for, instead of, or in addition to, the standards of key national schools. Such quality standards might be linked to resource reallocation.

Planning and co-ordination

- Provide a mix of VET programmes that reflect both student preferences and employer needs.
- Develop planning arrangements to manage the mix of skills provision in consultation with employers while recognising the information challenges.
- Use workplace training and employer willingness to provide it as a guide to the appropriate mix of provision.
- Improve co-ordination in the provision of VET across different levels of government and VET providers.

Costa Rica

A Skills beyond School Review

Álvarez-Galván, J. (2015a)

STRENGTHS

Vocational education and training (VET) is prominent in the policy agenda

- In Costa Rica, technical education is recognised as a key contributor to both economic development and social cohesion. There is a consensus among stakeholders that more skilled technicians are required by industry while these jobs are attractive and may enhance social mobility and cohesion. Also, an adequately skilled labour force supports the attraction of foreign direct investment (FDI), while it improves the level of productivity and competitiveness of the country.

Some programmes have a work-based learning component

- In Costa Rica, students in technical and vocational schools can opt to spend 320 hours in the workplace at the end of their studies as a graduation requirement. A very large majority of students select this option while the remainder opt for a graduation project, mainly a desk research exercise. This is very positive given that work-based learning offers multiple benefits to students. In addition both MEP and INA offer internship programmes for their students.

Recognition of prior learning is present and reinforced by INA

- In Costa Rica, any person can apply for certification of their skills through INA and thousands are certified at INA centres or in the workplace. This represents an enormous benefit for people giving their skills visibility and improving recognition in the labour market.

Funding is currently adequate

- At the moment, funding is not the main challenge for the Costa Rican VET system as the levy scheme seems to provide secure funding every year. However the question remains whether this will be enough to face challenges related to the expansion and upgrading of the system.

Equity issues are addressed

- As in many public institutions in Costa Rica, equity is a key requirement for VET. For example, INA offers courses to the entire population aged 15 years and over; there are a number of programmes to tackle the specific needs of disadvantaged groups; and there is a strong commitment to promote gender equality within schools and at the workplace.

VET seems to have good status

- Upper-secondary VET seems to have a relatively good reputation among the population, especially as an option for students from vulnerable groups to find work in combination with pursuing higher education after completing their technical degrees. It is estimated that 20% of the cohort in upper-secondary education attend VET schools in Costa Rica and they tend to perform slightly better than students in the academic track.

Ensuring that the mix of provision reflects labour market needs

Both employers and government sources in Costa Rica argue that there are insufficient graduates in technical specialties of increasing labour market demand. Employers in Costa Rica say that medium level technicians are the most difficult jobs to fill. MEP and INA pursue consultation with stakeholders but these seem to be insufficient to make the mix of provision more responsive to labour market needs. Also, many MEP and INA programmes and courses are not sufficiently flexible for individual technical and vocational schools and training units to adapt them to the needs of particular regions and employers. Moreover, workplace learning is not mandatory for all MEP and INA technical students. Finally, there is no adequate guarantee that employers offering a placement for VET students are genuinely interested in using and developing students' skills.

Recommendation: Improve the labour market responsiveness of the system

- Make workplace learning mandatory and quality assured for both MEP and INA provision.
- Allow MEP technical and vocational schools and INA training units more flexibility to adapt programmes to local needs.
- Ensure a mix of provision that reflects the needs of the labour market and is also balanced with student preferences.

Developing an apprenticeship system

A proposal for the implementation of a dual system in VET is currently before the Costa Rican parliament but such an initiative is not clear about the exact proportion of workplace learning to be implemented in dual programmes and responsibilities assigned to employers remain insufficient. A "dual" education system typically combines apprenticeships in a company (where students should spend most of the programme time) with vocational education at a vocational school in one programme. The initiative is promising in terms of enhancing workplace learning in VET. However, it might also be used to develop an apprenticeship system.

Recommendation: Develop an apprenticeship system

- Costa Rica should use new legislation to pilot and develop an apprenticeship system, developing it carefully to take account of international experience and the need to fully involve and engage the social partners.

Strengthening the quality of vocational teaching

One of the main bottlenecks in the supply of skills is the size and qualifications of the teaching workforce. Not all MEP technical teaching staff have adequate pedagogical training and despite recruitment efforts and increasing demand the number of teaching positions at INA has experienced little growth. The preparation of teachers in Vocational Technical Schools of MEP is still too dominated by academic education. MEP and INA teaching qualification requirements are not equivalent making it difficult to share teaching resources to address supply constraints. Finally, teachers do not have enough access to workplace learning and it is not easy for industry practitioners to teach in VET.

Recommendation: Enhance the quality and effectiveness of VET teaching

- Improve the professional development of VET teachers, with attention to the updating of industry knowledge and experience as well as pedagogical training.
- Harmonise MEP and INA teacher qualification requirements to facilitate interchange and tackle supply constraints.
- Develop partnerships for teachers to spend time in industry and for industry practitioners to teach in VET.

Better co-ordination

The VET system in Costa Rica offers a number of student pathways and linked institutional options making co-ordination particularly important. While *ad-hoc* co-ordination between individual institutions (e.g. between MEP and INA) is common there are many areas where there is not enough co-ordination, resulting in the duplication of efforts and responsibility gaps. This lack of co-ordination creates substantial challenges, for example there is no harmonisation between MEP and INA technical degrees and there is weak articulation with higher education.

Recommendation: Improve co-ordination in the system

- Engage social partners more fully, and improve co-ordination through a national body with overall responsibility for the vocational system.
- Explore the creation of a National Qualifications Framework to clarify study paths and qualification levels.
- Through these two measures, and in other ways, substantially improve articulation between vocational programmes and tertiary education.

Czech Republic

A Learning for Jobs Review

Kuczera, M. (2010)

STRENGTHS

The Czech vocational education and training (VET) system has a number of strengths:

- The average academic level of 15 years-old measured by PISA is good.
- The majority of students complete their upper secondary studies; the dropout rate from this level of education is below the OECD average.
- The Czech Republic has a very impressive data base on education and labour market outcomes of education, one of the best the OECD team has seen.
- Many reforms have been launched recently, including: the setting up of a new qualification system; the introduction of a national standardised exam in apprenticeship programmes, the launch of a major new adult education initiative, and new tools to improve career guidance.
- The government is actively fostering stronger participation of social partners in VET. Sector Councils provide a good example of the co-operation between social partners and policy makers.

CHALLENGES

- The performance of students and the quality of teaching in apprenticeship programmes (střední odborné učiliště – SOU) is low in comparison to general and technical programmes (střední odborné školy - SOS) leading to the maturita exam.
- Governance of upper secondary VET at regional level lacks the transparency and accountability mechanisms that would ensure a match between labour market demand and student choice, and secure quality standards across the country.
- The provision of training is highly variable in terms of the number of students participating, length and quality; it depends on the sector and individual schools. Participation of companies in work place training provision is low.
- The institutional system for social partners' involvement in VET is fragmented. Not all VET related areas are subject to social partners' consultation.
- Initial and in-service education and training of upper secondary school counsellors focuses more on pedagogical and psychological counselling than on career guidance. School counsellors combine career guidance with teaching other school subjects, and providing guidance for personal problems and study difficulties.
- Career guidance is under the responsibility of two Ministries: the Ministry of Education, Youth and Sport and the Ministry of Labour and Social Affairs, which might contribute to the fragmentation of the system.

RECOMMENDATIONS

1. Improve teaching and systematically assess the quality of general education in VET programmes, particularly in the apprenticeship programmes. Targeted help should be directed at weak performers.
2. Improve the quantity and quality of career guidance in basic education by:
 - Splitting counselling from career guidance, which would become the responsibility of a ‘career advisor’.
 - Introducing a focus on career guidance and more flexibility in the initial training of career advisors alongside better access to good quality in-service training for existing staff.
 - Diversifying forms of career guidance provision.

In the longer run similar reforms should be introduced in career guidance offered in upper secondary VET.

3. Establish clearer procedures and more transparent criteria covering the development of regional education plans. These should strengthen the involvement of employers and give more weight to student preferences in planning the mix of upper secondary provision.
4. Systematically enhance the quantity and quality of workplace training in both apprenticeship and technical programmes through the establishment of a national framework for workplace training. This should involve well-targeted incentives for schools, employers and students and the establishment of national workplace training standards, backed by effective quality assurance.
5. Introduce a standardised assessment covering the practical elements in technical programmes.
6. Employers and unions should be more engaged in VET. To this end there should be some simplification and rationalisation in the arrangements for social partners’ involvement in VET with enhanced and clearly defined responsibilities for the bodies concerned.

Denmark

A Skills beyond School Review

Field, S., et al. (2012)

STRENGTHS

- Workplace training is mandatory, well-structured and has clear learning goals.
- Effective measures guide students to programmes, and support them in seeking to update their skills.
- A parallel adult education system provides access for adults to all main programmes.
- The social partners are fully engaged in the system, though robust institutional structures.
- The “taximeter” funding system provides effective incentives for institutions to minimise dropout and seek efficiencies in delivering outcomes.

CHALLENGES

- The planned reorganisation of the postsecondary sector, envisaged for 2015, has few immediate benefits and is opposed by the social partners.
- There is uncertainty over the role of research in postsecondary VET institutions in Denmark, with pressure from some quarters for a more active research role, particularly in university colleges.
- Despite the development of a framework for recognition of prior learning, it seems to be insufficiently used, particularly to realise course exemptions.
- There is a challenge in ensuring that postsecondary vocational teachers and trainers maintain and develop their experience and knowledge of modern industry, in the face of rapid technological change.

RECOMMENDATIONS

1. The transfer of responsibility for professional bachelor's degrees from academies to university colleges, planned for 1 January 2015, should not go ahead. Instead, in co-ordination with the social partners, alternative plans should be developed for consolidation in the sector designed to sustain its role in meeting labour market needs. The evaluation of academies, planned for 2013, should be extended to look also at the university colleges, and be designed so as to support the development of these alternative plans.
2. Danish government policy in the funding of Research and Development (R&D) should ensure: *i)* that the primary vocational training mission of university colleges and academies is sustained; *ii)* that the vocational training delivered is effectively informed by knowledge and research; and *iii)* that the benefits of R&D are maximised through the encouragement of collaboration among research bodies and with the private sector.
3. Following the development of an effective structure for recognising prior learning, further measures are necessary to realise its potential. There is a need to strengthen incentives for RPL through adjustment of the funding system, stronger quality control and better information. In addition, following the example of other OECD countries, Denmark should consider encouraging the development of an industry-led professional examination system.
4. Ensure that the vocational knowledge and skills of postsecondary VET teachers remains up-to-date by: *i)* providing incentives for teachers to regularly update their vocational skills; and *ii)* establishing a framework that allows teachers to regularly spend time in a company or institution within their professional field.

Egypt

A Skills beyond School Review

Álvarez-Galván, J. (2015b)

STRENGTHS

Diversity in provision

- Post-secondary vocational education and training (VET) in Egypt offers many programmes in different specialties and through different types of institutions. There are approximately 108 different technical programmes covering 22 disciplines. In total, Egyptian post-secondary VET and its 68 institutions had 127 440 enrolled students in 2009/2010. Although post-secondary VET could be encouraged to offer more services for some specific groups or purposes (up-skilling, adult education, second chance education, and career shifts) the current institutional and curricula mixture reflects the importance of Egyptian VET for both economic prosperity and social cohesion.

Aiming at a single body for co-ordination

- The revival of a Supreme Council on Human Resources would represent a major initiative in response to the fragmentation and lack of adequate co-ordination in VET. At the moment, there are multiple public entities involved in the delivery of VET which makes co-ordination difficult and costly. A new body could take overall responsibility for the entire VET system at upper secondary and post-secondary levels, including the relationship with social partners. The OECD team noted a widely shared commitment across different stakeholders to work together to improve co-ordination, address policy reform and to work with partners in industry; a newly established council must take advantage of this environment.

Interest in enhancing social partners engagement

- In Egypt, the importance of social partners in VET is well-recognised. For the technical clusters initiative, the involvement of social partners is essential to create those synergies aiming to provide vocational and technical education of high quality and to tackle local labour market needs more effectively. The key point of the cluster is to ensure that the resources are integrated to achieve the highest level of utilisation and set up a clear progression path to higher technical skills for students – that must be also transparent and understandable to employers. The first cluster is already operating in Cairo (Ameeria).

Assessment is inspired by policy development

- The OECD team identified in Egypt a good capacity for data and information collection as well as for diagnosis in relation to VET policy making. This allows Egypt to develop a good understanding of the issues which need to be addressed, and often how to do so. One example is the background report prepared by the local team for this review. The Ministry of Higher Education undertook a survey of employers, stakeholders, and VET graduates to provide data for the background report alongside several meetings and discussions with relevant stakeholders. The background report contains a self-assessment of the challenges faced by VET whose main points have been agreed. These data collection practices could usefully be reinforced and take place more systematically for the use and benefit of local institutions, students, and social partners.

A reasonable level of international co-operation

- The VET authorities in Egypt are already taking advantage of all kinds of international collaboration opportunities, working with a wide range of partners in other countries and with international organisations. Some relevant examples are: *i)* The Egyptian-German Initiative for Dual System; *ii)* The VET Reform Programme; and *iii)* European Training Foundation Projects in Egypt.

CHALLENGES AND RECOMMENDATIONS

The quality of the system

Today, VET in Egypt remains an option that is often perceived as low status, where institutional co-ordination is insufficient, and where quality assurance should improve. The challenge of quality impacts on the social perception and prestige of the education and training provided which, in turn, erodes VET visibility and utilisation.

Recommendation: Egyptian post-secondary VET should reinforce efforts to improve its quality in three essential areas: *i)* improve co-ordination in the system; *ii)* improve the assessment of learning outcomes; and *iii)* facilitate a clear and coherent governance structure for quality assurance.

Lack of adequate employer engagement

There are cases where programmes and curricula seem to be designed to match labour market needs with a substantial involvement of employers themselves, but this does not take place systematically.

Recommendation: Take action to enhance employers' engagement in Egyptian VET: *i)* to ensure the labour market relevance of VET programmes; and *ii)* to reinforce those structures and frameworks already in place.

Limited use of workplace learning

In the strongest VET systems, workplace learning plays a central role, while in Egypt, it seems to be relatively absent from many post-secondary VET programmes. Workplace learning is a powerful tool for developing both hard and soft skills, for transitioning students into employment, engaging employers and linking the mix of training provision to employers' needs.

Recommendation: Develop workplace learning as a systematic, credit-bearing, quality assured and mandatory element in vocational programmes and convince employers of the benefits that can be obtained.

Weak basic skills among those entering the system

Many students entering VET in Egypt have weak numeracy and literacy skills – and they need targeted help. This support should be seen as a priority in the educational system as a whole because, as jobs are becoming more technical, basic literacy and numeracy skills are becoming even more crucial.

Recommendation: Identify weaknesses and target support to improve numeracy and literacy and encourage course completion, strengthen workforce skills, and support transition from VET to academic education.

Lack of sufficient information to support career guidance

There are insufficient data to support the development of strong career guidance services for students across different institutions. Stronger data and information might help career guidance services to collaborate more effectively in matching VET graduates labour market demand and supply, support the vocational choices of students and avoid dropouts.

Recommendation: Improve data and information available to support policy and operational decisions and enhance guidance to support students' educational choices.

England

A Skills beyond School Review

Musset, P. and S. Field (2013)

STRENGTHS

- In England the needs of many different groups of learners are met through diverse offers in further education (FE) colleges, universities and other institutions including private providers. Part-time and distance learning options are available to meet the needs of working adults.
- The autonomy of FE colleges allows them to be entrepreneurial and flexible, providing a strong foundation for the development of new programmes.
- Quality assurance arrangements are demanding. They include a blend of institutional audits, direct inspections and student destination surveys, which allow graduates to report on the perceived quality of provision.
- Higher apprenticeships are growing fast and are highly valued by employers and students. They could play a very important role in raising the status of the whole apprenticeship sector.
- England enjoys a strong base of research expertise, and good data. The UK Commission for Employment and Skills (UKCES) plays an important role in providing strategic policy advice to government, based on the input of employers and unions.

CHALLENGES AND RECOMMENDATIONS

Strategic development of the postsecondary sector

Challenge: England has too little vocational provision at postsecondary level in comparison with many other countries, and relative to potential demand.

Recommendation: Take strategic measures to encourage the expansion of high quality postsecondary vocational programmes reflecting both labour market demand and student needs. Further recommendations in this review are designed to meet this objective. Review funding and progression arrangements to this end.

The rationalisation of vocational qualifications

Challenge: The current system of awarding organisations for qualifications inhibits employer engagement in the development of qualifications at either national or local level, and causes confusion because of the large number of overlapping qualifications.

Recommendation: Implement a franchise system for vocational qualifications, under which awarding organisations would bid for the right and the obligation to provide the qualifications within specific professional domains, during a franchise period. Qualifications should allow a proportion of the curriculum to be locally negotiated with employers by training providers.

Mandatory workplace training

Challenge: Postsecondary VET programmes make limited and variable use of workplace training, although it plays a central role in the strongest postsecondary VET programmes.

Recommendation: To make quality workplace training a substantial and mandatory part of postsecondary VET programmes. Build local partnerships between employers and FE colleges to this end.

Supporting the professional development of the further education college workforce

Challenge: Continuing reforms need to get the balance right between pedagogical preparation and up-to-date industry experience in the FE workforce.

Recommendation: Pursue reform of further education college teacher qualification requirements to ensure a good balance between pedagogical skills and up-to-date industry experience. Encourage people with valuable industry experience to enter teaching either full or part-time and promote skills updating. Support teachers new to the profession with effective mentoring and induction. Use local partnerships between FE colleges and employers to sustain and update knowledge of modern industry.

England and Wales

A Learning for Jobs Review

Hoeckel, K., et al. (2009)

STRENGTHS

- England and Wales are committed to a step improvement in the level of workplace skills.
- Substantial resources have been made available for this task.
- The conscious attempt to engage employers is commendable.
- VET policy making in England and Wales is self-evidently dynamic and innovative.
- The system is flexible and allows for tailor-made training solutions for employers.

CHALLENGES

- The meaning of employer engagement is very fluid.
- Few countries have achieved strong employer engagement without an equally strong apprenticeship system, which remains elusive in England and Wales.
- In spite of the government's declared intention to have much VET employer-led, the delivery of the Leitch targets will require a very strong lead from government.
- Policy structures are both more complex and more unstable than in most other OECD countries, and this inhibits employer engagement.
- A demand-driven system may imply more of a market in providers. But attempts to open up the market have been halting and the effects uncertain.
- While there is a substantial base of data and analysis, it remains fragmented, with inadequate attention to international experience.
- The current sharp economic downturn is imposing a number of pressures on the skills system.

RECOMMENDATIONS

1. Priorities for employer engagement should be clearly defined and the rationale for seeking that engagement should be set out by the governments of England and Wales. Evidence on employer engagement should be further developed. Fragmented surveys should so far as possible be consolidated and co-ordinated.
2. Given that complexity and volatility in the VET system hinder employer engagement, the institutions of the VET system should be simplified and stabilised. We welcome and support the proposals of the UK Commission for Employment and Skills (UKCES) in this respect. These proposals need to be sustained and further developed.
3. As a way to engage employers so as to reach the skills targets identified in the Leitch report, governments in England and Wales should explore measures including those designed to reduce the cost of training, the establishment of a stronger evidence base to encourage employer support for training, and, possibly, the use of compulsive measures including training levies.
4. Attempts to foster employer engagement in England and Wales should be closely linked to the development of the apprenticeship system.
5. Governments in England and Wales should take account of previous experience, including international experience, when extending the market in VET provision. In particular users need good information about the quality of different programmes and institutions.
6. England and Wales should take account of international evidence more routinely in its policy-making process. Consider the establishment of a national VET institution to oversee VET research and analysis.

Germany

A Learning for Jobs Review

Hoeckel, K., and R. Schwartz (2010)

STRENGTHS

- Vocational education and training is deeply embedded and widely respected in German society. The system offers qualifications in a broad spectrum of professions and flexibly adapts to the changing needs of the labour market.
- The dual system is especially well-developed in Germany, integrating work-based and school-based learning to prepare apprentices for a successful transition to full-time employment.
- A major strength of the dual system is the high degree of engagement and ownership on the part of employers and other social partners. But the system is also characterised by an intricate web of checks and balances at the national, state, municipal, and company levels that ensures that the short-term needs of employers do not distort broader educational and economic goals.
- The VET system as a whole is well-resourced, combining public and private funding. Germany has maintained strong financial support and maintained the apprenticeship offer for the VET system even during the crisis.
- Germany has a well-developed and institutionalised VET research capacity, including the Federal Institute for VET, (BIBB), and a national network of research centres that study different aspects of the system to support continuous innovation and improvement in the VET system.

CHALLENGES

- The transition system, now serving nearly as many young people as the dual system, suffers from undue fragmentation and an absence of transparency. Despite the very substantial resources devoted to the system, too few programme participants make a successful transition into the regular VET system.
- Career guidance seems highly variable across the Länder, with no single agency responsible for assuring delivery of quality information and guidance services to all students.
- Some students leave compulsory school with weak core academic skills. The VET system is not currently organised to ascertain whether this is in fact a problem or, if so, to address it.
- The evaluation of dual system students at the end of their apprenticeship is dominated by the Chamber exam. Because their school performance does not count in the Chamber exam, students may not take their schooling seriously, thereby limiting their ability to participate successfully in some form of tertiary education.
- Although Germany has recently opened more pathways from upper-secondary VET to tertiary education, to date very few VET graduates have made use of those pathways.
- Shrinking cohort numbers due to demographic decline is providing an important contextual challenge.

RECOMMENDATIONS

1. Create a coordinating committee for the transition system within each Land to improve co-operation between stakeholders and make transition offers more transparent. Evaluate the cost-effectiveness of individual transition measures and roll out the most promising initiatives to the whole country.
2. Reform the career guidance system to deliver well-informed guidance to all. Fix lead responsibility for career information and guidance in a single governmental agency. In the longer run, consider structural reform of the dual system to facilitate effective career choice.
3. Assess the literacy and numeracy skills of all students entering the transition system, and those entering apprenticeships without a school leaving certificate from a Realschule or Gymnasium. Provide explicit basic skills instruction for those in need of remediation. Place greater priority on general education and broad academic skill development in the part-time vocational schools.
4. Make inclusion of the school mark in the final certificate mandatory and include an explicit assessment of literacy and numeracy skills in the final school exam. In the longer run, merge the Chamber exam and the school exam into a single final assessment. Strengthen collaboration between schools and employers through an integrated assessment process.
5. Open access to tertiary education further and address transition barriers perceived by students. Design adequate guidance, induction and financial support measures for less academically trained people wanting to attend university. Promote dual universities and dual programmes at regular universities and encourage more flexible, part-time university offers and the recognition of prior learning and experience.

Germany

A Skills beyond School Review

Fazekas, M. and S. Field (2013a)

STRENGTHS

- The social partners are extensively engaged in the system.
- Policy leadership is strong with a clear division of responsibilities.
- Smooth school to work transition provides a strong basis for future upskilling.
- Labour market outcomes of advanced vocational examinations and Fachschule programmes are strong.
- The advanced vocational exams effectively link upskilling to recognition of prior learning.
- Fachschule programmes have a recognised place in the system, with a clear value both for students and employers.
- Postsecondary VET programmes are well-articulated with upper secondary vocational education and training (VET) providing avenues of progression attractive to students as well as meeting labour market demand.
- The government has been actively opening up avenues of progression from vocational to academic education.

CHALLENGES AND RECOMMENDATIONS

- Despite recent reforms, the route from postsecondary VET to academic higher education remains rarely travelled, and not all the obstacles on the route have yet been removed.
 - *Encourage credit transfer arrangements that facilitate the transition from postsecondary VET to academic higher education.*
- Weak information on the quality and price of preparatory courses for professional exams combined with very little external quality control means that student choice of preparatory courses is difficult, and incentives for providers to provide good courses at a modest cost are insufficient.
 - *Collect and disseminate better information from preparatory course providers on course quality and costs. Encourage industry self-regulation of preparatory courses to ensure high and consistent standards.*
- The regulation of exam quality varies greatly in Germany, and there is limited evidence of adherence to clear standards.
 - *Explore the option of a framework regulation and clear standards for all examinations, to support their quality.*
- Rapid changes in technology and labour market demand, and somewhat inflexible employment arrangements, make it challenging for *Fachschulen* to keep their workforce skills up-to-date.
 - *Länder should seek to allow Fachschulen the flexibility to employ more part-time teachers and trainers who also work in industry. Full-time teachers and trainers should be encouraged to spend some time in industry throughout their careers to sustain and update their knowledge and skills.*

- Workplace training is not extensively employed in *Fachschulen* despite its many potential advantages.
 - *Fachschulen should make some form of workplace training a mandatory part of their curriculum. This could be linked to students' project work. They should also develop a framework linking workplace experience to the school curriculum.*
- While *Fachschulen* provide qualifications of value, the evidence base on skills needs, and mechanisms to respond to that evidence, could be improved.
 - *Further strengthen the evidence on demand for Fachschule provision and encourage greater flexibility for Fachschulen to respond to that demand.*

Hungary

A Learning for Jobs Review

Kis, V., et al., (2008)

STRENGTHS

- Since 1989, Hungary has made significant efforts to restructure its vocational education and training (VET) system to face the challenges of the market economy. It has implemented major reforms to improve the ability of VET to meet labour market needs.
- The training levy provides a significant and reliable source of funds for VET and played a crucial role during the transition years.
- The Hungarian VET system can rely on a strong national qualifications framework.
- The number of 15-to-19- year-olds is set to decline sharply; this presents both an opportunity and a challenge for the Hungarian VET system.
- Policy makers' strong commitment to reform shows Hungary's will to address the challenges faced by VET.
- In the medium term, Hungary's GDP per capita is expected to converge to the EU average (ECB, 2008), and its economy is expected to grow by around 4% even though the current economic context is difficult.

CHALLENGES

- The current VET system is strongly school-based with relatively few links to the labour market.
- The Hungarian school system's early tracking and multiple selection mechanisms potentially raise problems of both efficiency and equity.
- Data available are insufficient in several important respects, such as the labour market outcomes of different VET programmes, the various funding sources of VET and the use of funds from the training levy.
- Many trainers are approaching retirement and there are few young trainers.
- VET has relatively low status and many students are oriented to VET because of poor academic performance.
- Hungary's employment rate is low by international standards. Compared to other European countries, the economic inactivity rate of young people is particularly high.

RECOMMENDATIONS

1. Standardise the transition to all types of secondary school after the 9th grade, rather than the 8th grade, a including in vocational training schools and start practical training in the 10th grade rather than in the 11th grade. These two elements should be implemented as a package.
2. Collect and publish Information on the labour market outcomes of VET on a school and programme basis, starting with a pilot survey of students leaving VET programmes.
3. Adequately prepared advisers should provide systematic career guidance in all elementary schools on the range of secondary level programmes available and their respective outcomes. Students in vocational training and vocational secondary schools should receive comprehensive, impartial and reliable information on all the occupations available to them.

4. All VET programmes should provide a substantial amount of practical training in the workplace or in an environment closely related to a workplace.
5. Regularly publish information about the rules of the levy in a form comprehensible to employers and collect and publish data about the revenues collected through the levy, how it is spent and the outcomes achieved. This would provide an essential basis for reviewing the operations of the levy.

Iceland

A Skills beyond School Commentary

Musset, P. and R. Castañeda Valle (2013)

STRENGTHS

- Building on current experience in the occupational councils, the Icelandic social partners are clearly willing to further engage with the VET system.
- The system is highly diverse, with many options, programmes and modes of study serving the needs of many different groups.
- There is a strong apprenticeship system associated with the regulated trades, with an effective balance of on and off the job training, and clear options for further upskilling as master craftsman or through other routes.
- Outside apprenticeships, most upper secondary vocational programmes make use of workplace training. Additional incentives have recently been created to provide such placements.
- In sites throughout Iceland, combined with distance learning, vocational programmes are made available to a widely dispersed population in rural areas.
- There are effective adult learning arrangements in place. Arrangements to offer second chances so that dropouts can return to education and training are strong.
- Good use is made of recognition of prior learning, helping adults to re-engage with education.

CHALLENGES

- Dropout is a major challenge, particularly affecting vocational programmes. Although many dropouts return to education and training later on, this still represents delay and inefficiency in initial education and training.
- Despite the creation of the occupational committee, it may not have the right composition to assist in the overall steering of the VET system.
- The strong apprenticeship system is not used outside the traditional trade professions. This may be a missed opportunity.
- The mix of provision in VET primarily reflects student preferences, and gives inadequate weight to labour market needs.
- Transitions between upper secondary vocational programmes and higher education are sometimes obstructed or difficult to navigate.
- Articulation between postsecondary VET and university education is often lacking, so that credit is not portable.
- Career guidance may retain an academic bias, and is sometimes lacking.

Ireland

A Learning for Jobs Review

Kis, V. (2010b)

STRENGTHS

The Irish vocational education and training (VET) system has a number of strengths:

- There is a good range of provision of different types of VET at post-secondary level, targeted at a wide range of different client groups, including those in and out of work and with second chance opportunities.
- The national qualifications framework is comprehensive, integrating both vocational and general qualifications and includes a strong commitment to the avoidance of dead-ends and pathways of progression.
- Collaboration with social partners is well-established and takes place at most relevant levels.
- The apprenticeship system is well-structured with a systematic blend of on and off-the-job elements.
- At high level there is good co-operation between the two lead departments, with little sense of rivalry. The National Skills Strategy (www.skillsstrategy.ie) provides for common objectives.
- There are some innovative ways of engaging employers in a bottom-up approach to provision, such as Skillnets – an initiative widely supported by employers.

CHALLENGES

- The current economic crisis is making intense demands on the system to provide education and training for a sharply increasing number of people and poses serious challenges in particular to the apprenticeship system.
- Apprenticeships are limited to a narrow set of occupations. Workplace training is insufficiently used in many VET programmes.
- Many of those looking after VET students, in particular those in companies, lack pedagogical training.
- Weak literacy and numeracy are serious problems among many learners but problems are often not identified in time or adequately addressed.
- FÁS (Foras Áiseanna Saothair), the Irish National Training and Employment Authority, is a large body with multiple missions. Evaluations and data to assess its efficiency and effectiveness are lacking.
- Data on labour market outcomes are fragmented and research on VET is scarce. The wide range of VET programmes has not been systematically evaluated.
- Career guidance services are fragmented and weakly underpinned by information on labour market opportunities.

RECOMMENDATIONS

1. Review the apprenticeship system to improve its efficiency and fairness in addressing the skills needs of the labour market. Make extensive use of workplace training in all VET programmes building on the existing types of provision and the experience with apprenticeship.
2. Respond to the crisis, both modifying and reinforcing existing measures.
 - Offer differentiated support to redundant apprentices, depending on their occupation and how far they have already progressed in their apprenticeship.
 - Review, immediately, the Employer Based Redundant Apprentice Rotation Scheme with a view to shifting the resources involved to more cost-effective across-the-board measures in support of redundant apprentices.
 - Consider measures to retain young people in education and training where the benefits outweigh costs.
 - Carefully target education and training programmes for adult learners at their particular skills needs as well as the needs of the labour market.
3. Conduct a review of FÁS training services to enhance mechanisms for accountability and quality improvement. This would involve an improvement in the quality of data and evaluation, and consultation with employers.
4. Systematically identify the literacy and numeracy problems of those who come into contact with training services and provide basic skills support to those in need.
5. As a means of enhancing the competences of the VET workforce ensure that all teachers, trainers and instructors have some pedagogical training, and as a longer term goal offer pedagogical training to supervisors of VET students (e.g. apprentices, trainees) in companies. Encourage convergence in the qualification requirements for teaching in different sectors of the VET system.
6. Create an instrument to track progression through the education and training system, undertake routine evaluation of programmes and pursue economic analysis such as cost-benefit studies of apprenticeships. Encourage more research on VET. Create a comprehensive website with career guidance information.

Israel

A Skills beyond School Review

Musset, P., M. Kuczera and S. Field (2014)

STRENGTHS

- The system is diverse, with relatively good labour market outcomes for graduates. Bearing in mind the range of different options, including not only practical engineering and technician training and vocational courses, but also professional certifications, diverse private courses, as well as a range of targeted programmes directed at disadvantaged groups, the system offers options for most of the relevant student groups.
- There is an active framework of government-led reform in the Ministry of Economy and other government ministries and agencies, with plans to put vocational education and training on a statutory basis through legislation. The social partners – both employers and unions – are well organised and are keen to engage more fully in the vocational education and training system. There have been praiseworthy efforts to promote innovation in delivery.
- The certification system provides an effective means of upskilling. Occupational certifications are administered by the Ministry of Economy in more than 100 different professions. Some 70 000 people each year take these examinations, sometimes at the end of an educational programme and sometimes as a stand-alone examination.
- Although data remain a challenge, research and analysis are well-developed by international standards, with a strong capacity for research in universities and research institutes, often with international reputations.

CHALLENGES AND RECOMMENDATIONS

Tackling the skills challenge

Challenge: A number of serious and growing skills challenges threaten the Israeli economy: employers are voicing concern about the inadequacy of vocational skills; a wave of retirements affecting highly-skilled migrants from the former Soviet Union will substantially exacerbate skills shortages; and enhanced vocational provision is necessary to tackle low economic activity rates in the growing Arab, Israeli and Haredi populations. But despite these growing pressures, there is less vocational provision than in many other OECD countries, and funding in the sector is inadequate and sometimes declining.

Recommendation: In the face of serious and growing skills shortages, exacerbated by demographic change, take decisive action, supported by adequate funding, to launch a strategic expansion of high-quality vocational education and training programmes, guided by partnership with industry, and underpinned by legislation. Make the vocational skills learnt during the military service more transparent and transferable.

Strengthening co-ordination and social partner engagement

Challenge: In Israel the different parts of the vocational education and training (VET) system are subject to uncoordinated governance systems. This makes the system difficult to navigate for students, and inhibits social partner engagement.

Recommendation: Establish a national body involving all the key stakeholders, including the ministries, employers and unions to provide strategic guidance on the development of the VET system.

Building an effective framework of work-based learning

Challenge: Despite all the benefits of work-based learning, both as a powerful learning tool and as a means of encouraging partnership with employers, work-based learning is little used in the vocational system.

Recommendation: Integrate work-based learning systematically into postsecondary vocational programmes, as a mandatory, quality-assured and credit-bearing element. Establish a regulatory framework in support of this end.

Building pathways of access and opportunity for vocational students

Challenge: Graduates of vocational tracks at the upper secondary level often face obstacles in entering postsecondary programmes, which damages the status of these vocational tracks. Although many graduates of practical engineering programmes enter university programmes, when they do so they often fail to receive adequate recognition for their practical qualifications.

Recommendation: Take steps: *i)* to improve the access of upper secondary VET graduates to further learning opportunities, including postsecondary VET; and *ii)* to enhance access to universities and credit recognition for graduates of practical engineering programmes.

Developing a dual-skilled teaching workforce

Challenge: Effective vocational teachers need to meet the demanding “dual requirement” of both pedagogical skills, and practical professional expertise. But rigid and sometimes inconsistent requirements to enter the profession and a capacity to make use of part-time teachers create obstacles to the recruitment of those with significant industry experience. In-service professional development opportunities can be limited, and teacher shortages are likely in the future.

Recommendation: Pursue reforms in vocational teacher policy in the practical engineering and technician programmes to meet the “dual requirement” of industry knowledge and experience alongside teaching skills by:

- Encouraging part-time working arrangements, allowing people with valuable work experience to enter teaching.
- Designing initial teacher education programmes so as to ensure a good mix of pedagogical skills, vocational competence and industry knowledge.
- Converging the entry requirements and training programmes for all teachers of practical engineering programmes to a common standard, under the Ministry of Education and the Ministry of Economy.

Kazakhstan

A Skills beyond School Review

Álvarez-Galván, J. (2014a)

STRENGTHS

- Good quality can be seen already in some vocational education and training (VET) colleges. The colleges visited by the OECD team in Astana, Almaty and Pavlodar offer high quality education and training: they count with updated equipment; the levels of motivation of both teachers and school leaders are high; workplace learning is highly appreciated; and they seem to have well-established communication with employers. Although these colleges might not be necessarily representative of the whole system they are strong evidence that Kazakhstan is able to provide, and it is doing so already in some colleges, VET of good quality.
- Workplace learning is perceived as central to develop VET. By law, all programmes must have a significant amount of workplace learning in Kazakhstan. In principle, this proportion should be at least 40%. This initiative is a positive development as workplace learning offers multiple advantages for all VET stakeholders. Also, enhance workplace learning is one of the central aims of the Kasipkor holding, one of the major governmental initiatives to improve VET in the country.
- Aspiring to an independent certification system. The implementation of an independent certification system, meant to be led by employers in the future (it is led by the Ministry of Education and Science of the Republic of Kazakhstan at the moment), is an important goal for the authorities. Such a development can be helpful in making the system more coherent and transparent, for both students and employers. Crucially, giving central responsibility to employers in VET certification should be a strong incentive for the system to be used and regularly updated by stakeholders.
- The development of advisory councils. The private sector requires the right context to participate more actively in the development and establishment of good practices in VET. Efforts linked to the creation on advisory councils at different levels (national, regional and sectorial) in Kazakhstan, where employers are meant to play a central role is a very promising development. It is desirable that the National Council involves more school leaders, SMEs and middle-managers from the public sector rather than confining its membership to heads of ministries and representatives of large companies.
- Efforts to improve teachers training. Adequate support and development opportunities for teachers are crucial for the success of VET. There are several efforts to improve teacher training in Kazakhstan. The establishment of the National Centre of Excellence “Orleu” might be seen as one of the most promising of such initiatives as this centre co-ordinates national efforts previously fragmented across different bodies. This centre monitors the performance of teachers after receiving training support. It would be highly desirable that individual colleges harmonise their programmes and the content of qualification courses with this centre with the aim of measuring the impact of training and detect those teachers in need of support. Also, it should be highlighted that the Kasipkor holding is meant to develop new approaches to upgrade the training and qualifications of VET teachers in general and special disciplines. To do so, modular-based programmes informed by labour market requirements will be prepared by Kasipkor to support VET teachers.

CHALLENGES AND RECOMMENDATIONS

- Improve quality. The quality of VET in Kazakhstan, as in many countries, is not sufficiently adequate in some specific aspects: *i)* employers argue that VET graduates do not necessarily gain the skills that firms require; *ii)* teachers do not seem to have enough access to industry to update their skills regularly; and *iii)* authorities are conscious that more and detailed information is required for students to inform their education and training choices.
 - Strengthen work to update the VET programmes offered in accordance with labour market requirements; ensure that VET teachers' skills are regularly updated with the active participation of employers and through workplace learning; and undertake measures to make it sure that students choices are adequately supported – and their personal preferences balanced – with labour market outcomes information of the VET programmes offered.
- Improve co-ordination in the system while strengthen capacities for the interaction between VET schools and employers. Effective VET systems require adequate co-ordination to ensure the participation of multiple stakeholders of varied profiles. A clear allocation of responsibilities would make co-ordination easier and strengthen employers' participation through national, regional and sectorial councils in Kazakhstan. At the same time, VET colleges should be encouraged and supported to take advantage of their autonomy to offer flexibility in more meaningful ways to facilitate co-operation with employers and other relevant stakeholders.
 - Strengthen the role of the National Council for training of technical and vocational education personnel in order to simplify and consolidate the governance of the system. At the same time, take measures to encourage colleges to make full use of their autonomy and undertake more meaningful interactions with employers and other stakeholders.
- Strengthen the identity and recognition of post-secondary VET. Despite its size, post-secondary VET in Kazakhstan does not seem to have a clear and strong institutional identity which, in turn, makes it difficult for stakeholders to recognise its distinctive contribution. Stronger post-secondary VET should help industries to tackle a shortage of more advanced technical skills, especially when ambitious upgrading and competitiveness programmes are set out as pillars for economic development and social cohesion. Also, vocational education should be attractive for students that look for opportunities for up-skilling and further education.
 - Strengthen the identity and recognition of post-secondary VET through: *i)* meeting labour market needs beyond upper secondary level and clarifying its contribution to economic development and social cohesion; *ii)* giving a clearer nomenclature to the sector; and *iii)* considering locate post-secondary VET in institutions with a clear mission to deliver such programmes.
- Improve assessment and certification processes in VET. Impressive efforts are being made in Kazakhstan to build up a certification system that is independent from colleges. But Kazakhstan should be encouraged to go one step further and give employers a more prominent role in certification. At the same time, professional examinations might be considered as a helpful means to strengthen the validity of this process and facilitating the recognition of prior learning as an additional route for certification.
 - Strengthen the certification process giving employers more responsibilities as well as improving the examinations associated with certification in order to enhance their validity and facilitate the recognition of prior learning.
- Support and enhance workplace learning. Although workplace learning is required in VET programmes by law and much effort has been made to secure job internships for students in the country, the VET system in Kazakhstan should be encouraged to continue enhancing the quality of workplace learning as well as improving the framework to facilitate its implementation. At the moment, it remains unclear to what extent workplace learning is truly a standard practice across all colleges in Kazakhstan and how quality is assured.
 - Strengthen and support the practice of workplace learning in Kazakhstan by enhancing its quality and links with employers through a framework that should aim to include also SMEs.

Korea

A Learning for Jobs Review

Kuczera, M., V. Kis and G. Wurzburg (2009)

STRENGTHS

- The level of educational attainment among young people is very high: 97% of 25-to-34-year-olds have completed upper secondary education and 53% have tertiary education.
- Education is highly valued by all parts of Korean society.
- 15-year-olds perform very well in numeracy, literacy and science, as illustrated by PISA results.
- The government is committed to increasing employer involvement in vocational education and Training (VET) policy development and implementation, as illustrated by the recent creation of sector councils and Meister schools.
- The tertiary VET sector is well developed; around 32% of tertiary students are enrolled in junior colleges and polytechnic colleges.

CHALLENGES

- VET institutions often see themselves as having a largely academic orientation but they are expected to provide job-ready recruits for industry. This is a dilemma.
- School-industry partnerships are typically established to satisfy the needs of local firms rather than to provide broader occupation-specific and transferable skills. Beyond such local initiatives, there is little employer engagement in the initial VET system.
- Notwithstanding the broad guidelines provided by the Ministry of Education, Science and Technology (MEST), individual VET institutions typically develop their curricula and provide the qualifications for meeting labour market needs. This leads to a duplication of effort.
- Workplace training is not systematically provided in VET programmes and quality standards for workplace training are weak.
- VET teachers have strong academic and pedagogical preparation, but often lack practical work experience in their field.
- Co-ordination among ministries responsible for VET policy is weak.
- VET degrees obtained in high schools and junior colleges are not systematically aligned with the national technical qualifications (and underlying standards).

RECOMMENDATIONS

1. Provide an institutional framework for enhancing industry participation in VET. Under the framework, permanent bodies should engage industry stakeholders at all levels in the development and implementation of VET policy. All relevant ministries should be represented in these bodies.
2. Improve the provision, quality and relevance of initial workplace training by strengthening incentives for partnerships between VET institutions and firms and by developing and implementing quality standards.

3. Encourage newly-recruited VET teachers to have relevant prior work experience particularly for high school VET. Require all VET institutions to ensure that VET teachers regularly update their skills in the vocational area, including their knowledge of technologies and working practices.
4. Derive the vocational part of the curriculum used by VET institutions from, or at least adapt it to, national technical standards of high quality which are relevant to industry needs. Students should be able to obtain two certificates: a graduation degree from a VET institution; and a technical qualification based on a national technical qualification (NTQ) examination. Given mixed evidence on the effectiveness of current NTQs, NTQs should be evaluated by the Ministry of Labour (and reformed if necessary).

Korea

A Skills beyond School Review

Kis, V. and E. Park (2012)

STRENGTHS

- Education is highly valued in Korean society. While this has some drawbacks, it has also contributed to the rise in upper secondary enrolment rates. Korean students have high educational aspirations and a high share of young people progress into tertiary education (OECD, 2011).¹
- Entrants to postsecondary programmes have strong literacy and numeracy skills, as indicated by PISA results. Korea also performs very well in terms of educational equity (OECD, 2010).²
- There is a good research base on postsecondary vocational education and training (VET). The Korean Research Institute for Vocational Education and Training (KRIVET) conducts research that supports the development and implementation of VET policies.
- There are various surveys that provide useful information on transition from school to work, the outcomes of education and training programmes and the labour market. These surveys include the Graduates Occupational Mobility Survey, the Youth Panel Survey, the High School Graduates Occupational Mobility Survey and the Occupational Employment Statistics.
- Policy making is dynamic and aims to address many key challenges, as illustrated by the recent introduction of formula funding in junior colleges, measures concerning poor performing postsecondary institutions and the ongoing development of the national competency standards.
- The postsecondary education system is in principle well-articulated, allowing students to continue from a postsecondary VET programme to a university degree with recognition of the credits obtained – although some challenges remain, such as the co-ordination of curricula.

CHALLENGES

- Various indicators suggest that there is a mismatch in terms of skills and education between postsecondary VET provision and labour market needs. While some of the origins of mismatch are rooted in culture and tradition, some features of the Korean education and training system also contribute to the challenge.
- Links between the VET system and industry and business are generally weak, including at national policy making level. This makes it harder to develop policies that help the VET system to meet rapidly changing labour market needs.
- Junior colleges offer programmes of variable and sometimes low quality. While the government has introduced various policy measures to tackle this, some challenges remain such as weaknesses in quality assurance mechanisms.
- Junior college degrees do not seem to adequately signal skills to employers, partly due to the lack of rigorous assessments of students before graduation. National (technical) qualifications also face a problem of

1 . OECD (2011), *Education at a Glance 2011: OECD Indicators*, OECD Publishing, Paris.

DOI: <http://dx.doi.org/10.1787/eag-2011-en>

2 . OECD (2010), *PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes (Volume II)*, PISA, OECD Publishing, Paris. DOI: <http://dx.doi.org/10.1787/9789264091504-en>

recognition in the labour market. In addition, degree programmes are currently not linked to national qualifications – a challenge that has been recognised by the Korean government.

- Provision in junior colleges is driven by student preferences and not systematically balanced by signals of labour market needs. In addition, student choices may not be sufficiently well-informed, as high-quality information on the labour market prospects offered by different options is lacking.
- Participation in workplace training is optional in junior college programmes. Participation rates in workplace training vary and are often low. When workplace training does take place, arrangements to assure its quality are weak and students do not always obtain credits for the time spent in companies.

RECOMMENDATIONS

1. Take action to address systemic weaknesses in the way skills needs are signalled and how the VET system responds to those needs. Provide a package of mutually reinforcing measures to improve the capacity of the postsecondary VET system to meet the skills needs of the economy.
2. Promote industry involvement in VET through a high profile national body, which includes all industry, government and other stakeholders and has either a very influential advisory role or decision-making power in relation to VET policy.
3. Improve quality assurance in junior colleges by:
 - revising quality indicators used in funding allocation and accreditation to better reflect aspects of quality relevant to vocational programmes;
 - revising mandatory requirements for junior college programmes;
 - improving steering instruments that encourage continuous quality improvement.
4. Make degrees more transparent to potential employers and improve efficiency in the VET system by:
 - ensuring that curricula in junior college follow common (national) standards;
 - conducting systematic and rigorous assessments of learning outcomes in junior college programmes;
 - linking junior college programmes and degrees to national competency standards and national (technical) qualifications whenever relevant.
5. Improve the responsiveness of VET provision to labour market needs by:
 - further enhancing career information available to prospective students;
 - balancing student choice with signals of employer needs in junior colleges.
6. Make workplace training mandatory in junior college programmes. Ensure that workplace training is supported by quality standards and a clear legal framework.

Mexico

A Learning for Jobs Review

Kis, V., K. Hoeckel and P. Santiago (2009)

STRENGTHS

- Mexico's will to address the challenges faced by VET is illustrated by numerous recent initiatives, such as reform of the technological baccalaureate (bachillerato tecnológico) and creation of trainee grants (becas de pasantía).
- VET in Mexico plays an important social role by providing learning opportunities to students at risk of dropping out. Various initiatives, such as "mobile training units" (unidades móviles) reach out to students in remote regions with limited opportunities for learning.
- In some fields and subsystems of upper secondary VET, Mexico has excellent data on the labour market outcomes of VET graduates through the Labour Market Observatory (Observatorio Laboral).
- Encouraging measures have been taken to integrate VET into a broad framework of lifelong learning, including the elimination of dead-ends (e.g. introduction of the baccalaureate in CONALEP) and recent reforms aiming to facilitate mobility within the educational system.
- There are some excellent examples of collaboration between VET schools and employers, such as the Playa del Carmen project.
- Many VET teachers and trainers have work experience in their field and often continue to work in industry part-time, which should help to keep their vocational skills up-to-date.

CHALLENGES

- Effective coordination and coherence within upper secondary VET remains a challenge. The subsystems of upper secondary VET sometimes have divergent interests, hindering effective policy development.
- Linkages between the VET system and employers are relatively weak, illustrated by the low level of involvement of employers in VET policy development.
- VET qualifications are not regularly updated and have limited recognition in the labour market.
- The pedagogical preparation of some VET teachers and trainers is insufficient.
- There is wide variation both in the quantity and quality of workplace training for VET students.
- There are weaknesses in the availability and use of data for policy making purposes and to inform stakeholders.

RECOMMENDATIONS

1. Integrate consultation between employers and upper secondary VET within a single coherent set of consultative arrangements. Include all subsystems in this framework to facilitate a collaborative approach to policy development.
2. As a long-term strategic goal, create quality standards for workplace training and a traineeship contract to expand workplace training and improve its quality.
3. Ensure that VET teachers and trainers receive pedagogical training before or shortly after entering the profession and provide some training to workplace supervisors. To improve the vocational skills of the VET workforce, make relevant work experience a prerequisite for trainers and require schools to develop strategies to update the vocational skills of VET teachers and trainers.
4. Explore options to develop a national vocational qualifications framework.
5. Improve data on labour market needs and labour market outcomes of VET. Develop capacity to use data for policy making and to inform stakeholders. Improve career guidance for prospective and current VET students.

Netherlands

A Skills beyond School Review

Fazekas, M. and I. Litjens (2014)

STRENGTHS

- The Netherlands has a strong and well-funded vocational and education training (VET) system with a large proportion of each student cohort following vocational studies and substantial public and private resources dedicated to VET.
- Work-based learning forms a large part of Dutch VET both in school-based tracks and apprenticeship programmes. VET in the Netherlands has good labour market outcomes with relatively low youth unemployment rates.
- There is a well-developed system to engage social partners both in policy formulation and implementation, and in the delivery of vocational programmes.
- The Netherlands has a vibrant private sector engaged in delivery of postsecondary VET providing flexible format short courses as well as full professional bachelor and master degrees.
- The newly established associate degree is a positive development in the Dutch postsecondary VET system, filling a gap in the range of qualifications available.

CHALLENGES AND RECOMMENDATIONS

- The Dutch economy has greatly benefited from a strong work-based learning system, given its effective integration into apprenticeships and school-based upper secondary VET. Challenges remain in sustaining work-based learning and reaping its full benefits, as demographic change and the popularity of academic education put pressure on the VET system. Economic pressures may weaken employers' willingness to offer work placements, in a context of changing regulation.
 - Actively champion and promote apprenticeship and work-based learning throughout the Dutch VET system, including at the postsecondary level. Negotiate reform with the social partners to sustain tripartite support for the system.
- Teaching staff are the most valuable resource in any learning institution and their skills have to be updated regularly. As entry from industry into teaching in VET schools is not common, mainly because of regulatory restrictions, the supply of teachers may not be able to respond adequately given a wave of expected retirements, and the need to keep up with changing industry practice.
 - Facilitate the entry of industry practitioners into the teaching workforce and promote skills updating among existing teaching staff through regular industry placements.
- In spite of the relatively small number of students participating in the lowest level of upper secondary VET (MBO 1), it faces considerable challenges. Though, according to the law, this level is not intended to lead to a labour market qualification, inevitably many of those pursuing this programme try to enter the labour market directly or drop out. MBO 1 concentrates young people with disadvantaged backgrounds and yields comparatively poor labour market outcomes. Such a concentration of educational challenges may make it harder to tackle those challenges. At the same time, the diversity of the student body implies a diversity of learning needs.
 - Merge pre-vocational education levels 1 and 2 at lower secondary level and refocus upper secondary VET level 1 programmes as a more effective entry route into upper secondary VET level 2.

- Current postsecondary funding arrangements do not set adequate incentives for providers, in particular to meet the needs of adults seeking part-time provision.
 - Reform regulation and finance so as to support part-time public provision of postsecondary vocational programmes more adequately, and to explore a financing framework that would allow public support for private provision when it is in the national interest.
- The range of qualifications available in the Dutch postsecondary VET system may not fully meet labour market demand in the face of an increasing need for higher vocational skills. There are relatively few options for the graduates of upper secondary VET to upskill other than the academic route or a full bachelor programme. While many short private courses aim at addressing this gap in provision, they lack visibility. In addition, in the absence of an adequate regulatory framework, short courses provided by private institutions may lead to the acquisition of too narrow skills.
 - Increase the number of students pursuing associate degree programmes and consider the development of other short cycle postsecondary vocational options. Encourage programmes to meet the needs of upper secondary VET graduates seeking higher professional qualifications.

Northern Ireland

A Skills beyond School Commentary

Álvarez-Galván, J. (2014b)

In summary, the OECD assessment of the strengths and challenges of the vocational education and training (VET) system in Northern Ireland is as follows:

STRENGTHS

- Substantial efforts have been made to sustain and develop employers' engagement with postsecondary VET. In particular, the six further education colleges aim to maintain a strong collaboration with regional employers.
- Successful mergers have led to an efficient regional structure of six further education colleges. This consolidation opens the possibility for stronger synergies and to take advantage of economies of scale.
- Foundation degrees are developed locally in partnership with employers. Proposals for new foundation degrees are expected to strengthen further the involvement of employers in the design of the programme.
- A rigorous quality assurance scheme is in operation. A specialised quality and performance body undertakes monitoring visits to suppliers and participating employers.
- There is considerable attention to the development of the teaching workforce. There are specific efforts to both evaluate and respond to teachers' training needs in the sector.
- Policy on VET is nested within a broader skills and economic development strategy. The local skills strategy establishes specific up-skilling goals for the workforce.
- Career and pastoral services are strong and allow students to have access to independent professional career advice.

CHALLENGES

- Reflecting both international experience and local demand, the VET system needs to develop a substantial postsecondary segment above upper secondary level and below the level of a bachelor's degree.
- Reform of the apprenticeship system is necessary to enhance its level and broaden its range. The main challenge is to upgrade apprenticeships, while ensuring that structures remain in place to integrate young people at risk into the labour market. A review of apprenticeships and of youth training are already advancing. Outside apprenticeships, work-based learning is a limited element in programmes. Work-based learning, systematically integrated into vocational programmes as a mandatory, credit-bearing and quality assured component, is a key element in effective postsecondary provision.
- Routes for further up-skilling vocational graduates, including avenues for apprentice graduates to progress to higher level technical and professional qualifications, need to be developed.
- The qualification system requires reform, in the face of proliferating qualifications and potential divergences between the approach of England and that of Northern Ireland.
- Foundation degrees face a number of challenges if they are to become the predominant qualification in the mix of provision.
- More robust data on labour market outcomes are needed, building on already planned measures designed to collect better data on vocational graduates, and encouraging institutions to make use of data for policy evaluation and development.

Norway

A Learning for Jobs Review

Kuczera, M., et al. (2008a)

STRENGTHS

Norway has a well-developed upper secondary vocational education and training (VET) system linked to apprenticeship, which enjoys a high degree of confidence among stakeholders. In particular:

- There is strong tripartite co-operation at national, county and sectoral levels.
- The VET system is supported by a high level of trust among stakeholders.
- By international standards, the system is relatively inclusive and little stigma is attached to VET tracks in upper secondary education.
- In the current exceptionally tight labour market employers are keen to attract apprentices.
- The literacy level of the adult population is high by international standards (IALS, ALLS).

CHALLENGES

- Student choice may limit the responsiveness of VET to the labour market.
- Dropout is a problem.
- The ageing of school-based trainers makes it difficult to recruit new trainers fast enough to match the retirement rate.
- Quality assurance mechanisms for VET are inadequate.
- There are no qualification requirements for enterprise-based trainers and career counsellors.
- The available data are insufficiently exploited and gaps in the data need to be filled.
- PISA results indicate that the basic skills of those entering the VET system are relatively weak.

RECOMMENDATIONS

1. To improve the match between VET provision and labour market needs, student choice should be better guided and channelled. Planning of VET provision should take account of the availability of apprenticeship places; counties should reduce programmes that attract few apprenticeships. Students should receive good quality career guidance from well-qualified staff in lower and upper secondary school.
2. To tackle dropout, strengthen interventions in the early childhood and school systems to assist those at risk of dropping out. Use the system's flexibility to keep VET students in school while avoiding initiatives that might increase inequity. Collect better data on the flow of students through education and on the labour market performance of dropouts.
3. Norway's employers receive relatively substantial subsidies for apprenticeship training. Steps should be taken to ensure that the quality of the training provided is commensurate. Undertake a systematic study of the costs, benefits and quality of apprenticeships .
4. The introduction of the Knowledge Promotion Reform provides a useful opportunity to reinforce assessment procedures. Introduce a standardised national assessment of apprentices' practical skills.
5. Workplace supervisors and trainers of apprentices should receive some obligatory training.
6. Enhance data and analysis relating to VET and employ them more routinely in developing policy and career guidance. Consider the establishment of a dedicated centre for VET data and analysis.

Romania

A Skills beyond School Commentary

Musset, P. (2014)

In summary, the OECD assessment of the strengths and challenges of the Romanian vocational education and training (VET) system is as follows:

STRENGTHS

- The inclusiveness of the system: a serious effort is being made to create avenues between different levels of learning, and between vocational and more academic tracks, to raise the status of VET.
- The foreman schools offer attractive upskilling opportunities for people in employment. Their programmes provide team management and pedagogical skills and higher technical skills to technicians.
- All postsecondary programmes are required to include valuable work placements, which provide a strong learning environment, a powerful means of transitioning young people into the labour market, and guide the mix of provision.
- The mix of provision is adjusted to labour market needs both through mandatory work placements and through a systematic sequence of national, regional and local discussions involving institutions, employers and unions.
- Employers are very involved in the design of qualifications through 25 sectoral committees and through frequent reviews of the content of qualifications.
- The qualifications framework combines consistency across the country with local flexibility in response to adapt to the needs of local employers.

CHALLENGES

- Romania may not provide sufficient short-cycle postsecondary VET to meet potential demand.
- There is a gap in provision for adults who want to re-enter the labour market and displaced workers. Programmes are not usually offered part-time.
- Transitions between post-high school programmes and university programmes can be challenging and credits are not easily portable.
- Recent changes in initial teacher education requirements may not ensure a good balance between pedagogical skills and up-to-date industry experience for teachers in vocational subjects.
- There is no clear rationale determining the mix of fee-paying and free provision within the system.
- There are insufficient data to inform the system and to guide students.
- Uncertainties remain on how to develop an effective apprenticeship model.

Scotland

A Skills beyond School Commentary

Kuczera, M (2013a)

Scottish postsecondary vocational education and training (VET) includes a wide range of provision for populations with various needs, including school leavers, disadvantaged young people, the older unemployed and those in the middle of their career who wish to upgrade their competencies. Among the main postsecondary vocational programmes are Modern Apprenticeships (industry designed programmes which support employees to acquire certificated competencies required to deliver their job role through work-based learning and or off-the-job training), and Higher National Certificates (HNC) and Higher National Diplomas (HND) provided mainly in colleges (job-related courses offering a mix of practical skills and theoretical knowledge also allowing progression onto a degree programme).

STRENGTHS

- Recent reforms aim to increase the effectiveness and accountability of postsecondary VET through better co-ordination between agencies and services, more accountable colleges, more consistent quality frameworks for evaluating provision of education and training and better data on student transition to the labour market.
- The structure of career guidance delivery is a strength in Scotland compared with other OECD countries where advice is often more fragmented. In Scotland Skills Development Scotland is the key provider of career services and collaborates with other agencies involved in career guidance including schools, colleges and local authorities. Multiple institutions where career guidance is available and different channels of provision allow the system to reach out to a large number of individuals who might benefit from guidance, including young people transferring to a higher education level and the unemployed. Contrary to many other OECD countries Scotland recognises that career guidance is a distinct and specialist profession. The development of labour market data could further reinforce the career guidance system.
- The national qualification framework facilitates articulation within the system. Scotland has also launched specific initiatives to promote transitions, such as regional articulation hubs which facilitate the transition from schools and colleges to university by building on local partnerships between institutions.¹
- Assessors and college teachers are well prepared. Teachers in colleges are required to have relevant professional experience as well as training as teachers and to maintain and update their skills through continuous professional development. Assessors evaluating the skills and knowledge of individuals who wish to obtain a Scottish Vocational Qualification (SVQ) also require special training and need to be certified. SVQs are competence-based qualifications that are delivered and assessed in the workplace. This contrasts with many other countries where a separate profession of assessors does not exist.
- The Scottish HNC and HND are strong brands with a long history and are well regarded by employers and students. Students following these programmes represent 15% of all higher education students. The Scottish Modern Apprenticeships (MA) also have strengths: they are highly valued by both participating apprentices and employers; satisfaction levels are high; evaluation data suggests employment outcomes are good six months after completing an MA.

1. See for example, Scottish Funding Council (2013), The Edinburgh, Lothians, Fife and Borders Regional Articulation Hub website, www.elrah.ac.uk/ (accessed June 2013).

CHALLENGES

- While workplace training is built into some postsecondary programmes such as Modern Apprenticeships, its use is highly variable in other parts of the VET system. Provision of workplace training depends on the qualification, programme and individual provider.
- While Scottish Modern Apprenticeship has many strengths it also faces challenges related to the provision of generic skills to apprentices, funding arrangements for those aged over 25 who have few qualifications and no relevant work experience, and provision of training to incumbent workers.
- While quality assurance in postsecondary VET is strong overall, current arrangements for the self-evaluation and external scrutiny of quality might potentially lead to variation in quality among providers.
- The focus on labour market relevance in quality assurance of VET could be reinforced. Some aspects of vocational provision ensuring its connections with the labour market are already examined - such as whether teachers have relevant professional experience and if institutions have links with local employers. But the vocational focus could be further reinforced by looking at workplace training opportunities and labour market outcomes as indicators of quality in vocational provision.
- Data on the labour market outcomes of postsecondary VET graduates are limited, in particular on labour market outcomes of college graduates. Consequently it is very hard to evaluate how well colleges are doing in preparing their students for jobs. Decreasing public expenditure increases the need for better data and information so that scarce resources can be used to most effect. College regionalisation should focus college provision more on local labour market needs. In addition, a college leaver destination survey is being piloted and in future this may address some of the gap in information.

South Africa

A Skills beyond School Review

Field, S., P. Musset and J. Álvarez-Galván (2014)

STRENGTHS

- In the face of major challenges, South Africa displays an open and committed approach.
- The creation of DHET in 2009 represents a major step forward in integrating vocational education and training policy.
- South Africa's well established qualifications framework provides a helpful structure.
- There has been a valuable consolidation of the TVET college sector.
- In response to the challenge of young people outside the labour market, there are bold plans to expand the college system.
- A 'turnaround strategy' addresses quality in the college sector.
- South Africa has a strong capacity for analysis.

CHALLENGES AND RECOMMENDATIONS

Simplifying vocational pathways

Recommendation: Building on the proposals set out in the White Paper:

- Upper secondary vocational programmes should be merged into two main tracks - a school-based track and a work-based track.
- To meet the needs of adult learners, develop second chance vocational programmes and ensure flexible forms of provision.
- At post-matriculation level the development of diplomas and certificates should be promoted.
- Improve pathways from initial vocational to academic programmes.

Building partnership between vocational training and the economy

Recommendation: To link vocational provision more closely with the needs of industry:

- Make workplace learning mandatory for vocational programmes.
- Co-ordinate vocational provision through a strategic body that would also involve industry stakeholders.
- While maintaining a national curriculum, establish flexibility in a proportion of the curriculum that can be adapted by training providers to meet local needs.
- Invest in better data, particularly on labour market outcomes linked to career guidance.

Reforming Funding Arrangements 1: The levy grant system

Recommendation: Reform funding flowing from the Skills Levy so as to shift responsibility for discretionary funding to the National Skills Fund and simplify the administration of the mandatory grant.

Reforming Funding Arrangements 2: The TVET college funding formula

Recommendation: Reform the funding formula for TVET colleges to reflect *(i)* the extra costs of provision in rural areas; *(ii)* the extra costs of provision for disadvantaged students; and *(iii)* incentives for colleges to improve completion rates.

Strengthening professional development for vocational teachers and college leaders

Recommendation: Strengthen the professional preparation of TVET college lecturers with attention to the balance between pedagogical skills and workplace experience. Promote effective college leadership by ensuring more systematic training for prospective and current college leaders.

Supporting completion and transition

Recommendation: Implement a sequence of measures to tackle low completion rates:

- Provide targeted support to ensure adequate levels of literacy and numeracy among those pursuing vocational programmes.
- Ensure adequate incentives for completion for both institutions and students.
- Underpin pathways of progression with high-quality career guidance and information before and during vocational programmes.

South Carolina

A Learning for Jobs Review

Kuczera, M. (2011)

STRENGTHS

The South Carolina career and technology education (CATE) system has many strengths:

- CATE programs are provided within high schools and career and technology centers, and enjoy relatively high status.
- Strong general skills are embedded in CATE and all high school students are expected to be college ready upon high school completion.
- South Carolina has launched an ambitious set of reforms in CATE and other parts of the education system initiated by the 'Education and Economic Development Act'. The Act aims to improve skills in South Carolina's workforce.
- Career and counseling guidance is exemplary in many respects. It encompasses all education levels, involves various stakeholders and agencies, and has a clear objective of improving career information and career awareness in students.
- There are numerous pathways leading to a CATE teacher profession that help to attract the best people to the field.
- Employers are actively involved in CATE.
- South Carolina has a strong technical college system.

CHALLENGES

Some challenges remain. Many of them are related to a wider context that bears on CATE and on skills development in the state – in particular high levels of poverty and school standards in the US as a whole which are relatively weak for an advanced country. More specifically, the challenges for South Carolina include:

- The resources of any school depend to a large extent on the resources available to the locality (school district) and are collected through local taxes. This arrangement contributes to an unequal distribution of resources across districts and schools. The state compensates for the differences in local wealth by allocating more resources to poor districts. But this allocation may be undermined by the current recession and severe budgetary cuts.
- Very few high school students receive extensive work experience during their high school studies. While a high school model with extensive work experience provided to most students is not necessarily a desirable route to follow for South Carolina, some students could benefit from more diversified options for work experience.
- Too many students leave high school without sufficient basic skills for either the labour market or postsecondary education. As a result, many students in technical colleges need remedial courses to catch up and develop skills that should have been developed in high school.
- Many adults also lack basic literacy and numeracy skills. Division of responsibilities for adult education and training across different agencies may lead to duplication of efforts and overlap of services. The current recession will potentially reduce the provision and availability of adult education and training.

RECOMMENDATIONS

1. Monitor the impact of budgetary cuts on CATE provision in poorer districts and schools, take remedial action if necessary and ensure that funds are invested efficiently through careful evaluation of initiatives. Ensure that teacher allocation policies support this objective.
2. Provide high school students who wish to enter the job market directly with more substantial work experience while in school. Make targeted efforts to ensure that students from disadvantaged backgrounds have such access. Take action to increase the level of co-operation across school district boundaries in the provision workplace learning opportunities.
3. Sustain the effort to improve literacy and numeracy and preparedness for college in high school CATE students, in particular among disadvantaged students. Strengthen co-operation between academic teachers and CATE teachers to this end.
4. Maintain efforts to ensure that all adults without basic skills have an opportunity to develop their knowledge and skills. While recognising the priority attached to basic schooling, give particular attention to the needs of young adults. Enhance co-ordination between different agencies dealing with adult education.

Spain

A Skills beyond School Commentary

Field, S., V. Kis and M. Kuczera (2012)

STRENGTHS

- The social partners are well engaged in the vocational education and training (VET) system. Nationally, this takes place through the National Commission on VET, which aims to build consensus among the national and autonomous community governments, and employers and unions, on VET policy. Locally, employers are engaged in the system particularly through the provision of workplace training.
- Reform has been pursued systematically in recent years, while a substantial degree of consensus has been maintained through consultation with different levels of government and the social partners. This is a real strength, and there remains a need to sustain and develop this consensus between national government, autonomous communities in the regions of Spain, employers and unions on VET policy.
- Recent reforms have been designed to improve permeability in the VET system and access to post secondary education. Graduates of upper secondary VET (with VET diplomas) were previously required to restart upper secondary academic programmes in order to spend another two years studying before obtaining the Spanish Baccalaureate – this has now been reduced to one year.
- The VET system as a whole, and the pathways through it, are generally clear and comprehensible to participants. A recent reform, which has yet to be fully implemented, has aligned the VET diplomas (accredited by the Ministry of Education) with the individual competences (certified by the Ministry of Labour), so that typically completion of any diploma will include the acquisition of certain certified competences. This is a welcome and positive development.
- A number of countries use vocational programmes at compulsory level to engage or re-engage adolescents at risk of dropping out of school, and a number of previous OECD reviews of Spain have urged this approach. In Spain, at lower secondary level, the VIP (vocational initial programme) has now adopted this approach as it aims to reintegrate some young people in school through vocational programmes. Workplace training is required for the final three months of any intermediate or higher vocational programme. We heard that this works well in terms of integrating graduates into the labour market, as training firms often offer the trainees jobs, and there are normally sufficient workplace training places. Mandatory workplace training, as in Spain, is desirable not only because of the value of the workplace as a learning environment, but also because it binds provision more closely to the needs of employers.

CHALLENGES

- There is no requirement for VET teachers and trainers to have worked in their vocational field – although they do need to be qualified in that field and often spend periods of training in companies. This is a particular challenge in a system which relies extensively on school-based workshops to develop practical vocational skills. Current budgetary pressures are putting particular strain on Spain's school-based model of vocational training. Retiring teachers are not being replaced – ageing the workforce and perhaps distancing it further from industry, while postponing the replacement of out-of-date training equipment.
- Students enter intermediate VET programmes with school certificates which should ensure some minimum level of basic skills as the certificate is similar to that required to enter the general stream of Bachillerato. Students entering higher VET programmes need to have the Bachiller certificate, the same award required to enter university, but some weaknesses in academic skills may remain. The intermediate and higher level curricula include practical training and teaching of the theory associated with the vocational field, but little direct teaching in maths, literacy, or other academic subjects. This means that there is no direct test of

numeracy and literacy although these skills may continue to be developed in the context of the theoretical part of the vocational programme. This is a challenge, given the evidence that good numeracy and literacy is not only important for successful completion of vocational programmes, but also for further education and career development.

- Career guidance in schools needs reform, as it is delivered by teachers trained in psychological counselling but usually with limited labour market knowledge or experience. Current attempts to reform guidance include measures designed to integrate school-based guidance with employment advice for the unemployed.
- While mandatory workplace training serves well at the end of VET cycles as a means of transition to the labour market (since training employers often offer jobs to trainees), it is a very much less substantial element of the training element of vocational programmes than would be found in apprenticeship systems for example. So an issue remains of whether there might be scope for further development of workplace training in the system.

Sweden

A Learning for Jobs Review

Kuczera, M., et al. (2008b)

STRENGTHS

Sweden's upper secondary vocational education and training (VET):

- Builds on strong compulsory school performance by international standards at age 15.
- Displays a modest rate of dropout.
- Has relatively high status.
- Allows room for local innovation.

CHALLENGES

- Youth unemployment in Sweden is relatively high.
- The number of 15-19 year-olds is set to decline sharply.
- Upper secondary VET does not attempt to make students 'job ready' – leaving a potential mismatch with a labour market governed by collective agreements in which employers may be reluctant to take on such young people.
- More than half of VET trainers are over 50.
- The separation of school-based VET from a fast-changing and technology-driven workplace makes it hard to keep up with labour market needs.
- Currently, the social partners have limited influence over upper secondary VET.
- Data on labour market outcomes of VET are inadequately exploited – e.g. to provide better information to students choosing courses.

RECOMMENDATIONS

1. Maintain the current non-selective arrangements for upper secondary school programmes.
2. Establish a National Commission for VET composed of different government ministries and the social partners to provide a stronger mechanism through which employers and employees' representatives can convey labour market requirements to VET providers.
3. Competition between schools needs to be fair and to be seen as fair: scrutinise the regulations to ensure that public and independent schools experience the same regulatory regime.
4. Publish information on the labour market outcomes of VET a school and programme basis. The National Register should be fully exploited, and possibly supplemented by regular surveys of recent leavers.
5. The 15-week work placement that is part of upper secondary VET should be subject to quality control and made mandatory for all upper secondary VET programmes. Only VET programmes capable of attracting work placements should be provided, linking the provision of VET skills to labour market requirements more closely.
6. Develop an apprenticeship system to complement school-based VET jointly between the government and the social partners and take full account of international experience.

Sweden

A Skills beyond School Commentary

Kuczera, M (2013b)

STRENGTHS

- Higher vocational education (HVE) is a highly innovative model of postsecondary provision, particularly in its capacity to encourage partnership between employers and training providers.
- Higher vocational education benefits from substantial, quality assured and mandatory workplace learning.
- The social partners in Sweden are fully engaged in postsecondary provision.
- Quality assurance arrangements for both higher vocational education and professional programmes in higher education are strong.
- There are relatively good data available, particularly through longitudinal register data covering labour market outcomes.

CHALLENGES

- There is limited provision for those who might wish to pursue postsecondary VET courses part-time, particularly adults in work.
- Transition from higher vocational education to higher education is sometimes hard, with no systematic arrangements for credit transfer.
- Development of a more systematic qualification framework for the whole postsecondary system, including both HVE and higher education would help to reinforce consistency of qualifications. Among other valuable benefits, this could promote more effective articulation between the HVE and higher education sectors.
- Workplace learning opportunities in higher education vocational programmes are patchy, with strong arrangements in place in some programmes and some institutions.
- Further expansion of higher vocational education is attractive, but needs to be backed by evidence of demand.

Switzerland

A Learning for Jobs Review

Hoeckel, K., S. Field and W.N. Grubb (2009)

STRENGTHS

Switzerland's highly developed vocational education and training (VET) - known as professional education and training (PET) - system has many strengths. In particular:

- The system is strongly employer and market driven.
- The partnership between Confederation, cantons and professional organisations works well.
- School and work-based learning are well integrated; workplace training (which Switzerland refers to as in-company training) is not too company-specific.
- Switzerland's VET/PET system is well-resourced and able to include up-to-date equipment.
- Switzerland's apprenticeship-based VET programmes pay for themselves, in the sense that benefits to most employers outweigh the costs.
- Tertiary VET is strong; there is a broad spectrum of tertiary VET offerings.
- Flexible pathways have been introduced to allow for mobility and avoid the risk of dead-ends.
- Vocational teachers and trainers, examiners and directors are well prepared.
- Quality control is ensured and national assessment procedures are in place.
- Career guidance and counselling is systematic and professional.
- Evidence is well developed and routinely used to support policy arguments.

CHALLENGES

- The global recession might have negative effects on VET, in particular the provision of apprenticeship places.
- Demographic changes with shrinking cohort numbers may sharpen competition between academic and vocational education; VET faces competition from academic tertiary education.
- Entry of international companies without a training tradition threatens the Swiss dual-track learning arrangements.
- Several equity concerns are confronting the VET system.

RECOMMENDATIONS

1. Switzerland should accompany its justified pride in a high quality VET system with practical measures to maintain its strengths. This requires, among other matters, high quality data and analysis. Review whether the current mix of VET and academic education for young people matches labour market needs.
2. Aim to reinforce equity throughout the VET system: ensure that dropout is minimised and that those who do dropout are supported adequately; ensure common funding principles to underpin the level of subsidy granted to VET and university forms of education; and use VET to build the skills and labour force participation of women. Monitor the system closely in support of these objectives.
3. Develop a contingency plan to cope with any sharp reduction in employer willingness to provide in-company training as a result of the economic crisis.

Switzerland

A Skills beyond School Review

Fazekas, M. and S. Field (2013b)

STRENGTHS

- Employers and professional associations are engaged with and actively contribute to professional education and training (PET). The system is highly responsive to labour market needs.
- Policy development has a strong institutional leadership in the Federal Office for Professional Education and Technology (OPET), allowing consensus among stakeholders to be balanced by policy development and reform.
- The system offers a flexible and effective response to diverse student requirements, with part-time, evening, weekend and modular provision.
- Work-based learning is generally well integrated into PET programmes, with work linked to study for part-time students, and substantial internships for full-time students.
- The professional exams effectively link upskilling to recognition of prior learning.
- The PET system is well articulated with upper secondary VET, offering a wide range of progression opportunities for graduate apprentices.
- Teachers and trainers in professional colleges are well prepared both in their vocational field and in pedagogy.
- While international recognition of PET programmes and qualifications remains a challenge, it can build on the already established high status of certain programmes.

CHALLENGES AND RECOMMENDATIONS

- There are some potential financial and non-financial barriers to access to PET, and government financial support may be biased towards academic tertiary education.
 - *On a pilot basis, explore whether a loan and grant scheme would remove an access barrier to participation in PET.*
- In contrast to most other sectors of education and training, inter-cantonal arrangements for funding PET are haphazard, leading to confusion, unfairness and inefficiency.
 - *As already envisaged by the Swiss authorities, implement an effective inter-cantonal financial agreement allowing for consistent and co-ordinated funding across cantons in support of an effective PET market.*
- Information on the quality and costs of PET courses is inadequate, and there are quality weaknesses in some areas.
 - *Collect and disseminate better information from PET providers on course quality and costs. Encourage industry self-regulation of preparatory courses to ensure high and consistent standards.*
- Globalisation is putting a number of different pressures on the Swiss PET system, intensifying the need for international recognition of Swiss PET qualifications and demanding new higher level and sometimes globally defined competencies as part of many jobs.
 - *Respond actively to globalisation and technological change by: i) improved permeability and collaboration between PET and academic tertiary education; and ii) strengthened international network building on sectoral and professional college levels.*
- Numeracy and literacy are of increasing importance in professional occupations, and the PET system, alongside other parts of the Swiss education system need to address them more effectively.
 - *Encourage a stronger emphasis on numeracy and literacy in professional colleges, especially by introducing targeted measures for remediating basic skills gaps identified on entry.*

Texas

A Learning for Jobs Review

Kis, V. (2011)

STRENGTHS

The Texas career and technical education (CTE) system has many strengths:

- There are flexible pathways of entry into the CTE teaching profession; part-time teachers are used constructively to tackle the challenge of recruiting CTE teachers.
- Texas has a strong system of university and community college education.
- There are promising initiatives to ensure a well-articulated CTE system, linking high school CTE to postsecondary level CTE. In postsecondary CTE state standards allow students to move easily from one institution to another in the state while retaining earned credits.
- There are various initiatives to increase performance in CTE, including the “AchieveTexas” and “Closing the Gaps” initiatives.
- The benefits of contextualizing learning and integrating general education into CTE are widely recognized by schools and policy makers.
- There are good data in many areas of CTE.
- Encouraging participation in some form of postsecondary education is a key policy goal in Texas. At the same time, achieving this is a major challenge.
- The Texas economy is doing relatively well despite the global economic downturn.

CHALLENGES

Some challenges remain.

- Quality assurance in the career-specific element of CTE is weakly developed.
- Career advice is often marginalized in school counseling and it is not ensured that all students receive high quality career information.
- High school CTE makes limited use of workplaces as a learning environment and employer engagement with the CTE system is highly variable according to local circumstances.
- While Texas has achieved progress in academic performance among high school students, many young people still do not have sufficient basic skills.

RECOMMENDATIONS

1. Establish a state-wide CTE quality assurance framework to increase attention to the quality of career-specific learning, support quality improvement and underpin accountability. The framework should involve employers and draw on quantitative indicators as well as qualitative assessments.
2. Strengthen and develop career guidance by:
 - Ensuring that career guidance receives sufficient separate attention and resources relative to other forms of school counselling.
 - Strengthening the career guidance element in the initial and in-service training of counsellors. Ideally, a career advisor profession should be established, which would be separate from psychological counselling.
 - Clearly setting out the career advice responsibilities (for school counsellors, or career advisors if a separate profession is established).

3. Increase the use of work-based learning opportunities in high school CTE, providing substantial work-based learning opportunities to those following a CTE program of study and those likely to seek employment directly after high school.
4. Sustain the effort to improve literacy and numeracy in high school, enhancing teacher quality and promoting good practices.
5. Sustain the effort to make postsecondary education available to all, by ensuring that all high school graduates are college-ready and, while that is not yet achieved, supporting students who are not college-ready.
6. Assess whether the current balance between support for basic skills in school as opposed to developmental postsecondary education represents an optimal use of resources.

United States

A Skills beyond School Review

Kuczera, M. and S. Field, 2013

THE GLOBAL CHALLENGE OF SKILLS

A generation ago, the United States had one of the highest levels of both high school and postsecondary attainment in the world. But now the US faces a global skills challenge, given rising education and skills levels in many competitor countries. The OECD report *A Skills beyond School Review of the United States* (Kuczera, M. and S. Field, 2013) is concerned with postsecondary “career and technical education” (CTE), career-focused associate degrees, postsecondary certificates, and industry certifications.

Many of the basic features of the US approach to career and technical education (CTE) are strong. There is an inclusive philosophy of comprehensive high schools and there are open access community colleges. Labor market returns from postsecondary CTE are good on average. Extensive decentralization gives rise to many strengths, to diverse and flexible forms of provision meeting the needs of many groups of learners, to a rich field of policy development and innovation, involving state governments and many non-government organizations. The quality of data analysis and academic research available to support policy development is clearly outstanding.

Three factors may act as barriers to postsecondary attainment. First, the basic skills of US teenagers and high school graduates are relatively weak compared with many other OECD countries. Second, decentralization means that the choices faced by any individual are more difficult and more uncertain, with many routes to a target career or occupation. Third, despite public financial support which makes college programs affordable for many students, the financial risks of investing in postsecondary education can be higher in the US, because costs and returns are highly variable. The joint effect of all three of these factors is that investing in postsecondary education is often more confusing and risky than in many other OECD countries.

The OECD report *A Skills beyond School Review of the United States* (Kuczera, M. and S. Field, 2013) therefore proposes reform to make outcomes not only better but also more predictable. While the challenges are longstanding, they are becoming more pressing, as reductions in state-level funding for community colleges and the expansion of private for-profit sector providers means that the individual costs of investing in postsecondary CTE are increasing.

Overarching recommendation:

- **While taking advantage of the vibrant diversity of the US postsecondary CTE system, balance the decentralized approach with a strategic pursuit of more quality, coherence and transparency.**

To deliver this overarching recommendation, students need assurance that the CTE programs they are pursuing will be good value for money, that their credentials will be recognized in the labor market, and that transitions in and out of postsecondary programs can be managed effectively. This will provide the students with the assurance necessary to commit to postsecondary education, and provide the skills for the future. Three issues – quality and funding, credentials and transitions – form the main topics of the OECD review.

The evolution of postsecondary CTE has been influenced by an exceptionally diverse range of policy instruments at both federal and state level. Because each instrument corresponds to separate legislation at state and federal level, and each piece of legislation is driven by its own policy rationale and political dynamic, it is sometimes

hard to appraise the sector as a whole, how it is developing, and what might be done to strengthen it. Aided by international comparison, the OECD review aims for a more holistic perspective. It will therefore look very broadly at the policies and practices which bear on postsecondary CTE, the strengths of the system, and the challenges it faces, and what might be done through different policy instruments at both federal and state level to address those challenges.

FUNDING FOR QUALITY

A variety of federal and state funding streams support postsecondary CTE, including Title IV Federal Student Aid under the Higher Education Act, the Carl D. Perkins Act, and the Workforce Investment Act, to name a few. Of these, by far the largest and most influential is Title IV federal student aid.

Title IV student aid channels many billions of federal dollars to postsecondary institutions through the students that pay their fees, but the current arrangements linking title IV student aid to quality assurance have major weaknesses. The quality assurance system is insufficiently strong, is sometimes inadequately enforced, and is inconsistent in its application across the US. It also places too great reliance on institutional accreditation arrangements which, whatever their qualities in some respects, look mainly to peer-group assessments which may not reflect the interests and concerns of external stakeholders. Current arrangements also miss an opportunity to provide a clear quality standard for CTE programs, linked to their effective integration with labor market needs. The blend of this system with increasing tuition fees, constrained public budgets and broader economic distress creates a dangerous mix with financial risks both for individuals and lending bodies, including the federal government. Unless these challenges are addressed robustly they could undermine the broader goal of improving the skills of the US labor force. President Obama, in his 2013 State of the Union address, has already signalled his wish for reform.

Recommendation: Substantially strengthen quality assurance in postsecondary education and its links to title IV student aid.

- **Link institutional eligibility for title IV student aid to consistent and demanding quality standards.**
- **Ensure that existing rules on quality in CTE provision are observed, including requirements on accrediting agencies to address program-level student outcomes, and regulations preventing unfair and deceptive marketing practices on the part of providers.**
- **Strengthen attention to aspects of quality specific to postsecondary CTE, including industry demand for, and recognition of the credential delivered, and the inclusion of high quality work-based learning in the program.**
- **Building on the college scorecard, improve the collection of comparable data about providers and publish these data.**

ANCHORING CREDENTIALS IN THE NEEDS OF INDUSTRY

Occupational credentials are subject to less central organization in the United States than in almost any other OECD country. This allows local college provision and industry certifications to be very flexible and highly responsive to changes in labor market demand. But it also means that some of the benefits of more structure and organization in credentials – greater clarity for both students and employers about the skills and credentials required for particular types of job - cannot readily be obtained.

It would be unrealistic to propose the systematic creation of occupational standards. Instead we propose a more modest advance, by creating a national quality standard for certifications. If adopted in certain sectors it would provide strong incentives for postsecondary CTE programs in the same sector to align themselves with those certifications, substantially increasing the clarity of entry routes to the associated careers.

Two key elements in the US system – certificates delivered by postsecondary institutions, and the (often linked) certifications delivered by industry and professional associations – are inadequately monitored at present, with very few systematic sources of data. Better data sources are now being developed, and these efforts need to be sustained.

Recommendations: Establish a quality standard for certifications and obtain better data on both certifications and certificates.

- **Where industry is willing, establish quality standards for certifications based on industry support and quality in the assessment.**
- **Building on recent initiatives, establish systematic arrangements to monitor certificates and certifications in the US workforce.**

BUILDING TRANSITIONS THAT WORK

Transitions in and out of postsecondary programs are both very common and very important. Individuals need to be able to advance from high school into colleges and careers, and between these different domains. One key challenge is ensuring that learning acquired in one setting can be recognized and made portable, smoothing entry into different contexts of learning and careers. In these domains state governments very often play the leading role, by steering high school programs and managing state college systems.

Stronger attainment in basic skills in early schooling would be extremely important in improving postsecondary success rates, but this raises many issues beyond the scope of the OECD review. Research evidence suggests that strengthened CTE in high school, alongside substantive and good quality workplace training, would help the transition into postsecondary education (as well as into the labor market). Prior learning assessment – particularly when it involves the recognition of skills acquired through work and other experience - can help to encourage adults to return to postsecondary education. But to realize its full potential, more systematic action is necessary, recognising that there are many institutional barriers to its effective use.

Transition into postsecondary programs: Recommendations to enhance CTE and workplace learning at high school, and use prior learning assessment for adults.

- **Alongside existing initiatives to improve attainment in basic education and increase college readiness, ensure that high school students have access to good quality CTE programs, ideally including meaningful work experience.**
- **Systematically develop and support prior learning assessment both as a means of encouraging adults to return to postsecondary education, and because of its wider benefits.**

Students often face problems in transferring their credits from one postsecondary institution to another. Bilateral program-by-program negotiated solutions are often laborious. There is a clear need for a more systematic approach to such transitions, and the associated credit transfer. Clearer quality standards for industry certifications, as recommended in the OECD review, would help to anchor different programs in common points of reference, easing transitions.

Transition within postsecondary education: Recommendations to build articulation frameworks.

- **Develop effective articulation frameworks. To this end, among other matters:**
 - **Build articulation requirements into accreditation procedures.**
 - **Use industry recognized standards in CTE programs to increase their comparability.**
 - **Ensure that students have sufficient information and guidance to understand transition opportunities.**
 - **Continue to develop crosswalks between apprenticeships and other postsecondary institutions and programs.**

Stronger quality assurance and clearer industry standards for credentials, as argued above, would go a long way to improving transitions from postsecondary programs into the labor market. In addition, systematic use of quality work-based training within postsecondary programs, such as is practiced in some other OECD countries, could be very helpful in helping graduates into jobs. Stronger career counselling within postsecondary education would also help.

Transition to the labor market: Recommendations to strengthen workplace training and career guidance.

- **Develop workplace training as a standard element in postsecondary CTE programs, taking advantage of the workplace as a learning environment, promoting partnerships between CTE institutions and employers, and securing an effective transition of graduates into employment.**
- **Ensure that students in postsecondary CTE institutions have access to good quality advice and information about career opportunities.**

MAKING IT HAPPEN: IMPLEMENTATION

The OECD report *A Skills beyond School Review of the United States* (Kuczera, M. and S. Field, 2013) has made a number of recommendations that title IV student aid needs to be linked to stronger and more consistent quality assurance, that a quality standard for industry certifications needs to be established, and that postsecondary transitions need to be supported more systematically. Other recommendations concern the need to develop better data, strengthen career counselling, and make fuller use of work-based training. These recommendations are mutually supportive. For example a quality standard for industry certifications should help to underpin quality assurance linked to title IV, and assist transition into the labor market from postsecondary programs.

The federal government has a major role in implementing the proposed reforms, partly through structural legislation such as the Higher Education Act, and partly through small but strategically important programs such as the Carl D Perkins legislation. But action is also needed by the states, and by other organizations and stakeholder groups.

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