

UNESCO-UNEVOC's trends mapping on innovation in TVET

UNESCO-UNEVOC's 2018 Global Learning Forum on 'Managing skills in a time of disruption' put a spotlight on the impact that changes in climate, digital technology, demography and migration have on the way we live and work.

The transition to a green economy, the implementation of digital technologies in the world of work and the emergence of new forms of entrepreneurship are not only changing the profile of jobs, but are also creating new solutions for social and economic problems in the form of innovations.

Traditionally, the term innovation has been used in the business context to refer to something new that generates business value. Recently, innovation has also been applied to different sectors (e.g. the public sector, education and health) to improve the quality of life, enhance public services and better respond to society's needs. As TVET adapts itself to the impacts of various disruptions, innovative practices emerge with the potential to ensure that the provision of quality TVET remains relevant and accessible to all.

Importantly, current developments in TVET suggest that many types of innovative practices are already being developed or deployed.

With the objectives of strengthening collaboration, knowledge exchange and peer learning on innovative practices in TVET, UNESCO-UNEVOC's trends mapping study aimed to identify what innovation means for the TVET community and its implications, taking into account different geographic, socio-economic and political contexts. The outcomes of the study support the International Centre's innovation hubs (i-hubs) initiative.

The trends mapping study effectively mobilized the international TVET community to talk about innovation TVET, broadly agreed as

A substantial change in the way TVET is practiced making it more relevant to the needs of the economy, society and the environment



Climatic disruption

The transition towards equitable and sustainable economies is placing pressure on TVET systems to prepare the labour force for green and sustainably orientated jobs.



Migration and demographic shift-related disruption

TVET systems need to be oriented not only to local skills supply, but also to the skills available from migrating populations.



Digital disruption

Developments in digital technology, including Industry 4.0, smart production and big data, not only affect the skills demands in labour market, but also change the profile of jobs.

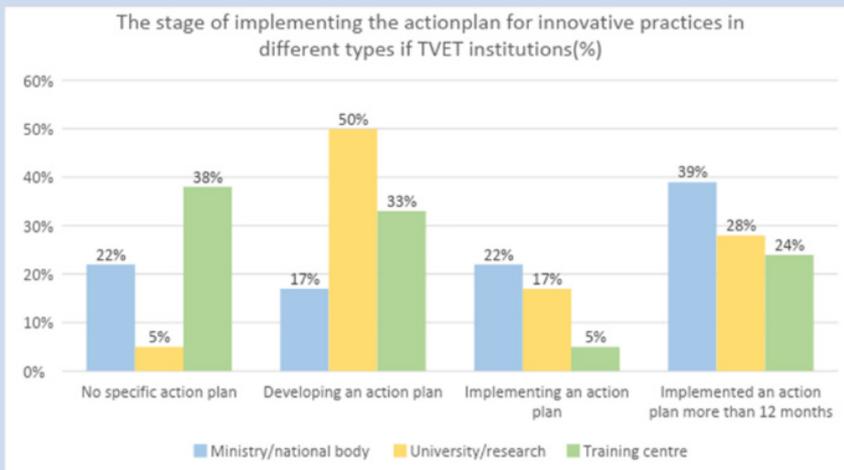


i-hubs
UNESCO-UNEVOC
Skills for Innovation Hubs

Launched in 2019, the 'Skills for Innovation Hubs' initiative aims to empower TVET institutions to act as agents for innovation. The initiative adopts a systemic approach to innovation at the institutional level, combining innovation and skills for employability, growth and development within the institution's environmental outreach. Through the approach, TVET institutions consolidate their current and explore the potential for further innovative practices.

Innovation in organizational practices focus on the leadership, management and culture of the institution. It encompasses planning, financing, human resources management, administrative structure, and internal monitoring and communication.

- **Innovative TVET management practices** can support the development of systemic innovation in the institution, and help to overcome fears among staff and other stakeholders regarding change.
- **High levels of autonomy** in TVET systems can incentivize institutional managers and teaching staff to develop institutional objectives and strategies to achieve them, including financial and assets management.
- In order to build capacity for innovation in TVET, it is crucial for TVET institutions to consider a **comprehensive human resource management approach** that goes beyond in-service trainings and includes different instruments such as appraisal interviews, target agreements, and (individual) feedback.



The trends mapping study shows that:

- **Training centres often have limited experience in strategic planning and implementing action plans for innovation.** 38 per cent of training centres said that they had no experience in developing strategic plans for innovation, compared to 5 per cent of universities and research centres. Ministries and national bodies tend to have more experience.
- **While training institutions focus on in-service training, less attention is paid to other human resource management practices, including recruitment, appraisal and incentives.** Almost 90 per cent of TVET institutions conduct in-service training and about half of the TVET institutions reported the implementation of promotion and career development opportunities. Having said this, less than half of the TVET institutions reported implementing appraisals and incentives for employee innovative performance and employee recruitment policies that focus on innovation skills.

External relations (Ecosystem)

The way an institution interacts with its local skills ecosystem and other regional and international partners can have a significant impact on the provision of TVET. Innovation in the external relations involves advocacy and external monitoring, networking, external engagement, and internationalization.

Different types of partnership can be applied between TVET institutions and external actors:

- **Partnerships in public policy** that aim to shape public and political debates and bring about substantial changes in TVET legislation and governance
- **Partnerships in systemic educational improvement** that aim to combine and channel resources in different ways and implement specific TVET policies
- **Partnerships in TVET management** that aim to provide TVET managers with support running an organization and business expertise in a broad range of areas
- **Partnerships in teachers training and development** that aim to provide opportunities to TVET personnel to update, upgrade or maintain their skills
- **Partnerships in classrooms** that aim to bring business and occupational expertise into classrooms
- **Partnerships in special services** that aim to provide short-term, projects or student-specific activities or resources to help with a specific problem or need identified by external actors



The trends mapping study shows that:

- **Government, small- and medium enterprises, and other TVET schools and training providers are regarded as the main partners** in the development and implementation of innovative practices.
- While Ministries, national bodies, universities and research centres reported having good relationships with external actors, **training centres stated that they have less capacity to engage with external actors.**

Public-private partnerships, which can introduce resources and expertise from private sectors to provide public sectors with assets, is important strategy to address the challenges of modern TVET systems in terms of the provision of real-work learning.

Innovative partnerships with the informal sector benefit TVET as it gives access to localized knowledge flows, help generate innovative ideas and solutions, and create new learning spaces, including workplaces, small business, community settings, and informal learning networks.

Products and services

Innovative products and services can include non-traditional TVET services (applied innovation through incubators, research and development) and services focused on career development and skills.

Products and services offered by TVET institutions can contribute to the development of innovation by:

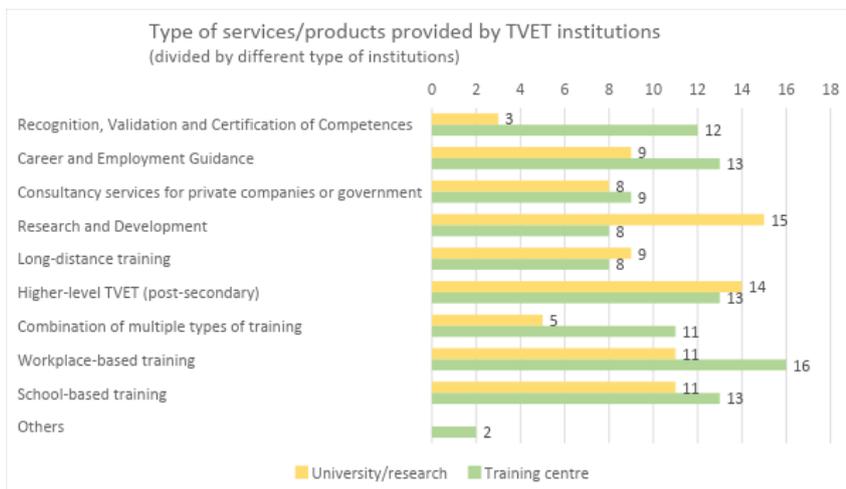
- Equipping the workforce with relevant innovative and 21st century skills (problem-solving, critical thinking etc.)
- Acting as an intermediary between companies and services, helping enhance technology transfer and information exchange
- Providing technical expertise to local industry
- Developing applied research

By **diffusing technology** and developing **applied research**, TVET centres are able to contribute to the development of local systems of innovation. Moreover, the mainstreaming of entrepreneurship education in TVET institutions can help expose students to generating innovative business ideas, business and strategic planning, finance, marketing, and the use of information and communications technologies to achieve better business results.



The trends mapping study shows that:

- **Current products and services provided by TVET institutions not only focus on educating and training the labour force for innovation, but also include activities related to knowledge generation and technology diffusion.** These are new opportunities for TVET institutions to expand their scope of activities and create greater impacts in the local skills ecosystem and generate benefits for the society, economy, and the environment.
- While training centres tend to focus on providing products and services with the aim of equipping students with relevant skills, universities and research centres are more capable of providing a mix of skills development solutions and applied research in their ecosystems of innovation.



Teaching and learning processes

Teaching and learning processes can include the preparation, implementation and delivery of curricula, as well as new learning pathways – such as distance learning – that aim to improve access to TVET.

- **New pedagogical practices** can include role-play and simulations, debates, case studies, critical reading and writing, problem-based learning, fieldwork and outdoor learning.
- **Innovations in the use of ICT in TVET** have the potential to have a significant impact on teaching and learning processes. ICT applications can help increase access to TVET, and ensure its effectiveness and quality. However, they require **competent teachers and trainers** to use in the classroom.



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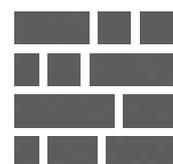
- Research and development and applied research is not only an important type of service provided to external actors, but also a pedagogical approach that can effectively engage students in dealing with local issues. However, compared to universities and research institutes, **training centres seem to have less experience in developing and implementing applied research projects.**

Selection of barriers to developing and implementing innovation in TVET



More than 85 per cent of TVET institutions reported that **lack of time, resources or staff** were the most significant challenges for the development and implementation of innovative practices.

About 40 per cent of TVET institutions regard **resistance to change** from TVET managers, teachers, and students to adopt new learning approaches as one of the main barriers to innovation in TVET. Moreover, **hierarchy, over-management or lack of autonomy** to suggest new ideas and solutions was only reported by some TVET institutions as one of the main barriers to innovation.



Lack of access to new pedagogical equipment and technologies as well as the **lack of a shared vision or strategy on innovation** were widely recognized by the TVET institutions as major obstacles.

Lack of diverse financing mechanisms to support innovative practices in TVET are also one of the main challenges. More than 80 per cent of TVET institutions were dependent primarily on national and local public funding, which often cover basic expenditures. More than half of universities and research centres in comparison reported using other financing mechanisms, such as private funding from students and extra grants or subsidies from domestic, foreign governments or international organizations (only one-third of the training centres reported using similar financial sources).

