

Centers of Vocational Excellence and Innovation (CoVes): A new era for Vocational Education and Training (VET) institutions?

J.Manuel Galvin Arribas¹
European Training Foundation (ETF)

Abstract

This article builds on experience, analysis, research and other on-going developments of European Training Foundation (ETF) working with a number of partner countries on exploring and supporting how setting up VET Centres of Excellence and Innovation (CoVEs) ⁽²⁾. The analysis focuses on main ingredients and keys issues to boost policy development for establishing VET Centres of Excellence and Innovation (CoVEs). This is also documented by European and international examples.

The paper discusses the role of VET which is currently challenged by on-going fourth industrial revolution and current value of vocational skills for employment delivered by public sector. In this context, VET schools have to play progressively a role of policy hubs within- lifelong- learning ecosystems to introduce technological and digital innovations, boosting creativity and/or entrepreneurship skills networking with industries. VET institutions might be capable to contribute on lifelong learning linking vocational skills with Higher Education programs and also deliver Continuing Vocational Training (CVT). All this is progressively shaping a new-amplified- role for VET establishments, which is opening increased policy dialogue in many countries around the world for reforming VET institutional networks based on setting up VET Centres of Excellence-and Innovation- (CoVEs).

The paper introduces a definition on CoVEs and a taxonomy for facilitating policy thinking, dialogue and further learning on how to set up CoVEs. Five possible policy options could be: a) To set them up as an independent training provider; b) Independent training institutions created from existing provider, which could deploy extended functions; c) CoVEs as a part of other training institution; d) CoVEs as network organisations for feeding excellence and innovation in VET communities; e) CoVEs as multiprofile/sectoral provider.

In conclusion, it is plausible to assume that CoVEs might become leading organisations of a new era of VET institutions. However, policy learning and further conducting evaluation and monitoring practices to asses CoVEs performance are challenging issues still to be tackled for supporting further policy development.

Key Words

Vocational Education and Training (VET); Skills; Centers of Vocational Excellence; Innovation; VET School Networks; Public-Private Partnerships

Περίληψη

Το άρθρο αυτό βασίζεται στην εμπειρία, την ανάλυση, την έρευνα και άλλες συνεχιζόμενες εξελίξεις του European Training Foundation (ETF) που συνεργάζεται με διάφορες χώρες-εταίρους για να διερευνήσει και να υποστηρίξει τον τρόπο δημιουργίας των Κέντρων Αριστείας και Καινοτομίας της Επαγγελματικής Εκπαίδευσης και Κατάρτισης (CoVEs) ⁽³⁾. Η ανάλυση επικεντρώνεται στα βασικά συστατικά και σε ζητήματα-κλειδιά που ενισχύουν την ανάπτυξη πολιτικής για την ίδρυση Κέντρων Αριστείας και Καινοτομίας ΕΕΚ (CoVEs). Αυτό τεκμηριώνεται, επίσης, από ευρωπαϊκά και διεθνή παραδείγματα.

¹ Senior Specialist in VET & Skills Governance and Lifelong Learning, jmg@etf.europa.eu.

⁽²⁾ The ETF is an EU agency that helps transition and developing countries to harness the potential of their human capital through the reform of education, training and labour market systems in the context of the EU's external relations policy. It is based in Turin, Italy, and has been operational since 1994.

⁽³⁾ Το ETF είναι ένας οργανισμός της ΕΕ που βοηθά τις υπό μετάβαση και τις αναπτυσσόμενες χώρες να αξιοποιήσουν τις δυνατότητες του ανθρώπινου κεφαλαίου τους μέσω της μεταρρύθμισης των συστημάτων εκπαίδευσης, κατάρτισης και αγοράς εργασίας στο πλαίσιο της πολιτικής εξωτερικών σχέσεων της ΕΕ. Έχει ως έδρα το Τορίνο της Ιταλίας και άρχισε να λειτουργεί το 1994.

Το άρθρο συζητά για τον ρόλο της ΕΕΚ που σήμερα αντιμετωπίζει την πρόκληση της τέταρτης βιομηχανικής επανάστασης και της τρέχουσας αξίας των επαγγελματικών δεξιοτήτων για την απασχόληση, που παρέχονται από τον δημόσιο τομέα. Σε αυτό το πλαίσιο, οι Σχολές της ΕΕΚ πρέπει σταδιακά να διαδραματίσουν ρόλο κέντρων πολιτικής μέσα στα οικοσυστήματα της διά βίου μάθησης, αποσκοπώντας στην εισαγωγή τεχνολογικών και ψηφιακών καινοτομιών, στην ενίσχυση της δημιουργικότητας και/ή στην δικτύωση- σύνδεση των δεξιοτήτων επιχειρηματικού χαρακτήρα με τις βιομηχανίες. Τα ιδρύματα Επαγγελματικής Εκπαίδευσης και Κατάρτισης θα μπορούσαν να συμβάλλουν στη διά βίου μάθηση, συνδέοντας τις επαγγελματικές δεξιότητες με τα προγράμματα Ανώτατης Εκπαίδευσης και επίσης παρέχοντας Συνεχιζόμενη Επαγγελματική Κατάρτιση. Όλα αυτά προοδευτικά διαμορφώνουν έναν νέο ενισχυμένο ρόλο για τα ιδρύματα Επαγγελματικής Εκπαίδευσης και Κατάρτισης, ο οποίος ανοίγει έναν εντεινόμενο διάλογο για ζητήματα πολιτικής σε πολλές χώρες σε όλο τον κόσμο, για τη μεταρρύθμιση των θεσμικών δικτύων της ΕΕΚ με βάση τη δημιουργία Κέντρων Αριστείας και Καινοτομίας (CoVEs).

Το άρθρο παρουσιάζει έναν ορισμό για τα Κέντρα Αριστείας και Καινοτομίας της Επαγγελματικής Εκπαίδευσης και Κατάρτισης (CoVEs) και μια ταξινόμια για τη διευκόλυνση του προβληματισμού γύρω από ζητήματα πολιτικής, του διαλόγου και της περαιτέρω μάθησης σχετικά με τον τρόπο διαμόρφωσης των CoVEs. Πέντε ενδεχόμενες επιλογές πολιτικής θα μπορούσαν να είναι: α) να συσταθούν ως ανεξάρτητοι φορείς παροχής κατάρτισης, β) να αποτελούν ανεξάρτητα ιδρύματα κατάρτισης που δημιουργούνται από τον υπάρχοντα πάροχο υπηρεσιών, τα οποία θα μπορούσαν να αναπτύξουν διευρυμένες λειτουργίες, γ) τα CoVEs ως μέρος άλλου ιδρύματος κατάρτισης, δ) τα CoVEs ως οργανώσεις δικτύου για τη ανάπτυξη της αριστείας και της καινοτομίας στις κοινότητες της ΕΕΚ, ε) τα CoVEs ως πολυδιάστατος/τομεακός πάροχος.

Εν κατακλείδι, είναι εύλογο να υποθέσουμε ότι τα CoVEs θα μπορούσαν να αποτελέσουν εξέχοντες οργανισμούς της νέας εποχής για τα ιδρύματα της ΕΕΚ. Ωστόσο, η πληροφόρηση σε θέματα πολιτικής και η επιπρόσθετη ανάπτυξη πρακτικών αξιολόγησης και παρακολούθησης για τον προσδιορισμό της απόδοσης των CoVEs αποτελούν ζητήματα- προκλήσεις, που πρέπει να αντιμετωπιστούν, προκειμένου να διευκολυνθεί η περαιτέρω ανάπτυξη πολιτικής.

Λέξεις- κλειδιά

Επαγγελματική Εκπαίδευση και Κατάρτιση (ΕΕΚ), Δεξιότητες, Κέντρα Επαγγελματικής Αριστείας, Καινοτομία, Δίκτυα Σχολών ΕΕΚ, Συνεργασίες- Συμπράξεις Δημόσιου- Ιδιωτικού Τομέα.

The key role of *Good Vocational Education and Training (VET)* for facing labour market challenges

Good Vocational Education and Training (VET) should become an essential pillar for economic growth, social cohesion and contributing to make lifelong learning a reality. *Good VET* means that vocational education and training responds to labour market, societal and individual needs; leads to nationally, or even internationally, recognised qualifications or credentials; provides access to decent jobs and sustainable employment; it's attractive, inclusive and accessible for all citizens and fosters capabilities that enable progression to further learning⁴. Good VET should enabling access to higher education (H.E.) routes, as an integral part of lifelong learning (LLL) indeed.

The role of outstanding VET systems during global economic crisis has been quite important in many countries, for example, building resilience to face youth unemployment and sustainable growth. VET has the potential to contribute on closing skills gaps and reducing unemployment⁵. Quality VET can mitigate youth unemployment indeed. The strategic role of VET is based on two basic pillars: its capacity to reduce early school leaving as well as academic and university failure, and, on the other, their value as driver of change in the structure of the labor market, increasing the proportion of qualified professionals for its function. Both dimensions have a relevant impact on the competitiveness of the productive sector of any country⁶.

This is illustrated by countries with strong traditions of using good VET as a vehicle to support employment strategies and socioeconomic and regional development (e.g. Australia, Germany, Sweden, Denmark, Canada, South Korea) and even by others that during the past decade have been reforming their VET systems in line with development goals (e.g. Czech Republic, Estonia, Poland, Singapore) (OECD, 2018).

Why setting up VET Centres of Excellence and innovation (CoVEs)? Approaching key rationales for reforming VET networks

VET systems are not only challenged for expected outcomes but for on-going digitalization of industrial environments and societies overall. The so-called fourth Industrial Revolution is one of key drivers for understanding changing role of VET policies and systems, as it is shaping new content and form of jobs, skills and occupational requirements. The emerging –

⁴ ETF Watters, E (2015).

⁵ Puckett J., Davidson J and Lee E Vocational Education: the missing link with economic development (2012).

⁶ Dolado, J. (2015). No Country for Young People? Youth Labour Market Problems in Europe, CEPR Press, https://voxeu.org/sites/default/files/file/No_Country_Young_People_VoxEU.pdf.

disruptive- technologies are gaining ground in the production chains and added value networks⁷. Automation, virtual and artificial intelligence (AI), big data or robotics are concepts that are part of our lives and working environments. Globalization, environmental sustainability challenges, demographic changes or increased inequalities are key factors to take into account looking at the future of jobs and skills in the context of digitalization of the economy worldwide⁸.

Reskilling and upskilling the workforce is vital in the current digital era. In this context, reforming public VET institutional networks is progressively becoming a strategic task for governments and national agencies, in cooperation with private actors, in order to respond to the current and future high-quality skills requirements of employers, industries and innovation ecosystems operating in national and regional labour markets⁹. This can also help to increase the status of VET – and deservedly so.

This entails defining new roles and missions for VET establishments. VET schools should be capable of acting as hubs to introduce technological and digital innovations, boosting creativity and taking the lead on the way new curricula should be designed and delivered. VET institutions and networks are expected to provide entrepreneurial and other key competences for lifelong learning. This can enable VET to become more attractive, responsive, inclusive and relevant.

Overall, these issues are progressively enhancing vocational excellence as a key goal in VET policy reforms for many countries. This shapes the ambition to deliver high-quality skills within a lifelong learning perspective, promoting research and innovation. It is vital that VET school leadership is enhanced in order to contribute to the transfer of continuous capacity development into the heart of VET communities.

⁷ There is a lot of literature about fourth industrial revolution. For having a quick overview and follow up on recent trends please, see for instance World Economic Forum (WEF): <https://www.weforum.org/agenda/archive/fourth-industrial-revolution>.

⁸ ETF Galvin Arribas, Avagyan and Logorov VET decentralization and setting up VET CoVEs: the case of Ukraine (forthcoming publication. Last manuscript May 2019).

⁹ For further information, understanding and inspiration on how labour market information can be used to better anticipate and match skills demand and supply, see ETF/Cedefop/ILO (2017) tool. Available at: <https://www.etf.europa.eu/en/publications-and-resources/publications/using-labour-market-information-guide-anticipating-and>.

BOX 1. Key issues supporting rationales and policy options for setting up VET centres of excellence (and innovation)

- improving the efficiency and performance of networks of VET institutions, accompanied by the need to renew and invest in infrastructure, equipment, technologies, etc.;
- halting declining or stagnating enrolment (and completion) rates in VET institutions (demography of VET population);
- improving the quality of VET provision, putting in place or updating quality assurance systems, and using labour market intelligence to effectively target skills supply versus demand (vocational skills matching labour market requirements);
- addressing the low level of development or simply the absence of national policies facilitating dual education approaches and incentives to encourage private companies to develop work-based learning (WBL);
- improving the effectiveness of VET governance and management at all levels to engage the lowest levels and social partners (private sector) in policy-making (multi-stakeholder cooperation), while increasing the autonomy of VET institutions;
- addressing the growing gaps in the recruitment of quality teaching staff (e.g. masters of practical training);
- reforming the (insufficient) public financing of VET and the inefficient funding schemes for pooling public VET funds, while creating opportunities for multichannel financing and cost-sharing mechanisms (use of tax systems);
- tackling the underuse of vocational guidance and other counselling tools/measures to help in increasing the recognition and employability of VET graduates in the labour market;
- reforming the status and pathways of vocational education systems within a lifelong learning perspective (e.g. promote efficient CVET systems; maximise the potential of qualifications at level 5 to connect with higher education, etc.);
- introducing a culture of continuous improvement and innovation into the VET community;
- supporting the building of political consensus around the complex processes of rationalising and optimising VET networks;
- increasing the role of economic sectors, regions and local ecosystems for skills development to feed VET skills into local partnership principles and support socioeconomic and regional development;
- developing new methodological tools and resources; this requires the creation of network institutions to transfer accumulated knowledge to other VET institutions and the whole community.

Source: Galvin Arribas et al. (2019, in press).

Unravelling concepts and meanings for operational purposes: approaching key ingredients of VET Excellence

All this put the focus on the need to re-thinking how to modernize VET policy frameworks whilst focusing on optimizing and/or rationalizing VET school networks. At this point, it is important to discuss how to operationalize key concepts for facilitating policy reforms.

VET attractiveness can be defined as the *capacity of VET to encourage individuals to deliberately choose vocational and training education and training; offer quality qualifications that open up career prospects and persuade employers to recruit holders of VET certificates*. Attractiveness of VET depends on various factors such as *image of VET and parity of esteem with other educational pathways; flexibility of pathways allowing mobility between VET and academic education; quality of VET offer; involvement of stakeholders, including social partners in VET and in the provision of guidance and counselling services* (Cedefop, 2014).

In the EU, the debate on VET attractiveness features is directly connected to excellence with a particular emphasis given within *Bruges Communiqué on enhanced European Cooperation in VET (2011-2020)* on which the task of assuring quality to achieve VET excellence is at heart of EU cooperation ⁽¹⁰⁾. Following EU approaches and ETF experience working with PCs, a set of key elements can be proposed to shape mutual understanding on VET excellence (table 1).

BOX 2. APPROACHING KEY ELEMENTS FOR EXCELLENCE IN VET	
VET FEATURES	REMARKS
<input checked="" type="checkbox"/> Multi-level governance	Leadership and coordination at national level deployed with delegated functions to lowest levels (sector, regional/local, and provider) to align VET to local economic development (<i>smart</i> <input type="checkbox"/> <i>recognized</i> <input type="checkbox"/> <i>ion</i> approaches). Public Private Partnerships (PPPs): Sector Councils/Alliances operate to unite training institutions, enterprises and professional organisations to participate in VET (e.g. designing curricula, occupational standards etc.). Measuring performance of VET systems (including teachers and learners). VET schools: increased autonomy,

⁽¹⁰⁾ Available at: http://ec.europa.eu/education/policy/vocational-policy/doc/brugescom_en.pdf

	financial sustainability and accountability.
<input checked="" type="checkbox"/> Quality	Assured and Managed: Quality Assurance (Q.A) frameworks are available (quality recognized, rewarded). Quality of teaching and trainers and professional recognition of VET teachers is a reality. VET standards: continuously improved.
<input checked="" type="checkbox"/> Relevance	Qualifications and curricula are up-to-date. Innovation, creativity, problem solving and entrepreneurship are integral part of VET – multidisciplinary-curricula.
<input checked="" type="checkbox"/> Effectiveness	Delivery of skills modernized according to demand needs and –new- learning methods. Mechanisms for early identification of skill needs are in place.
<input checked="" type="checkbox"/> Employability	Vocational skills fit to real working world: economy, employers and employees benefit. Policy labs (<i>incubators</i>) support job-creation and start-ups.
<input checked="" type="checkbox"/> Flexibility	All type of learning counts and <i>no dead ends</i> : VET system-enabling permeability with other educational offers, developing cycles of tertiary qualifications (e.g. 2 years).
<input checked="" type="checkbox"/> Lifelong learning	A comprehensive qualifications framework is operational for all ages and backgrounds. CVET policies are in place for upgrading, updating, acquiring new skills (etc.) and companies (SMEs) profit it.
<input checked="" type="checkbox"/> Image	VET parity of stem to become optimal option for learners and society. Guidance and Counselling policies feed into VET public services.
<input checked="" type="checkbox"/> Innovation	VET public policies and communities are embedded in a culture of innovation and creativity based on permanent delivery of -new- curricula, pedagogic and teaching practices, technological capacity of VET providers, effective networks and partnerships, and granting good governance and performance of VET system and learning pathways. VET generates value for individuals, society and employers. Innovation hubs are institutionalized.

Source: Author elaboration (based on professional experience and European Commission-EC (2012), Bruges Communiqué (2010) and Advisory Committee for Vocational Training-ACVT- (2018)

What are CoVEs? Approaching an operational definition

The relationships between VET and *learning* and *digital* economy, regional socioeconomic development, increasing productivity, competitiveness and employability prospects in labour markets (e.g. high-tech vocational skills for new occupations in demand), are all crucial – national- rationales for investing in both attractiveness and excellence and, perhaps, using CoVEs as institutional recipients.

Looking at nomenclature on different type of CoVEs it is possible to understand some trends on the different forms taken by such institutions. For instance, Anglo-Saxon VET-based traditions use excellence word, as well as, industry and/or industrial to refer to these institutions, whereas Nordic countries or other type of systems with *dual* backgrounds refers also to the concept of centers of *expertise*, *innovation* or *innovative* (e.g. Netherlands) and *Centres du competences* (in French speaking countries). The concept of *multifunctional*, *multisectoral* and/or *multiprofile centers* is also used in some other countries (Albania, Finland). Centers of Research and Innovation, or Campus of Excellence are other possible forms of naming CoVEs¹¹. Such conceptual diversity might explain the fact that there is not an acknowledged definition by the international community on CoVEs.

However, the ETF and international experience shows that CoVEs term mostly refers to – networks- of vocational education and training partnership-based institutions, which are established in different regions although reflecting national policy priorities of a given country.

These centers normally provide high quality qualification levels (qualifications level 5 *on average*) of VET -and CVT- programs for the acquisition of high-specialized professions, which might be even connected to tertiary education routes. They give strong focus on technological and/or innovative sectoral or multi-sectoral training and competence solutions to meet skill needs of industries, companies and individuals¹².

The CoVEs would act as *catalysts* for business investment and support national and regional innovation strategies by ensuring supply of high quality skilled workers through flexible and timely offer of training for the skills needs of companies. CoVEs would be linked with Universities for jointly contributing to the provision of medium and high level skilled specialists. They should contribute on implementation of regional development and smart specialisation strategies, working together with other education and training providers

¹¹ Based on on-going European Commission DG Employment and Social Affairs: Mapping Centres of Vocational Excellence (First version draft paper 2019).

¹² ETF Galvin Arribas, JM (2018 a).

through management of sustainable multi-channel financial models that combine public and private funding, and own –income- generating activities. Sometimes, facilities and infrastructures could be part of business services.

In summary, CoVEs could be briefly defined as *partnership-based vocational education and training network organizations forming ecosystems of excellence and innovation to provide high level skilled specialists required in national and international labour markets and for contributing on the development of national and regional economies.*

VET and Skills Multilevel Governance: public-private partnerships for activating CoVEs institutional set-ups

The principles for setting up CoVEs in a system of multi-level governance architecture is key pre-condition for starting-up facilitation of policy thinking and dialogue for further policy development on CoVEs. In concrete, a central issue would be how to embed structurally these PPP based-institutions within national education and training institutional settings and arrangements and for the important task of monitoring centres' performance. In this regard, three main levels in the system of governance can be distinguished within a national governance system that includes a system of learning and policy review, taking into account the diversity across *ecosystems* and centres (Heemskerk E. and Zeitlin, 2014)¹³:

- (a) *Regional level governance*: where centres are part and parcel of particular ecosystems. An ecosystem is not necessarily geographically restricted; it might also cover an industrial sector and distributed across the national territory. The dynamic of the centres should be aligned to activities in the region or economic sector.
- (b) *A network-level governance*: the network level comprises the group of centres as a whole. Here, learning through peer review and sharing of experience takes place.
- (c) Third, *national level governance*: there is an overarching system of monitoring and oversight.

The effective coordination among different governance levels for steering centres might be better supported by reviewing institutional arrangements of the whole VET system¹⁴. This should inform decision-making for establishing different coordination mechanisms (e.g.

¹³ This system developed in the Netherlands practice, it is so-called *experimentalist governance* which is very much inspired in both EU new modes of governance and multilevel-governance approaches. In this paper, Dutch case is taken as a paradigmatic example for illustrating the role of Public Private Partnerships (PPP) in CoVEs formation.

¹⁴ The review can be done on the basis of the whole Education sector of the country.

national or regional forums, steering committees, indicators systems, peer learning and exchange of practices, evaluation frameworks, skills assessments, sector skills committees etc.)¹⁵.

Focusing on CoVEs operations: the issue of managing and assuring quality

VET quality is an increasing concern in many countries with a special need on working in partnerships for setting up frameworks and *cultures* of quality assurance and management, as key policy functions for good multilevel governance in VET. This is because quality in VET is strongly based, in turn, on the quality of interactions among education and labour – industry- actors indeed.

Thus, multilevel governance approach could be very effective way to address interactions among VET public and private community to shape quality policy issues at both system and provider levels. In practice, CoVES might be a -unique -learning platform for developing relevant quality assurance which is encompassing quality management, measurement and assessment for continuous quality improvement. This can support building-up an acknowledged quality framework permeating different VET policy areas, from provider level to the whole VET system (feeding a *bottom-up quality culture approach*).

Therefore, these vocational institutions can become a *reference/focal* point for building mutual trust among educational providers and employers (industries, companies) to operate sound internal quality management systems whilst identifying common criteria for effective and efficient quality assurance (Q.A) of different policy issues. For example, discussing and deciding on qualifications standards (settings and attainment of standards for VET qualifications and staff); vocational skills provision (quality of curricula and learning processes, guidance services). Assessment, validation and certification (soundness of learning outcomes); build-up labour market and skills intelligence systems (data collection for warning imbalances between demand and supply), teachers and trainers professional development and so on.

Further, CoVEs might have good room for deploying autonomy (aligned to accountability mechanisms) to develop curricula and/or qualifications, self-evaluations or assessments whilst acting as network institution guiding other establishments to take responsibility for - assuring- quality. This might support ownership of centers to improve (self) performance.

¹⁵ See for instance ETF 2015(a).

External evaluations and performance indicators should be also developed to strengthening quality framework, as well as for feeding overall national monitoring system.

From all these elements shaping systemic VET quality issues, there might be three key aspects to prioritize for public and private stakeholder cooperation managing and assuring quality in CoVEs:

- (a) The quality –standards- of VET qualifications and curricula: the centres shall become *incubators* of strong cooperation among education and employers for delivering high level VET qualifications connected to H.E routes with strong currency for country economy, employers and employment (national, sectoral and regional labour markets). The value of qualifications builds on innovative-based curricula that ensures acquisition of cognitive, technical, technological, transversal competences (etc.), including those linked to vocational –excellence- capacity and attitude of learners.
- (b) The skills and knowledge of teachers and trainers: the success of designing and delivering relevant qualifications for labour market or innovative curricula in centers relies on the *excellent* capacities of teaching and training professionals. CoVEs should ensure multi-partite cooperation for assuring not only quality of contents of teaching, but also for support on attracting potential high-level staff with sound industrial expertise who might need update, upgrade or acquire sound pedagogic skills. The digital revolution is also transforming methodologies and teaching methods and this requires VET institutions that are capable to deliver sound continuous learning policies for teacher’s staff.
- (c) The quality assurance of well-resourced and highly-tech equipped schools environment is an essential aspect for building up a culture of continuous improvement and innovation to achieve *excellence* of the- new- CoVEs. These institutions have to be empowered to *simulate* or recreate quality of working conditions in the context of workplace-training situations (where in many occasions work placements might not be available). This is a key aspect also to contribute on promoting the formation of a vocational identity of future talented graduates who should take away with them all key values shaping workforce excellence.

Activating CoVEs: the key role of good practices to apply *learning by doing* approaches

The principles of –European- enhanced cooperation in VET, employment crisis (affecting young people in particular) and the issue of skill mismatch, are pushing forward many reforms in EU member states, to modernize VET policy frameworks -and institutions-. Such

initiatives place significant emphasis on public–private cooperation capacities at the provider level for empowering the socioeconomic role of VET skills and innovation as key dimensions to contribute to national and regional economic growth plans¹⁶.

The European Commission decision on launching platforms of vocational excellence (May 2018), among other implications, is a clear indication on how national policies are informing on trends for shaping the future of VET in Europe¹⁷. In this respect focusing on dynamics in the EU member states (MSs), from some years ago, many MSs are trying to make VET more attractive -and excellent-- setting up strategically CoVEs as a widely acknowledged policy option.

In this context, Public-private cooperation capacities at the provider level for empowering the socioeconomic role of VET skills and innovation is key dimension to contribute on national and regional economic growth plans¹⁸.

For example, various government policies in the **Netherlands** – framed within investment plans on shortage sectors (2010), investment funds in higher education (2012) and regional investment funds for VET (2014) and the Technology Pact (2013) – have paved the way to put PPPs in VET at the heart of supporting socioeconomic and regional development reforms in the country. In this respect, after the merge of VET schools and levels into a number of large Regional Training Centres in the late 1990s, the government of the Netherlands introduced Centres of Expertise in higher vocational education and Centres of Innovative Craftsmanship in middle VET.

These initiatives have been progressively evolving, for example into the development in the Netherlands of the Katapult community, a network of centres for VET. These centres are public–private ventures in which secondary vocational education schools (career and technical education), universities of applied sciences (community colleges), companies, governments and researchers collaborate in order to produce future-proof professionals and schooling.

¹⁶ For brief and concise indications on key drivers of VET reforms in EU Member States, see: <http://www.cedefop.europa.eu/en/news-types/articles>.

(¹⁷) The call is under lots so-called *Cooperation and Innovation for the Exchange of Good Practices*, within Sector Skills Alliances and *Networks of VET providers*. The first submission of project proposals closed at February 2019. The objective of this initiative is fostering *upwards convergence*, and streamlining sectorial approaches with thematic social challenges in VET. More infuse EC staff working document: https://ec.europa.eu/commission/sites/beta-political/files/budget-may2018-actions-erasmus-programme-swd_en.pdf.

(¹⁸) For having brief and concise indications on key drivers of EU MSs VET reforms it is recommended to check: <http://www.cedefop.europa.eu/en/news-types/articles>.

In recent years this community has grown substantially: currently, over 130 centres, more than 4 500 companies, around 50 000 students, almost 4 000 teachers and 83 secondary vocational education schools (SVES) and universities of applied sciences are participating. Over the past five years, special curricula and reskilling programmes have been established, and knowledge networks transformed into effective communities and solutions to address regional socioeconomic challenges¹⁹.

In **France** the Ministry of National Education and Youth has recently reinforced the role of VET institutions, addressing aspects of quality, excellence and networking for the development of cross-disciplinary and multilevel partnerships with other education and training providers, industry and higher education.

The ‘Campus des Métiers et des Qualifications’ (Campus of Trades and Qualifications) label identifies, in a given territory, a network of actors working in partnership to develop a wide range of vocational, technological and general training relating to secondary education and vocational training, higher education, and initial or continuing training. These providers are focused on specific sectors corresponding to national or regional economic priorities.

The national criteria for obtaining or renewing the ‘Campus’ and ‘Campus of Excellence’ label were published in the national education bulletin (13 December 2018). This sets out the criteria for the new category of ‘Excellence’, which meets the same criteria as the basic Campus des Métiers et des Qualifications label, though with higher levels required on some of them²⁰.

The **United Kingdom (UK)** also has a strong record, over more than a decade, of developing centres of excellence²¹. The capacity of high-level specialised VET providers to react to the skills needed by labour markets (e.g. the Welsh centre aiming to fill skills gaps in the low-carbon economy²²) and to address innovation, research, development and support to local business aligned to country framework for smart specialisation (e.g. InnoTech in Northern Ireland²³).

VET in **Spain** is quite decentralised. The regional dimension is a key driver for understanding how policies are shaped and delivered. In this respect, one of the most recognised CoVEs is the Tknika centre in the Basque Country²⁴. This institution is a hub for

¹⁹ More information: <https://www.wijzjnkataapult.nl/default.aspx>.

²⁰ <https://www.education.gouv.fr/cid79563/les-campus-des-metiers-et-des-qualifications.html>.

²¹ <http://www.swslim.org.uk/labourmarket/sectors/cove.asp>; <http://www.eal.org.uk/>.

²² <http://gse.cat.org.uk/>.

²³ <http://www.theinnotechcentre.com/>.

²⁴ <http://www.tknika.eus/liferay/en/web/public/home>.

promoting innovation in VET to support responses to the digital revolution and the needs of enterprises to become more competitive in the context of global markets.

Tknika is a reference point in the EU, for example on delivering new methodologies to support teachers and learners to develop excellent vocational attitudes and achieve sound learning outcomes. Innovation, creativity and entrepreneurship are key drivers of Tknika's activities in terms of transferring its developments to the VET provider network in the region. The Autonomous Community of Aragon has a national reference centre called the Centre for Innovation in VET of Aragon (CIFPA), which aims to promote technological innovation processes in the vocational training system in the region. The centre's mission is to act as an autonomous benchmark for VET faculty and a link between companies, students and workers.

The CIFPA, as the national reference centre for commercial logistics and transportation management in the Aragon region, is the key institution for channelling innovation in the sector. Thus, the centre's efforts are focused on innovation in vocational training and the creation of networks and partnerships between companies, students and workers, mainly in the commercial logistics sector and transport management²⁵.

Belgium (with a network of 24 Centres de Compétences²⁶) and **Denmark** (with, for example, RWTH Aachen University) are relevant examples of leadership by sectoral organisations, regions and higher education providers to boost and support excellence in VET²⁷. **Latvia** has optimised a network of VET institutions (2010–2015), focusing heavily on balancing sectoral and regional approaches to set up vocational education competence centres²⁸. In **Lithuania**²⁹ the focus is on the role of sectoral approaches, while **Estonia** has experience of focusing on regional multiprofile VET centres for promoting entrepreneurship and creativity for business development and management³⁰.

The experience of so-called industrial clusters responds to the logic of geographic concentration of specialized companies, developing high-added-value activities that might require a highly skilled, qualified and unique workforce in different sectors (e.g. in the

²⁵ <https://cifpa.aragon.es/>.

²⁶ <https://www.leforem.be/centres-de-competence/liste-des-centres.html>; <http://www.ifsb.lu/fr/>.

²⁷ <http://www.rwth-aachen.de/cms/root/Die-RWTH/Jobs/Ausbildung/Berufsausbildung/~epa/Berufsausbildungszentren/lidx/1/>.

²⁸ Cabinet order (6 /1/2010) Guidelines for the Optimisation of the Network of Vocational Education Institutions 2010–2015. More information: <http://www.cedefop.europa.eu/en/news-and-press/news/latvia-present-state-structural-reforms-vocational-education>.

²⁹ <http://www.cedefop.europa.eu/en/news-and-press/news/lithuania-sectoral-practical-training-centres-officially-opened>; <http://vtvpmc.lt/index.php/en/>.

³⁰ <http://icee-eu.eu/kuressaare-ametikool.html>; <https://www.ametikool.ee/>.

Tuscany region in **Italy** or Baden-Württemberg in **Germany**). These clusters connect companies with local institutions, technological suppliers and other research and development actors (e.g. technical vocational schools, universities). Such initiatives show how regional and sectoral approaches are balanced in terms of which clusters become learning networks, possibly through supply chains, where employers can learn from one another and might be able to share some of the training costs (see, for example, Cedefop (2012)).

In **Italy** there is a network of higher technical institutes (Istituti Tecnici Superiori – ITSs). Founded in 2010 as post-secondary non-university-level training institutions, ITSs are classified as ‘high technological specialisation schools’ that promote highly specialised education in order to offer students technical skills that are required on the labour market³¹.

In **Croatia** a network of regional competence centres in priority sectors is under development; 25 vocational schools were selected to act as regional competence centres during 2018³².

Focusing on pure dual systems, there is a long tradition of raising the profile of VET that is linked to employers’ role as policy implementers in the system (e.g. Germany, Austria, Switzerland). In **Germany** there are many examples of outstanding CoVEs led by Chambers of Commerce³³, while in **Austria**, for instance, the relevant and consolidated experience of regional clusters is worth noting (60 clusters with more than 7 100 cluster members, 73% small and medium-sized enterprises (SMEs)³⁴.

Other examples are available in Asian countries. In **Bangladesh**, a number of *Centres of Excellence* were established by industries with the support of the International Labour Organisation (ILO) and EU funding³⁵. In 2010, the German International Cooperation Agency (GIZ) launched a project for establishing two *Centres of excellence for vocational education* in Vietnam, with a purpose to improve the labour force training and adapt it to the needs of a green and sustainable economy³⁶.

³¹ More information: <http://www.indire.it/en/progetto/its-higher-technical-institutes/>.

³² <https://www.cedefop.europa.eu/da/news-and-press/news/croatia-establishing-network-regional-centres-competence>.

³³ <http://www.bistech.de/>.

³⁴

<https://www.bmdw.gv.at/WirtschaftsstandortInnovationInternationalisierung/ClusterplattformOesterreich/Seiten/default.aspx>; <https://www.clustercollaboration.eu/cluster-networks/austrian-cluster-platform>.

³⁵ http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/publication/wcms_226504.pdf

³⁶ <https://www.giz.de/en/worldwide/18758.html>.

Identifying type of CoVEs: key policy options for activating institutional set-ups

Once a definition of CoVEs has been formulated, classifying them should be a relatively short exercise. However, it is, in fact, a complex task. Research and practice are not always aligned when policy-makers need to start policy dialogue and advisory processes to consider models of CoVE for implementation. In this respect, for the purposes of discussing policy options for activating institutional set-ups and operationalizing CoVEs based on modalities observed worldwide, it should be possible to formulate a broad taxonomy based on how institutional and logistical settings are constructed.

The experience shows that selecting key operational aspects to target key characteristics and institutional scopes is –strategically- useful as an accompaniment to policy dialogue and reform processes for CoVEs.

These aspects are the ones that might better help to identify, to a greater or lesser extent, the different types of CoVEs that are running worldwide and how these models can be used to discuss policy options for decision-making processes regarding CoVE institutional set-ups.

These are as follows:

- ★ overall approach, at policy and system levels, to effective VET and skills multilevel governance (including evaluation and monitoring practices), financing and funding, including budgeting and VET costing practices;
- ★ VET quality assurance;
- ★ nature and type of PPPs;
- ★ innovation and networking functions embedded into the excellence factor;
- ★ balance between regional approaches and sectoral versus multisectoral remits of CoVEs;
- ★ conditions of VET school networks aligned to the vision and plans of national (and regional/local) governments for optimising/rationalising vocational education institutions;
- ★ role of international donors in the strategic design and funding allocations for investment in VET centres or networks of excellence.

These issues should be carefully considered as key policy areas when setting up different types of CoVEs, which might have as a common features, from an organic and managerial perspective, their multifunctionality.

Other important aspects for understanding the dynamics of CoVEs – such as teaching training and learning, types and forms of curricula and qualifications, guidance, VNFIL practices, and the capacity for developing skills anticipation strategies – will inform the institutional scope. Hence, these could all serve as specific thematic areas to help in the classification of CoVE

types.

CoVE typology is vital for visualizing and for understanding the importance of selecting an appropriate model (or models) for any country. The classification presented in Table 1.1 is not intended to fully cover or precisely distinguish all possible variations of the models, but it does clearly explain the key features and characteristics of different CoVE categories and also the roles they play within national VET systems.

Further, the typology introduces broad categories of CoVEs, which might not always fall under one single form or type. The taxonomy builds on an increasing number of examples worldwide (EU, ETF partner countries and international cases) of some of those selected and presented in this paper. Some countries might have more than one modality of implementation, as indicated in the table.

TABLE 1. TAXONOMY FOR SETTING UP VET CENTERS OF EXCELLENCE & INNOVATION				
IMPLEMENTATION MODALITIES	KEY FEATURES & CHARACTERISTICS	INSTITUTIONAL SCOPE	INTERNATIONAL CASE STUDIES	OTHER REMARKS (*)
<i>Partnership-based organisations and/or networks forming ecosystems of excellence and innovation for providing high level skilled specialists required in national and international labour markets and for contributing on the development of national and regional economies</i>				
<u>A</u> VET Centres of Excellence created as a new and independent training provider.	<ul style="list-style-type: none"> ▪ These centres might be set up from the scratch in a new urban or even rural area isolated and/or just not connected to other existing institutions. This can be done in new buildings or existing ones by profiting suitable land spaces for refurbishing renewed establishments, which might be also geographically connected to an industrial area. ▪ Involving industry to finance or co-finance from the beginning should be the way for setting up these centres. Thus, intensive resources allocation are needed for kick-starting. However, this is also strong asset for this option as early and quick involvement from industrial actors brings benefits on effective public-private governance as new centre is aligned to both employers and government policy goals. 	Type of institution which might be linked to industrial/ sectoral body or cluster. Sectoral-based organisations remit.	Morocco Industrial Centres in Automotive and Aeronautic sectors. Bangladesh has set up centres of excellence in different sectors (e.g. leather industry). Singapore: Centre on Innovative materials used in construction sector.	<ul style="list-style-type: none"> ▪ Land properties of some VET schools closer to industrial clusters might be suitable ground for launching this type of projects. ▪ Foundation of new type of institutions might be granted for having CoVEs status. International partnerships, approaches and/or standards for accreditation of training/ skills might be strong assets.

<p><u>B</u></p> <p>VET Centres of Excellence as independent training institutions created from existing provider which might deploy extended functions.</p>	<ul style="list-style-type: none"> ▪ These centres are not set up from the scratch. They are existing institutions that become centres of excellence indeed. This option should be seen as a natural way to set up centres profiting resources within network of existing institutions, including suitable land spaces for having renewed establishments which might be also geographically connected to an industrial area. ▪ At the same time, this type of VET Centres can become hubs of a kind of conditional networks. This means that such institutions are drivers of excellence and innovation for VET networks by contributing on methodological developments, research and/or capacity building of other institutions and/or overall VET community at national and/or (cross) regional levels. 	<p>These type or status institutions/ organisations might become recipients for pooling regional resources in VET and sectoral/multi-sectoral skill priorities.</p>	<p>Moldova regulated and legislated VET Centres of Excellence merging institutions targeting 11 sectors. Type of institutions feeding VET colleges acting in the same sector.</p> <p>Armenia regulated status of regional state VET institutions in one of each 10 regions and 2 in Yerevan capital reorganised into Regional State Colleges. They are networked with VET colleges act in the same region (1).</p>	<ul style="list-style-type: none"> ▪ Strategic component can be balanced with regulatory or legal frameworks for redefining the role of VET in the country. ▪ Combination of both <i>soft</i> (memorandums of understanding) and <i>hard</i> tools (<i>framework regulations</i>) might bring benefits on effective dialogue for enhancing social partnerships function to implement such modalities.
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<p><u>C</u></p> <p>VET Centres of Excellence as a part of other Training Institutions.</p>	<ul style="list-style-type: none"> ▪ This option might be another natural form of establishing centres as facilities of providers should be already profited for being improved. This can be done on Tertiary institutions or VET provider which are high level performers. ▪ The <i>new VET Centre of Excellence</i> becomes a reference and/or good practice on excellence/innovation, based on its high level practice/performance as it is profiting social and educational reputation held by previous institution (<i>cost-effectiveness</i>). 	<p>Type of institutions which can be granted to have such status after accreditation, assessment and/or quality assurance processes. Mostly sectoral remits.</p>	<p>Belarus <i>International Innovation Environment Park</i> on renewable energy.</p> <p>Netherlands: Regional Education & Training Centers (ROC).</p> <p>Canada (Oil& Gas Centre).</p> <p>Vietnam (technology and machinery colleges). Asia Pacific School of Logistics at the Inha University in the Republic of South Korea.</p>	<ul style="list-style-type: none"> ▪ Reputed Colleges on which might cohabiting VET & Higher Education educational pathways might be good grounds for testing this option. ▪ Industrial Employer Centres or others owned by other Ministers (e.g. Social/Labour Policies) might be also good grounds for implementing this option. Enhancing and integrating functions of innovation, research and/or excellence would be needed alongside Quality Assurance processes to reach such status.
<p><u>D</u></p> <p>VET Centres of Excellence as Network Organisations for feeding Excellence & Innovation values into VET Community.</p>	<ul style="list-style-type: none"> ▪ Leading institutions, organisations, institutes, agencies (etc.) which coordinate network of high quality training providers to support them operating in cooperation for forging links with industry. ▪ Such institutions might be both providers and reference leaders on methodological developments, innovative learning practices and/or introduction of new equipment/technologies 	<p>This <i>status-based or just</i> type of institutions have leading role on creating a culture of excellence and innovation in the country/regions/schools.</p> <p>They can offer platform for sectoral or multisector training and/or teaching and other innovative learning solutions,</p>	<p>Netherlands: <i>Katapult Network</i>. STC group (Shipping, logistics, transport & process industries) Spain-Country Basque-TKNIKA & Aragón- (Centre for Innovation in VET)</p> <p>Ukraine i-HUB network of innovation and entrepreneurship.</p> <p>France <i>Campus the metiers et</i></p>	<ul style="list-style-type: none"> ▪ Selection procedures and technical specifications should be carefully considered for selecting leading institutions. ▪ Networks might bring useful solutions when skills needs in sectors or related sub-sectors are different. ▪ Communication and vision-building capacities are key for implementation and success on networking to link industry and public

	<p>(etc.).</p> <ul style="list-style-type: none"> ▪ Networking provides the opportunity to improve sharing experience and performance based on building partnerships with industrial actors for excellence and innovation. ▪ Networks of excellent might be highly valuable for aligning quick identification of needs of the industry on innovative solutions linked to national and/or regional governments' priorities. They can have international dimension. 	<p>qualifications (etc.).</p>	<p><i>qualifications</i> gathering VET & H.E institutions. UK-National Skills Academy for Nuclear (NSAN) New Zealand: Vi Virtual Centre led by Education Council.</p>	<p>stakeholder views.</p>
<p><u>E</u></p> <p>VET Centres of Excellence as a Multi-profile/ Sectoral Provider institutions.</p>	<ul style="list-style-type: none"> ▪ Multisector education providers might offer high-level qualifications, at least, in occupations related to two or more major/priority economic sectors acting as regional development <i>hub</i> centres. ▪ These type of VET providers should contribute <i>inter alia</i>, to diversifying VET offer whilst avoiding overlapping provision of same specialities/profiles in different institutions which can create inefficient competition on VET offer between VET establishments. 	<p>This type of institutions ensures a wide scope of institutional services not only regarding both youngest and adult learners but on access to difficult geographical areas</p>	<p>OMNIA in Finland is multisector provider offering innovative learning environments and beneficial partnerships both in national and international education development projects. Multifunctional VET Centres/Colleges in Albania set up in flexible way across regions.</p>	<ul style="list-style-type: none"> ▪ This option might be very suitable as previous step for rationalising larges and costly-effective/efficient VET public networks. ▪ Sectoral social partners & employers might be easily attracted by this way of reorganising network based on the added value of inter-sectoral participation and cooperation logics.

Author: Galvin Arribas, J. Manuel.

Sources: Author's elaboration based on ETF experience of setting up CoVEs in Galvin Arribas et al. (2019, in press) and Galvin Arribas (2018, unpublished). Also based on: Veal, K. and Todd, R. Development Asia ADB (2018), EC DG Employment policy paper on platforms of VET excellence (September 2018), and findings of six discussions groups held in the course of ETF project in six Ukrainian regions plus other references (see bibliography).

NOTES: The typology introduces broad categories, as CoVEs might not always fall into one single category, form or type. The taxonomy builds on an increasing number of examples worldwide of those selected and presented in this article. Some countries might have more than one modality of implementation. In any case, the issue of status versus type of institution might be as crucial as it is also the challenge to feed excellence and innovation dimensions for steering the reform of VET institutional networks. The most obvious way of clarifying the status versus type is when this is directly mentioned in national or regional legislation. However, in many of the cases presented in this taxonomy, this is not explicitly defined. Therefore, for some countries, it might not be technically correct to state that CoVEs are conceived as a particular status or type. Specifications and other specificities informing the processes of implementing international donor projects worldwide should also help to clarify such dilemmas.

Some CoVEs assigned under type B above, such as those in Armenia (and even Moldova), could also be categorised as type E.

*Further remarks are provided which might be of particular interest, though in some cases they are relevant only to specific country policy contexts.

The taxonomy illustrates that the dynamics of some specific CoVEs can lead to a number of policy choices that are between, or a combination of, the regional and sectoral approaches. To complement the picture, the balance between the sectoral and regional remits of CoVEs can produce the following institutional combinations:

- **Regional Sectoral (R-S):** specialising in one of the main economic sectors of the region and serving the skills/employment needs of this sector for the region;
- **Regional MultiProfile (R-MP):** specialising in several of the main economic sectors of the region and serving the skills/employment needs of the region;
- **Inter-Regional Sectoral (IR-S):** specialising in one economic sector and serving the skills/employment needs of this sector for several regions or the entire country;
- **Inter-Regional MultiProfile (IR-MP):** specialising in more than one economic sector and serving the skills/employment needs of those sectors for several regions or the entire country.

However, whichever policy option countries might take, the establishment of CoVEs needs to be based on a careful assessment of overall governance arrangements and financing capacities of the VET system, as well as on a thorough diagnosis of the VET network. The regulatory framework and legal status, founders, board composition, executive division of tasks, budget estimates and the costing of external and internal infrastructures of CoVEs are essential elements that must be addressed within the overall policy development process.

CoVEs as *policy drivers* for steering a new era of VET institutions: Conclusions and policy messages

Evidence and experience reported in this paper shows that setting up CoVEs is getting higher in VET and skills policy agendas in developed and developing -and transition- countries. This is perhaps, because CoVES might bring systemic changes.

The European Commission and Member States (MSs) are strongly promoting excellence and innovation as a core drivers to reform VET systems. International donors are also quite active to support, in particular, developing countries on setting up CoVEs to address the challenge of quality skills, support digital revolution and delivering relevant skills useful for the labour market.

Nevertheless, excellence and innovation in VET are both challenging concepts to operationalize. They might be better build, at first stage, on informed-based- decisions for rationalizing and/or optimizing VET school networks and skill provision (e.g. previous assessments of effectiveness and performance of VET establishments). Otherwise, VET network reforms may create political tensions among policy makers and *dumping-effects* in VET networks, as other VET providers can be perceived with lowest status than CoVEs - network-institutions. This might open tricky questions for VET communities such as: *why only few VET establishments might be excellent? Why not the whole VET network should be excellent?*

At this point, and additional issue in the policy process is how to decide granting excellence to VET institutions (e.g. institutional competitions, some good performers archives status, regulating types or forms for further legislating etc.). All this indicates that setting up CoVEs requires both high-level of human and financial capacities indeed.

Capacity assessments is a key aspect for further delivering policy tools (e.g. management, operational and methodological plans, analytical frameworks, teacher's and trainer's strategies for professional development etc.). They should support on more effective policy planning for moving *from rhetoric to practice* and achieving *policy impact* of CoVEs. Quality assurance (Q.A) is a must for ensuring, among other aspects, innovation standards within overall dynamics of CoVEs whilst focussing on having outstanding learning processes and obtaining relevant learning outcomes provided by these institutions *for making the difference*.

Overall, the strong focus on VET quality and innovation for setting up CoVEs should be complemented by strong managerial and networking capacities for forging public-private

partnerships. CoVEs governing board's role, acting as *strategic networkers* is key capacity, for attracting and bargaining agreements with employers and other relevant industrial players. In this context, CoVEs boards might deploy, for instance, effective coordination with sector skill councils or committees, providing expertise support to develop relevant work based-learning (WBL), continuing training, set up career guidance services, defining occupational standards, updated curricula, carry-out sectoral skill needs analysis or conducting processes of validation of non-formal and informal learning, etc³⁷.

Determining the necessary amount of public funding to incentivize mobilization of private resources is another essential aspect for setting-up -and sustaining- good CoVEs –performers-. In this context, effective multilevel governance and Public Private Partnerships (PPPs) are key components for making CoVEs interacting as network organizations within sectoral and regional learning ecosystems. This is also setting up CoVEs as key pillars for developing smart specialization approaches. In this context, CoVEs development should benefit from multichannel financing experiences (e.g. pooling taxation resources from local and regional public budget to attract other type of private investors). This leads, perhaps, on experimenting new forms of social partnerships in VET and skills development policies.

CoVEs might be also play good role as drivers for informing on how increased autonomy - and accountability- of VET institutions should be granted and implemented in countries which decide decentralizing policymaking. The central level should support on monitoring, evaluating and defining both analytical and policy frameworks, whilst regional and local actors are key implementers helping CoVEs decisions, as they are privilege beneficiaries of their services.

Considering all this, it would be plausible to assume that CoVEs might become leading organizations within *new era of VET institutions* in the years to come. CoVEs are institutions with extended or amplified functions that, in principle, should be capable to assume wider and diversified types of responsibilities to increase VET responsiveness (and image, reputation). In this respect, they could be conceived as *strategic ambassadors* for better marketing VET policies and systems laid on the pillars of excellence and innovation, and initiate (although sometimes *vice versa*) optimisation and even rationalization of VET providers' networks. The conditions of VET networks and VET status in the countries matter a lot.

³⁷ See ETF policy briefing Sector Skill Councils: forging partnerships for relevant skills available at: http://www.etf.europa.eu/web.nsf/pages/Inform_22_Sector_Skill_Councils.

However, strong need on building vision and capacities of key stakeholders is core issue for sound performance of CoVEs. This is complex -and costly-. *Learning by doing* approaches seems to be an optimal way of doing so, as international experience informs on multiplicity of approaches to set up and managing CoVEs with no *single template* for borrowing policies. At this point, policy learning on CoVEs is crucial as stakeholders have to promote necessary changes for pushing reforms forward considering that their VET systems and communities differs a lot from one to another . This is more exacerbated when central level devolves powers to regions. They have different managerial traditions, performance standards, needs, and capacities. At this point, taking into account the current international policy development in CoVEs presented in this paper, peer learning/reviews and study *tours* are crucial tools for supporting VET stakeholders (public and private) in cooperation with other practitioner's and experts (at international, national, sectoral, regional/local and providers levels).

There is little evidence on assessing and evaluating CoVEs performance (effectiveness/efficiency). This is an additional issue for many countries to implement policy review, and for consolidating a culture of continuous improvement. CoVEs monitoring and evaluation of practices/projects are strongly needed for better understanding, for instance, sustainability factors, cost-benefit relations, and impact of networking and transmissions of CoVEs outcomes linked to overall engine of VET systems (etc.). Overall, it will help a lot on better understanding the full potential of such network institutions for the best future of VET skills during next decades.

Sources and other references

- Australian AID & ADB. (2014). Innovative strategies in TVET for accelerated Human Resource Development in south Asia.
- Cedefop. (2014). Terminology of EU education and training policy: A selection of 130 terms.
- Cedefop. (2014). Assuring quality in VET: the role of accrediting VET providers.
- Dolado, J. (2015). No Country for Young People? Youth Labour Market Problems in Europe, CEPR Press.
- European Commission (EC) (2010) Bruges Communiqué. Communiqué of the European Ministers for Vocational Education and Training, the European Social Partners and the European Commission.
- European Commission (EC)/Advisory Committee for Vocation Training (ACVT). (2018). Opinion on the future of Vocational Education and Training post 2020 (3 December.

- European Commission DG Employment and Social Affairs. (2018). Platforms of Vocational Excellence. Concept paper (unpublished).
- European Commission DG Employment and Social Affairs. (2019). Mapping Centres of Vocational Excellence- ECORYS (first draft unpublished).
- EC staff working document. (2012). VET for better skills, growth and jobs (accompanying COMM rethinking education: investing in skills for better socio-economic outcomes).
- ETF. (2013) Good multilevel governance for VET-working document.
- ETF Rama, L and Sulstarova A. (2014). Multifunctional VET Centres in Albania (feasibility study).
- ETF. (2015a). Governance of VET in Southern and eastern Mediterranean.
- ETF. (2015b). Torino process 2016 (unpublished country reports).
- ETF Watters, E. (2015c). Systemic and systematic quality assurance in VET (position paper).
- ETF Galvin Arribas, J. Manuel. (2015d). Sector Skills Councils: forging partnerships for relevant skills (policy briefing).
- ETF Galvin Arribas, J.Manuel. (2018). Setting up VET centres of excellence and innovation: thinking policies and learning practices. Concept (note-unpublished).
- ETF Galvin Arribas JM, Avagyan, A and Logorov L. (2019). VET decentralization and setting up VET Centres of Excellence and Innovation: the case of Ukraine (forthcoming publication 2019).
- ETF Galvin Arribas JM and Papadakis N. (2019). Governance arrangements in Vocational Education and Training in ETF Partner Countries: Analytical overview 2012-17.
- ETF. (2019). Policy Paper on VET Centres of Excellence (forthcoming publication).
- Government of Latvia -Cabinet order (6/1/2010). (2010). Guidelines for the Optimisation of the Network of Vocational Education Institutions (2010-2015) (unpublished).
- Heemskerk E. and Zeitlin. (2010). Centres of Expertise and Centres for innovative Craftsman *Public-private partnerships in Dutch VET: learning, monitoring and governance.*
- ICF/GHK. (2014). Survey of VET-business cooperation on skills, entrepreneurship and apprenticeships. Final survey report.
- Klotz, V K and Billet, S. (2014). Promoting workforce excellence: formation and relevance of vocational identity for VET. Empirical research in VET. Springer.
- NCVER, Callan, V and Bowman, K. (2015). Lessons from VET providers delivering degrees.

- OECD Frankowski *et al.* (2018). Dilemmas of central governance and distributed autonomy in education, Paris.
- OECD. (2018). Harmonised unemployment rates, Unemployment rates aged 15–24, News release (press note July 2018).
- Polesel J, Klatt M; Blake D and Starr K. (2017). Understanding the nature of school partnerships with business in delivery of vocational programmes in schools in Australia. *Journal of Education and Work* Vol.30 NO 3 283-298.
- Puckett J., Davidson J and Lee E. (2012). Vocational Education: the missing link with economic development.
- USAID. (2006). Operations manual for a Model of Centre of Excellence (Jordan).
- Veal, K and Todd, R. (2018). Development Asia- ADB Creating Centres of excellence to fill critical skills gaps. Policy note.