Dear readers,

The rapid advancement of ICT has influenced education, especially how we teach and learn and what to teach and learn. Technical Vocational Education and Training (TVET) is not an exception. For example, ICT enables students to access their online training courses at any time and any place; ICT offers multiple and flexible learning pathways for students in challenging contexts. ICT-rich work environments, on the other hand, demands students to learn new skills, not only the ICT-related hard skills but also soft skills like communication and collaboration to function in a wired world. The potential of ICT in TVET is far greater than that of only improving access to education and training. Such tools as interactive e-content, virtual simulations, or even partnering with practitioners and international experts in the students’ respective fields can greatly expand the possibilities of TVET. As such, innovative use of ICT can help educators and learners have a richer and more diverse learning experience. Therefore, in this edition, we hope to explore the potentials of ICT in elevating TVET beyond the traditional classroom approach to meet the needs from the changing world of work.

We hope you enjoy reading this edition!

Please let us know if you have any comments or suggestions.

Highlights:

Innovating ICT in TVET Within the Development Discourse: the Imaginable and the Real (by UNESCO Bangkok, ICT in Education)

This article provides an overview of the TVET developments within development and education, explores ICT possibilities in improving and innovating TVET, as well as shares existing challenges and criticisms of ICT promises for TVET. Finally, it provides recommendations and the vision forward in fully utilizing the power of ICT to enhance and innovate TVET.

Technical and Vocational Education and Training (TVET) is drastically recalibrating itself in the development agenda. It is indeed seen as a huge and well-deserved comeback to the education agenda, considering that TVET was not explicitly mentioned in the Dakar Framework for Action (for the interested readers, reasons for this exclusion can be found in the 2015 GMR Report). Apart from the increasing focus on TVET from the civil society, such as OECD’s review of TVET in 17 countries (2010) and
ILO’s recommendation (2004) on human resource development, one of the major drivers to this change have been the rapidly advancing ICTs that have transformed the world of work and demanded for new skills development. On the other hand, ICTs have provided hope for equal opportunities for the marginalized groups who require further skills training not only for their income generating activities, but also for their general well-being and rights to lifelong learning.

Indeed, the “Shanghai Consensus” concluded from the 3rd International Congress on TVET in China in 2012 the pertaining issues in TVET, recommending further integration of ICT in TVET in order “to reflect the transformations taking place in the workplace and in society at large” (UNESCO, 2012). Since then, UNESCO, together with the UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training, a dedicated UNESCO institution for TVET, have been making efforts in building a consensus on leveraging the potential of ICTs in transforming TVET. We focus on three approaches to using ICTs in TVET: 1) ICTs for expanding equal access to TVET; 2) ICTs for improving the quality of teaching and learning in TVET; and 3) ICTs as sources of rethinking to enhance the relevance of current TVET curriculum.

Some of the grand benefits of ICTs in TVET in improving access include, for example, students being able to participate in online training courses anytime and from any place, diminishing the challenge for working people. The introduction of quality open educational resources (OER) and massive open online courses (MOOCs) have also created an opportunity for students in challenging contexts to reach their educational goals through multiple and flexible pathways.

ICTs can also be used to enhance quality of teaching and learning experiences. The recent development of ‘interactive e-content’ has the potential of enriching students’ learning experiences: ‘virtual simulation’ can supplement classroom learning where actual practices might be expensive, unavailable, and potentially risky. As stated by Maclean and Wilson, these new demonstrative and practical routes to learning through ICTs have been claimed as ‘phenomenal’ (2009, p. civ). Through enhancing teaching and learning experiences and making it relevant to skills needs, ICTs in TVET can help students develop higher order thinking and transversal skills needed for this changing world of work (Majumdar, 2011).

This leads to the third faucet of ICT in TVET as an impetus for transformation of skills development: ICT as a source for rethinking the relevance of current TVET practices and curriculum. The rapid development of technologies demands education stakeholders to properly predict the competencies that will be needed in the decades to come, and to adequately prepare students for the jobs that do not even exist today. A recent finding from GSMA on the global youth unemployment rate (12.6%) being three times higher than the adult unemployment rate (4.5%) raises a great sense of urgency to transform education systems to better equip the youth for today’s and tomorrow’s job market. In the report, the youth attribute their unemployment to their lack of skills and experiences, more so than lack of jobs. In this regard, augmenting learning experiences by engaging students in authentic project-based activities and connecting them with well-established subject experts in the industry are of fast-growing relevance in the innovative use of ICT in TVET. Being remotely linked with local or international experts, students can engage in deeper and more practical experiences with relevant professionals in their respective fields throughout their learning journey. This has the potential to facilitate collaborative learning, which is considered as one of the key competencies in today’s world of work.

However, despite these promising factors of ICT in expanding access and improving the quality of TVET, various challenges remain in locating and understanding the full and appropriate role of ICT in the TVET agenda. Some of the contributing challenges include the scarce data collection and its utilization in
informing policy development in TVET, aside from the lack of rigorous and scientific evidence that measures the impact of ICT in TVET. Additionally, making monitoring and evaluation at the national level of high priority has yet to take place (Veal, 2013; cited in UNESCO, 2015).

Related to that, a lack of knowledge base in understanding the dynamics between ICT and TVET pedagogy is another challenge. Questions such as how integration of ICT in TVET can enhance learning and teaching, what factors mediate or hinder successful integration, to what extent and how teaching quality can be accounted for such integration remain at large. An effort to enrich the knowledge base will be a direct response towards recommendation 4 of the Shanghai Consensus (UNESCO, 2012), which is, “improving the evidence base”.

Additionally, one of the biggest concerns in using ICT in TVET calling for critical examination lies in its possible worsening of the inequality between the more and the less privileged. This is much related to the long standing debates, whether TVET itself is reproducing poverty, stratifying society, replicating socio-economic structure, unable to promote intergenerational mobility and also widening gap by providing low tiered education compared to higher education (Pavlova and Maclean, 2013, p. 44). The question is then whether the integration of ICT in TVET actually contributes to the digital divide. The way new technologies are emerging rapidly and quickly becoming integrated in TVET in the developed world, will developing countries be able to keep pace with or be able to invest significant resources as it requires? Will it not further widen the skills gap among young people in these countries? These issues need to be placed at the central focus in TVET policy discourse in general, and ICT in TVET in particular.

Finally, there should be a systematic mechanism to recognize learning and skills development, regardless of channels, i.e. formal, non-formal and informal learning. Without a doubt, technologies enable boundary-free lifelong and life-wide learning anytime and anywhere. The next step would be for policies, regulations and quality assurance frameworks to be in place to equally recognize skills and knowledge acquired through diverse channels.

In order to respond to some of the knowledge gaps in ICT in TVET discussed above, UNESCO Bangkok is currently conducting a research study entitled “Beyond Access: ICT-enhanced Innovative Pedagogy in TVET in Asia Pacific”. The study aims to take stock of and document innovative practices of harnessing the potential of ICT in TVET in the Asia-Pacific region, explore ways to improve the pedagogical relevance of TVET to meet the changing skill needs of a digital society, and to provide policy recommendations for the innovative use of ICT and the ways to increase quality of teacher training in TVET. The preliminary findings from this study will be shared at the Asia-Pacific Conference on Education and Training (ACET) to be held from 3-5 August 2015 in Kuala Lumpur, Malaysia. The final report of the study will be available by the end of this year (2015).

In this edition of the newsletter on ICT in TVET, we hope to feature the innovative future of this field through the rapid expansion and effective use of such technologies. Among current programmes and projects, readers can learn more local projects in countries such as the Philippines and its eTESDA Network, or Romania and eInclusion, collaborative projects between Bangladesh and Korea, or those that specifically focus on the marginalized communities in Latin America. Under news and events, readers can get acquainted with the large upcoming TVET conferences. In resources, the list of TVET databases, MOOCs, e-Forums, and training opportunities are provided. Finally, under new publications, readers can get acquainted with the latest papers from international development organizations, such as OECD, World Bank, UNICEF, or UNESCO.
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References


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Programmes and Projects:

Beyond Access: ICT-enhanced Innovative Pedagogy in TVET in Asia Pacific

This UNESCO Bangkok research study aims to collect innovative practices that utilize the full potential of ICT in TVET in the region. Preliminary findings from this study will be shares at the Asia-Pacific Conference on Education and Training (ACET). The final report will be available by the end of this year (2015).

Despite the potential that ICT offers in innovating teaching and learning in TVET, research shows that most TVET teachers in the Asia-Pacific region lack adequate pedagogical skills to take full advantage of ICT, and thus experience difficulties in meeting the demands of the changing world of work. The predominant teaching approaches in TVET remain teacher-centric, where students tend to be passive recipients of information.

The use of ICT beyond access, that is, to promote the quality of teaching and learning in TVET is largely under-documented and intermittent. A number of questions related to benefits, strengths/weaknesses and opportunities/risks of integrating ICT to increase the quality of learning in TVET remain unanswered. Likewise, critical factors in planning and implementing ICT for innovative teaching and learning in TVET need further study and exploration.

Therefore, UNESCO Bangkok is conducting a research study entitled “Beyond Access: ICT-enhanced Innovative Pedagogy in TVET in Asia Pacific” with an aim to take stock of and document innovative practices of harnessing the potential of ICT in TVET in the Asia-Pacific region, explore ways to improve the pedagogical relevance of TVET to meet the changing skill needs of a digital society, and to provide
policy recommendations for the innovative use of ICT and ways to increase quality of teacher training in TVET. It is expected that the study will facilitate a better understanding of the potential of ICT in promoting innovative pedagogies and highlight promising practices of ICT use in TVET. Moreover, it will help guide a transformation of teaching and learning in TVET as well as contribute to improving teacher training for TVET, and help conceptualize factors that facilitate/withhold innovative teaching and learning using ICT in TVET.

Furthermore, this study will be used as an important research reference for conducting a comparative study in this area between Asia Pacific and another region. The preliminary findings from this study will be shared at the Asia-Pacific Conference on Education and Training (ACET) to be held from 3-5 August 2015 in Kuala Lumpur, Malaysia. A concurrent session during the Conference will serve as a venue to solicit feedback and inputs from participants and seek concrete policy suggestions to respond to the findings of the study. The final report of the study will be available by the end of this year.

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- **eTESDA Network**
  This Philippines based network provides an additional mode of delivery for TVET programs through blended learning. The goal of this online program is to change the traditional classroom practice into a technology enabled learning space. With many courses available, which are of relevance to the Philippines context, this free and open program has many users from the country as well as from abroad.

- **Bangladesh-Korea ICT Training Center for Education (BKITCE)**
  This project includes training centres around Bangladesh with five ICT labs. The goal is to develop ICT education into a framework for cooperation between Korea and Bangladesh, providing training to officials and staff, including teachers, and offering a post-graduate diploma in ICT. Additionally, the project aims to provide training on data collection, database operation and more.

- **Large Scale Dissemination of Basic Skills to Use ICT (eInclusion), Romania**
  This project includes training centres within the structures of public administration, and centres for vocational training throughout the country. A special emphasis is placed on bringing eSkills to communities ('Training Without Boundaries' project), as well as helping young children, seniors ('Digital Literacy for Seniors'), marginalized groups ('Digital Literacy for Juniors'), and people with disabilities.

- **Technology and Civic Engagement Schools in Urban Slums and Low-Income Communities, Latin America**
  This project aims to promote social inclusion through digital inclusion by partnering with grassroots organizations to open ‘technology and civic engagement schools’ in the most vulnerable urban slums and low-income communities in Latin America. There is a network of self-managed and self-sustaining CDI community centres throughout Brazil and 11 other countries, monitored and coordinated by their 24 regional offices. Schools are located in low-income communities, indigenous communities, psychiatric clinics, hospitals for mentally and physically disabled, and detention facilities. The community based organizations provide the
infrastructure, while CDI provides free computers and software, implements educational methods, trains instructors and monitors the schools.

News and Events:

- **Making Skills Development Work for the Future: Asia-Pacific Conference on Education and Training (Kuala Lumpur, Malaysia, 3-5 August 2015)**
  This UNESCO conference with the support of the Malaysian Government, as well as in collaboration with development partners, is organizing ACET in order to address the Asia-Pacific enormous diversity, and draw on shared experiences and lessons learned from within and outside the region with the goal of transforming TVET policies and strategies in response to emerging socio-economic trends.

  One of the largest gathering of eLearning and ICT supported education and training in Africa, this conference aims to develop multinational and cross-industry collaboration and partnerships, as well as to enhance knowledge, expertise and abilities of the participants.

- **World TVET Conference 2015 (Kuching, Malaysia, 25-27 August 2015)**
  On the theme of “Quantum Leap: Transformation and Globalisation of Technical Vocational Education & Training (TVET) - Living Skills in the 21st Century”, the conference invites delegates representing the decision makers and practitioners from the public sector, learning institutes, and skills centres. It will explore the themes of building a competitive workforce, promoting lifelong learning: reskilling and upskilling, developing entrepreneurship in TVET, utilizing e-learning, and more.

Resources:

- **GIZ Global Campus 21 E-Academy**
  This Academy provides professional development opportunities in developing countries through online courses and open learning spaces to learn together and collaborate.

- **Open Polytechnic Vocational Education and Training, MOOCs on TVET qualifications**
  One of the world’s leading providers of TVET through the use of open/distance learning, this tool provides a large array of courses and qualifications on tertiary skills, ICT, education, and more.

- **World TVET Database**
  This online repository developed by UNESCO-UNEVOC aims to provide concise, reliable and up-to-date information on TVET systems worldwide. It helps TVET officials, experts and stakeholders, but also researchers and students of TVET to learn about trends and challenges. It also aims to identify information gaps and stimulate comparative studies of TVET systems. The database consists of a set of country profiles, containing key descriptive information about the TVET system of a specific country.
e-FORUM: UNESCO-UNEVOC Discussion Board for TVET Experts
One of the richest online forums on TVET, this platform provides an opportunity for TVET experts from around the world to share information and knowledge about different aspects of this field.

Technical and Vocational Teacher Training (In-Service)
The Commonwealth of Learning is an intergovernmental organization that promotes open learning/distance education, related research and technologies. It also helps developing countries improve access to education and training. This is one of the courses that consists of 12 modules with materials focusing on TVET, including administration and management, instructional techniques, theory and practice, entrepreneurship, action research, and more.

New Publications:

OECD Skills Outlook 2015: Youth, Skills and Employability
To address the struggles many young people are facing in terms of entering the labour market, this OECD report looks at its member countries and recommends a comprehensive approach to improving employability, as well as more public-private partnerships.

Transforming Teaching and Learning in Asia and the Pacific: Case Studies from Seven Countries
This UNESCO Bangkok publication provides a landscape review of seven countries in the Asia-Pacific region, each chapter focusing on the respective country, providing snapshots of pedagogical situations in terms of policy and practice.

This report aims to better understand the field of vocational pedagogy, exploring what it actually is, why it matters and how teachers can practically utilize it.

Special Report on the Activities Implemented Within the Joint IFESCCO/UNESCO IITE Project “Promotion of the Use of ICTs in TVET in CIS Countries”
Prepared by UNESCO-IITE and IFESCCO, this publication focuses on the importance of the development of governmental policies on TVET in CIS. In light of that, the initiated project described in the publication aims to promote ICT use in TVET in CIS in order to improve and enhance educational policies in this sphere.

Children’s Rights in the Digital Age: A Download from Children Around the World
148 children in 16 countries took part in workshops to discuss the opportunities and risks associated with digital media, which are reflected in this report. Findings were presented at the Day of General Discussion, a meeting focusing on digital media and child rights.

Next Issue: The June issue will focus on the theme of ICT in the Post-2015 Development Agenda. If our readers are interested in contributing to this edition, please do not hesitate to contact us.

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