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ICT in TVET / December 2017

Editorial

Dear Readers,

The way in which rapid technological developments affect TVET is the focus of this Bulletin issue. It is closely linked to one of UNESCO-UNEVOC's key programme areas: supporting TVET institutions in their journey towards transformation in the light of the Sustainable Development Goals. The global and regional trends have profound implications for the broader education sector, particularly TVET. In the context of the ongoing Fourth Industrial Revolution, automation and digitization is changing the human resource needs of the industry, and contributing to rapid skills obsolescence. As TVET prepares learners for the world of work and lifelong learning, there is a great need to make it responsive to industrial demands.

Technological advancements have the potential to transform the nature of the learning environment as well as augmenting the learning process. Improvements registered in the TVET training and learning processes not only equip the learners with responsive and robust skills but also enable them to top-up their competencies amid changing industrial needs.

We, at UNESCO-UNEVOC, continue to advocate reforms focused on enhancing the quality of learning outcomes through improved pedagogy in TVET, to enable TVET graduates to become agents, rather than victims, of change.

On behalf of the entire UNESCO-UNEVOC team, I wish you a pleasant reading.

Shyamal Majumdar
Head of UNESCO-UNEVOC



Integrating ICTs in TVET

Technical and vocational education and training (TVET), like other educational streams, is increasingly expected to focus on developing higher-order and industry-responsive skills needed in a globalizing world. These transcend the basic technical and vocational skills, and are oriented towards the skills required for working and living in the 21st century: entrepreneurship, communication, problem solving, teamwork and digital literacy, and transferable skills such as critical thinking, creativity, leadership, the ability to work independently and be equipped for lifelong learning.

Changing needs of the world of work call for changes in the TVET delivery. These changes need to be enacted through a reformed pedagogical approach to TVET – one that integrates technologies and tools that enable learners to be exposed to industrial standards and needs, improve the quality of their learning outcomes, and facilitate the acquisition of the 21st century skills. UNESCO-UNEVOC has been long engaged in exploring the role of technology as an instrument for enriching classroom or workplace learning.

UNESCO-UNEVOC's work in ICT has engaged at length with the issue of greater integration of ICTs in instructional design and pedagogy as the most critical element in reorienting TVET. However, the integration of such learning augmenting technologies in TVET teaching and

learning has come along with challenges. One such challenge is the disparity between the skills demanded by the industry and competencies of the TVET teachers to facilitate the learners in their acquisition. Inferior digital skills of the trainers vis-à-vis their students constrain their ability to adopt and use augmenting technologies to improve their pedagogical practices and learning outcomes for the students. These constraints faced by the teachers to new technologies, content and delivery techniques are largely a result of their own limited exposure to these new developments and the gaps in their own training manifesting in their inability to assimilate these changes. This, in itself, presents a convincing argument in support of training the learners of today in skills imperative for lifelong learning. In addition to these, one of the recurring challenges is the limited access to ICT infrastructure, digital media and content – which is largely a consequence of suboptimal financing and investment support to the TVET infrastructure in those economies.

How can the teachers be equipped with the right set of competencies that enable them to integrate current and emerging technologies to their benefit and that of the learners? An optimal and effective integration calls for training teachers to identify and assimilate appropriate technologies for their own professional learning and the training they impart. A targeted capacity building of TVET teachers in ICTs is a vital instrument to the integration, consolidation and reinforcement of these technologies in the TVET institutions. UNESCO-UNEVOC will be publishing a practical guide in the context of ICT integration in TVET in 2018. This guide includes case studies and examples from around the world, with an indicative guideline on how to counter the challenges of integrating the enabling technologies of ICT in particular to harness improved pedagogy, quality learning outcomes and industry responsive competencies for the learners. Another learning resource is also being developed that will deconstruct the notion of Online Educational Resources and their utility for TVET. This will enable a better understanding of identifying and utilizing enriching content and learning opportunities for the trainers and the trainees alike, through OER. The preliminary findings and a synopsis of this study will be shared at the forthcoming UNEVOC Global Forum in May 2018.

Perspectives from the field

Every Issue 'Perspective' gives the opportunity for those involved in UNESCO-UNEVOC's activities to voice their view on the programme. For this issue we extracted two quotes by Robert Schuwer, from the Fontys University of Applied Sciences in the Netherlands, and Vesna Andelic from the Agency for Vocational Education and Adult Education in Croatia, on the use of Open Educational Resources (OER).



Robert Schuwer

Fontys University of Applied Sciences, the Netherlands

“Adoption of OER calls for more than a series of one-off interventions, projects or funding. We recommend creation of education and

training ecosystems of TVET and at national level enabling policies for adoption of OER in TVET.

The main barriers that prevent mainstreaming OER in TVET are partly the same as those in other sectors: lack of vision and supporting policy (both national and institutional), lack of awareness of OER among teachers and policy makers and human factors (fear of sharing because of possible copyright infringement, unwillingness to share), high teaching load and an insufficient infrastructure capacity.”

Vesna Andelic

Agency for Vocational Education and Adult Education, Croatia



“While OER has been used for elementary and grammar schools in certain schools in Croatia, not much has been done in the context of TVET. Around 70% of the learners

are in vocational programmes in Croatia, but because of the number of different programmes within VET and more than 250 qualifications it is difficult to make open educational materials for all. To counter this challenge, we are helping TVET teachers to acquire relevant ICT skills, and motivating them to create their own new content and share them.”

Prospects for improving access and quality of TVET through Open Educational Resources

Digitalization and particularly internet-related technologies have simplified sharing documents and other educational resources with unlimited numbers of users, without a loss of quality. However, the licenced use of published materials and learning resources and legal provisions against general access, inhibit the possibility to make full use of resources for educational purposes in the internet age. This limited access led to the development of the Open Educational Resources (OER) concept in 2002. In short, the OER movement aims to provide an alternative education paradigm according to which educational resources should be freely accessible as much as possible. Text, media, and other digital assets that are useful for teaching, learning, and research should be openly licensed if possible, meaning that they should not only be freely accessible but also available for re-use, editing, re-purposing and re-sharing.

The Paris OER Declaration (2012), adopted at the first World OER Congress hosted by UNESCO, called on governments to provide public funding for the development of open content, and to develop national policies and strategies on OER. In September 2017, the second World OER Congress, organized by UNESCO together with the Government of Slovenia and other partners like the Commonwealth of Learning, brought together 30 ministers and 550 participants from 111 Members States to jointly develop the “Ljubljana OER Action Plan”. It presents 41 recommended actions

2nd World OER Congress

to mainstream OER to enable all member states to build knowledge societies and achieve the targets stipulated in the Sustainable Development Goal 4 pertaining to quality and lifelong education. The recommended actions span across five strategic areas, namely: building the capacity of users to find, re-use, create and share OER; language and cultural issues; ensuring inclusive and equitable access to quality OER; developing sustainability models; and developing supportive policy environments.

There can be no doubt that TVET as a key education sector needs to pay attention to these developments. In preparation for the World Congress, UNESCO-UNEVOC commissioned a study on the potential of OER in and for TVET. It was presented by the UNESCO Chair on OER at Fontys University of Applied Sciences in the Netherlands, who also shared the experiences of their use by teachers and. Four UNEVOC Centres from Croatia, Germany, Madagascar, and Slovakia contributed their views on prospects for OER in TVET in their respective countries and institutions. Based on the study and the deliberations at the Congress, it is evident that the understanding and the use of OER among TVET practitioners is still in its infancy. There is however, a growing interest to benefit from the promises related to OER and to realize their potential.



30 ministers and 550 participants from 111 Members States came together at the second World OER Congress in Ljubljana to discuss ways to mainstream OER

These include better access to educational resources, higher quality of education, and increased cost-efficiency in development of learning resources.

Currently there are very few known and widely accepted published examples of OER use in TVET that endorse its prospects for TVET. UNESCO-UNEVOC organized a Virtual Conference on this topic in November 2017 in addition to a webinar that discussed

the viability of OER in TVET. The discussions suggested that a lot more awareness and capacity building is needed to create an environment in which TVET institutions, teachers and trainers can successfully use and produce OER. While an excerpt of the research study on OER will be published soon, the discussions at the Virtual Conference and its webinars can already be accessed on the UNEVOC portal.

Selected news from UNEVOC

Centres around the world

Global TVET Leadership Programme 2017

Bonn, Germany. 11-22 September 2017

The 2nd UNEVOC TVET Leadership Programme was organized at the UNESCO-UNEVOC International Centre, Bonn. This year the trainees included 22 mid-to-senior level TVET leaders from UNEVOC Centres and beyond, from all over the world. The programme enabled the participants to hone their leadership skills in different thematic and managerial modules in a highly engaging environment. International experts lead the modules and special lectures, explaining the latest developments in policy and practice, and present the latest knowledge in their respective fields.

Eastern and Southern Africa a Regional TVET Leadership Programme

Harare, Zimbabwe. 23-27 October 2017

24 potential change leaders in the TVET sector in Eastern and Southern Africa participated at the UNEVOC Regional TVET Leadership Programme, organized jointly by UNESCO-UNEVOC and the UNESCO Regional Office for Southern Africa (ROSA). This is the first such training programme implemented at the regional level aimed at fostering an understanding of global policy narratives and the challenges at the regional level. This programme enabled the participants to use the training to effect transformative change in their institutions.



22 mid-to-senior level TVET leaders from all over the world met in Bonn for two-weeks for an intense and engaging workshop

Enhancing TVET Capacity for Youth Employment, Entrepreneurship and Sustainable Development, Bangkok

Bangkok, Thailand. 27-30 November 2017

Forty experts from the UNEVOC and East Asia Summit (EAS) TVET networks exchanged their experiences and discussed issues related to greening TVET at a UNEVOC supported Capacity Development Workshop. Co-organized by KRIVET and Office of the Vocational Education Commission (OVEC), the workshop covered areas including the employment potential of green transitions, identifying specific technical areas for enhancing green skills, technical training focused on renewable energy sector, and monitoring and evaluation of institutional greening strategy. During this workshop, the participants exchanged views on fostering greening TVET and skills in their respective contexts.

Representatives from the 14 participating UNEVOC Centres in the Asia & the Pacific region, also discussed the expansion of the UNEVOC Network's cooperation in the region in the topic of greening TVET and shed light on the current and potential greening initiatives.

Mainstreaming Entrepreneurial Skills in TVET

Santiago, Chile. 5-7 December 2017

UNESCO-UNEVOC International Centre and DUOC UC – a UNEVOC Centre in Chile, together with UNESCO's Section for Youth, Literacy and Skills Development and UNESCO Regional Bureau in Santiago, organized an Experts Consultation Meeting on mainstreaming entrepreneurial skills in TVET. This meeting aimed at discussing strategies to mainstream entrepreneurial skills in TVET policies and programmes, changing roles of TVET teachers and the implications on their training, and sharing country experiences. The participants also provided inputs to develop an analytical framework for conducting country case studies in 2018. The participants included experts from UNEVOC Centres and relevant organizations from different regions, namely Spain, Mexico, Brazil, Egypt, Barbados, Peru, Paraguay, Chile, India and Canada.



Rodrigo Nunez, Coordinator of the UNEVOC Centre DUOC UC in Santiago, sharing his views with the Experts' Group

Cross Regional Collaboration: UNEVOC Network in Action

Carleton-sur-Mer, Québec, Canada. 27-29 November 2017

Under the lead of Cégep de la Gaspésie et des Îles, Canada, eight UNEVOC Centres representing all regions of the UNEVOC Network initiated a collaborative research project on Community Engagement. This project would enable the participating UNEVOC Centres to evaluate the levels and types of community engagement at TVET institutions in different regions, covering low- to high-income socio-economic profiles. This project aims to produce an implementation-oriented research that guides other TVET institutions interested in strengthening their community engagement.



UNEVOC Centre representatives meet in Carleton-sur-Mer, Québec, Canada

UNEVOC Centres in Canada and the Caribbean: Fostering mutual learning

Kingston, Jamaica. 9-11 October 2017

As part of the UNEVOC Collaborative Capacity Development Programme, six UNEVOC centres from the Caribbean and North American clusters of the UNEVOC Network organized a workshop. This workshop focused on two of the three main tenets of the UNESCO TVET Strategy 2016-2021: Fostering youth employment and entrepreneurship, and Facilitating the transition to green economies and sustainable societies. This collaboration between the 6 UNEVOC Centres was aimed at leveraging collective expertise in countering the individual challenges. Each participating UNEVOC centre shared their knowledge and learnings related to current issues in TVET, enhancing the capacity of the participants and their institutions.



Six UNEVOC Centres from the Caribbean and North American clusters hold a workshop

World Skills Conference and Competition hosted by UNEVOC Centre in the UAE

14-17 October 2017, Abu Dhabi UAE

The Abu Dhabi Centre for TVET (ACTVET), a recent addition to the UNEVOC Network, hosted the 2017 World Skills Competition and Conference. The WorldSkills Competition is a flagship event of WorldSkills International, a member of the international skills coalition with UNESCO and UNESCO-UNEVOC as key partners, is the biggest vocational education and skills excellence event in the world duly reflective of the global industry. Representatives from leading vocational and skills development organizations – including the British Council, the International Labour Organization (ILO), and the European Commission joined UNESCO-UNEVOC at the conference. The discussions divided into 15 panel sessions, covered pivotal issues and challenges that will define the future skills agenda at a global level.

As part of the World Skills Competition and Conference, UNESCO-UNEVOC also hosted a networking session together with the ACTVET. At this session, UNESCO-UNEVOC International Centre also announced ACTVET's membership of the UNEVOC Network and launched the World Youth Skills Day (WYSD) publication entitled "WYSD 2017: UNESCO-UNEVOC and WorldSkills in Action". Director General of ACTVET, H.E. Mubarak Saeed Al Shamsi and the WorldSkills International CEO, Mr David Hoey, also joined the occasion.

UNESCO-UNEVOC was also engaged in the first International TVET Youth Forum was held as part of this event, that offered a unique platform for 300 young TVET students or professionals from 70 different countries, to form 'think tanks' tackling six specific areas. Dr. Shyamal Majumdar, Head of UNESCO-UNEVOC International Centre acted as a mentor for the Green Economy think tank.



CEO WorldSkills International and Head of UNESCO-UNEVOC presenting the UNEVOC Network Plaque to the Director General of ACTVET, UAE



Members of the UNEVOC Network from around the world at the UNEVOC Networking Sessions at the WorldSkills Conference 2017



Skills in action at the WorldSkills Competition

News from the Knowledge

Management team

Overview of the Virtual Conferences

Pathways between TVET and Further Education (23-27 October 2017)

This Virtual Conference addressed the critical issue of vertical mobility and the available pathways for TVET graduates to pursue further education. Linked to the subject of an ongoing UNESCO project, involving case studies and a policy paper, this virtual conference aimed to share experience and knowledge of this issue, which should prove valuable in its own right, and as an input into the wider UNESCO exercise. 182 Participants from 63 different countries participated in this Virtual Conference.

The background note and the summary of the discussions during the Virtual Conference can be viewed [here](#)



Virtual conference on Open Educational Resources in TVET (9-18 November 2017)

Since its inclusion in the Action Plan of the World OER Congress (see the article on page 2), there is an increasing realization of the prospects OER offer to TVET. OER have the potential of improving access to quality TVET and thus to improve equity. Open Education is believed to key in order to reach SDG4. This virtual conference aimed to share information, experience and knowledge of OER in the area of TVET.

The outcomes were used as input for a study on OER in TVET. 212 Participants from 58 different countries participated in these discussions.

The Virtual Conference also included two webinars, which can be viewed along with further details of the discussions [here](#)



Ongoing Discussion: 'Green skills: Policy framework for decent jobs and skills in green economy'

UNESCO-UNEVOC is hosting an online discussion around the recently developed framework called 'Policy framework for decent jobs and skills in green economy'. The discussion is ongoing on the UNESCO-UNEVOC TVET Forum since 1 December 2017 until 30 January 2018.

The discussion is led by Ms Isabelle Richaud from the French Ministry of Ecological and Inclusive Transition. The Platform for Advancing Green Human Capital is an interagency collaboration to foster the debate on the implications of the ecological transition for the labour market, training and education policies and tap important synergies between the green economy and human capital. UNESCO-UNEVOC as a member of the Platform for Advancing Green Human Capital invites all policy representatives and other relevant stakeholders to join the discussion.

Forthcoming Publications

Teachers' Guidebook for improving TVET pedagogy using ICTs

Upcoming Events

March 2018

26-30

Mobile Learning Week - Skills for a connected world
Paris, France

May 2018

17-18*

UNEVOC Global Forum
Bonn, Germany

June 2018

25-6 July*

UNEVOC TVET Leadership Programme
Bonn, Germany
For more information, including on how to apply, please check [here](#)

* Tentative dates



| From all staff at UNESCO-UNEVOC, we hope that you have had a good start to 2018.

Stay in touch

The Bulletin aims to inform the wider public on activities undertaken by the UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training on a certain thematic issue. It also presents selected news from UNEVOC Centres, and readers can find out more about these and other activities on our website.

The Bulletin is published twice a year and is available in all six UNESCO languages: Arabic, Chinese, English, French, Russian and Spanish.

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