

Executive Summary

What is systemic innovation?

The main aim of this study is to analyse the process of innovation in education. To this purpose, systemic innovation is defined as any kind of dynamic system-wide change that is intended to add value to the educational processes. Chapter 1 discusses the advantages of such a perspective. Particular attention is given to how countries go about initiating innovation, the processes involved in development and implementation, the role of drivers and barriers, the relationships between main actors, the knowledge base which is drawn on, and the procedures and criteria for assessing progress and outcomes.

For those interested in innovation in education, whether practitioners, researchers, policy makers or non-specialists, the systemic approach offers a good starting point for examining how a particular educational sector, institution or organisation goes about innovation.

Why does it matter for Vocational Education and Training (VET)?

The analysis of innovation from a systemic perspective has been very limited in this field. Those analyses of innovation in VET that go beyond particular case studies of institutional or discrete initiatives tend to focus either on the links between new technological developments in a particular economic sector and the resulting demands for VET, or on the promotion of the innovative spirit that is usually attached to an entrepreneurial approach to employment and business opportunities. There is thus a shortage of research on both systemic innovation in VET as a whole and in policy approaches to guide such systemic innovation.

In an attempt to close the existing knowledge gaps, this project has worked towards answering the following questions:

- What was the process for identifying key areas for innovation and who was involved?

- How were bridges between stakeholders brokered to allow for exchange of knowledge and practice?
- What were the principal knowledge sources and types drawn on in preparing the innovation?
- How was the process of innovation development implemented?
- How was the process scaled up (e.g. from local to national/regional level)?
- What were the criteria used for evaluating the innovation, and how were these applied?
- What were the positive and negative lessons learned, with respect to both process and outcomes?

What are the lessons learned?

This project improves the understanding of how systemic innovation works in the VET sector in four areas.

1. Systemic innovation is a useful analytical framework for the assessment of innovation policies in VET.

The main benefit of the systemic innovation approach is that it can help governments and other stakeholders have a comprehensive evaluation of how the system works and how they can enhance their innovation capacity. It is thus relevant from a policy perspective because it makes transparent what information gaps exist and, particularly, where in the lifecycle of the innovation a good evidence base might be more useful. In the end, the systemic approach to innovation contributes to the assessment of how the innovation system works and to the identification of policies that are capable of boosting the innovative potential of the VET system.

2. A coherent and targeted system should be in place to promote and support successful innovations in VET and to induce system-wide change. Such systems are still infrequent at country level.

Relatively few countries have a formalised structure to promote and support innovation, capacity building to enable it, and a coherent set of knowledge management mechanisms linking innovation with research. Only Switzerland and, to a lesser extent, Australia, can be said to have designed a systemic approach to innovation in VET. Although efforts to develop a systemic approach to innovation in VET are still rare, they have the potential to develop better processes and contribute to an incremental improvement of the VET system.

The need to respond in a timely manner to the socio-economic challenges that all VET systems are facing in an increasingly globalised and rapidly changing world seems to be driving most of the systemic innovations that this project analysed. Political leadership and capacity to steer and manage innovation, the availability of resources, and the existence of regulatory mechanisms supporting the process all seem to play a crucial enabling role in most systemic innovations. Equally, the availability of evidence, under the form of a coherent and easily accessible knowledge base, and a good level of consensus among stakeholders are important during the design and implementation of the innovations.

Nevertheless, innovation enablers and barriers are not universal but rather context specific, and their importance seems to vary depending on the cases and the context. This is particularly true of the role of consensus among stakeholders, of evidence and of political leadership. In particular, evidence can facilitate the adoption of innovation and inform the process – although the case studies suggest that innovations are mostly drawing on tacit knowledge and beliefs or a sense of urgency to change the *status quo*.

3. VET systems need a formalised, coherent, well-sustained and up-to-date knowledge base to increase their innovation capacity, to address knowledge gaps and to benefit fully from systemic innovations.

VET innovations are seldom the result of an embodied set of knowledge or empirical evidence accumulated over the years on which stakeholders base their decisions and to which they contribute with their feedback. Moreover, countries do not seem to pay enough attention to monitoring and evaluating how innovations evolve in the context of the VET system, particularly those whose realisation requires a large amount of policy commitment and financial investment. In addition, little has been done to assess when a particular innovation can be said to be a success or a failure, and what lessons can be learned.

Although there has not been an empirical validation of the assumption that a better knowledge base results in more successful innovations in our case studies, the existing lack of links between research and innovation efforts in VET is remarkable. This is reflected mostly at government level, with a generalised lack of attention to the issue of bringing together both activities to result in a coherent knowledge base. But it is also clear that innovation on the one hand and research on the other seem to appeal to different profiles of professionals in education.

Finally, it is particularly perplexing to see a lack of research evidence and breaks in the feedback loop of the evaluation process in light of the push for greater accountability and increased assessment of the system, teachers, and students that has been on the political agenda in the last two decades. This is a clear incoherence in the system that needs to be addressed.

4. VET systems may be losing innovation opportunities due to a lack of evaluations and knowledge feedback.

Despite its potential, the evaluation of innovations seems to be missing from most VET systems. This applies to local and discrete innovations and to top-down innovations, including those aiming for system-wide impact. A number of reasons may explain this, ranging from the lack of sustained VET research efforts, the disconnection between practitioners, researchers and policy makers, the lack of dedicated mechanisms to gather relevant information or even the prevalent culture of the sector.

The relevance of evaluation becomes even clearer regarding piloting. Pilots fulfil a very important role in systemic innovations that aim to have a deep impact on the system. While they are costly in terms of time and resources, they play an important role in the prevention of implementation gaps and innovation fatigue. Unless a monitoring and evaluation procedure is carefully implemented, however, the benefits of pilots may be lost.

What are the policy implications for VET systems?

Chapter 4 looks at the role of government, policy, and the research agenda. In times of economic crisis, a systemic approach to innovation in VET is even more urgently needed. The programmes that many governments have launched to respond to the financial crisis have been coupled in many cases with an in-depth reflection about the way in which our economies work and with strategies to promote longer-term development and vision. This reflection shows that in the medium and long-term, innovation will be a key factor not only in economic growth but also in social welfare. The VET sector should be no exception to this.

To set up the conditions for such a system, governments in particular, with the support of the other stakeholders in VET, need to:

Develop a systemic approach to innovation in VET as a guiding principle for innovation-related policies.

Such a systemic approach includes at least five basic elements.

1. A clear policy intended to support VET research in the light of national priorities, both at policy and practitioner levels.
2. An evolving framework for sustaining both top-down and bottom-up innovations in VET, including monitoring and evaluation mechanisms which can contribute to the generation of new knowledge about VET policies and practices.

3. A unified knowledge-base which includes both VET research evidence and the new knowledge emerging from the assessment of innovations, including links to international knowledge bases on these topics.
4. Regular efforts to synthesise and disseminate new knowledge on effective VET policies and practices, so as to challenge the status quo of the system, set new horizons and contribute to incremental change.
5. Capacity building (structural, personal) to enable all the elements above.

Promote a continuous and evidence-informed dialogue about innovation with the stakeholders in VET.

VET policy discussions are particularly prone to biased uses of the knowledge base, given the absence of solid empirical evidence. However, the engagement of stakeholders in policy dialogue is a prerequisite for reaching consensus and promoting successful policy interventions in VET. It is therefore of the highest importance to inform the policy debate with clearly presented evidence.

Build a well-organised, formalised, easy to access and updated knowledge base about VET, as a prerequisite for successfully internalising the benefits of innovation.

In many countries the usual mechanisms that would contribute to the articulation of a knowledge base are not in place (such as dedicated journals, academic journals, conferences, national reference and research centres). Some countries may want to address this need by using existing facilities or mechanisms, while others may prefer to set up new measures as an indication of the increased priority allotted to innovation in VET, for instance the creation of dedicated research centres, networks or public calls with clearly stated research priorities. The benefits of investments made in VET innovations will not be adequately recognised or of use unless the appropriate tools for knowledge management are in place: to share knowledge (for instance, between stakeholders and diverse sources of innovation), to accumulate that knowledge in a consistent and coherent way, to articulate it so as to generate clear messages, and finally to disseminate results in decision-oriented terms both for practitioners and policy makers.

Supplement investments in VET innovations with the necessary efforts in monitoring and evaluation.

It is in the best interest of public governance and accountability to generate the mechanisms and procedures required to approach critically both bottom-up and top-down innovations. An empirical assessment can contribute decisively to:

- Inform decisions about scaling up or diffusion of innovations.
- Instil in the main actors the culture of output-oriented innovation: innovations aimed at measurable improvements which can help to cope with innovation fatigue or resistance.
- Get value for money.
- Obtain feedback on the results of particular policy measures intended to foster innovation.

Support relevant research on VET according to national priorities and link these efforts to innovation.

VET research is, compared to other areas of research in education, ill-served for a number of reasons. VET systems could greatly benefit from a national system of VET research which combines the following elements:

- funding opportunities for researchers according to national priorities with international standards of quality;
- capacity building with the co-operation of research centres and universities, if possible in view of cooperation with international networks;
- dissemination activities, particularly by means of tailored publications, intended to engage a large range of stakeholders in the discussion of the implications of research evidence, who in some cases may require some additional capacity building;
- set up mechanisms for the involvement of those institutions or programmes responsible for initial and continuous VET teacher training.