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## **TVET@Asia Issue 16: TVET Teacher Training for the Future of Work and Learning**

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TVET personnel – teachers and trainers in companies, vocational schools and other educational contexts – are crucial for enhancing and assuring the quality of vocational education and training. Yet vocational teacher education has been facing challenges over the past few decades. Whereas the need for qualified TVET personnel is indisputable, many countries face a severe shortage of qualified TVET personnel and have therefore implemented various pathways to enter this profession. However, these personnel need to be equipped with future-oriented competencies to provide action-oriented and work-based learning. They also need to be broadly diversified and multi-professional, and able to bridge the gap between vocational theory and practice (Lipsmeier 2013). They also need to develop the specific competences required to integrate learners from different educational, social and cultural backgrounds.

Nowadays, in light of manifold global disruptions, TVET personnel face the additional challenge of providing relevant, learner-centered training to strengthen TVET's responsiveness to current and future skills needs amid groundbreaking changes in the world of work (UNESCO-UNEVOC 2019). Not only do they need to upgrade their teaching and learning approaches in light of new demands resulting from economic and technical transformations (e.g., digitalization, 4th industrial revolution, etc.), but they also need to strengthen students' resilience and capacity to cope during mounting social, economic and ecological crises. As a result of the COVID-19 pandemic, there has been an unprecedented push towards e-learning, which will likely have a sustained impact on how learning is organized as well as the need to make learning material more accessible.

Authors contributing to this 16th issue of TVET@Asia have highlighted the impacts of a variety of global disruptions on current and future trends in the world of work and the world of learning in their countries. While the specific challenges mentioned by the authors differ by country and region, in all cases disruptive events have triggered a need to reconsider the roles of TVET teaching staff and, consequently, how teaching staff are trained and supported. A summary of the papers included in this issue of TVET@Asia is provided below, first focusing on the country context and then highlighting the authors' contributions to the question of how to organize TVET teacher training to meet the needs of the future of work and learning.

In **Vietnam**, the main trigger for reform has been rapid economic development, which has driven higher demand for consumer goods (including multimedia design products) and thus an associated growth in the complexity of manufacturing processes. Workers, including in the multimedia design field, no longer assume responsibility for the entire production process, from taking client orders to delivering the final product, but are instead involved in one phase

of the work process and must cooperate with other workers in other phases to produce final outputs.

XUAN TRA NGUYEN and PHUONG CHI DIEP (University of Technology and Education, Ho Chi Minh City, Vietnam) argue that the world of learning needs to reflect these changes. The current product-oriented training model used in Vietnam to teach TVET programs (such as multimedia design) needs to be updated to incorporate features of the work-process-oriented training model, which developed countries such as Germany implement. Nguyen and Diep propose a new training model for the multimedia design field, which combines product-oriented and work-process-oriented training, and argue that effective implementation of the model will require parallel shifts in the competencies and training that TVET teachers receive. The authors outline six “essential” competencies that multimedia design teachers need to deliver future-oriented skills training and also outline how TVET policies and practices must change to ensure that TVET teachers gain the professional and pedagogical competencies needed for the future of their own work.

In **Indonesia**, rapid technological change and global competition in the era of Industry 4.0 have led the government to issue a Presidential Instruction concerning the revitalization of vocational high schools to improve the quality of human resources and enhance national competitiveness. One important aspect of the revitalization program involves improving TVET teacher quality.

AGUS SETIAWAN and R. AAM HAMDANI (Universitas Pendidikan Indonesia) analyze the current development process of professionalizing vocational teacher education in Indonesia to assess the effectiveness of the new professional vocational teacher education program in addressing the needs of Industry 4.0. Based on a literature review followed by two online focus group discussions on the topics of professional vocational teacher education and vocational teacher competencies in the era of Industry 4.0, their findings show that, while there is some evidence of innovation in the professional vocational teacher education program both in terms of pre-service as well as in-service training, further innovation is necessary, especially with regards to improving cooperation with industry.

In **Botswana**, the COVID-19 pandemic has forced many education and training institutions to switch from traditional face-to-face classes to e-learning methods. Transition to an online environment poses special challenges for the delivery of TVET courses, since TVET involves the development of hands-on skills as well as theoretical learning. Developing countries face further challenges in making the transition in terms of the preparedness of their training systems and the availability of digital technologies for online teaching.

JERALD HONDONGA (Gaborone University College of Law & Professional Studies), TAWANDA CHINENGUNDU (University of Pretoria), and PHYLLIS KUDZAI MAPHOSA (Gaborone University College of Law & Professional Studies) present the findings of their research concerning the readiness and propensities of Botswana Private Tertiary Education Providers (BAPTEP) for using online teaching platforms during the COVID-19 pandemic. Based on an analysis of questionnaire responses from 119 TVET lecturers and students from 4

BAPTEP colleges, they found that most BAPTEP institutions were not prepared in terms of having e-learning platforms in place, whilst most lecturers lacked preparation and training in using online platforms to deliver emergency remote teaching. Most TVET students also encountered challenges to participating in e-learning owing to lack of internet connectivity, lack of a computer or laptop, and/or lack of training in the use of their college's online learning platform. Based on these findings, the authors make recommendations for how to support BAPTEP institutions' transition to e-learning – a mode of TVET delivery that the authors believe is inevitable in the future.

**Palestine** is another country where the COVID-19 pandemic has precipitated a rapid transition to e-learning. Yet while Palestine's Human Resources Development Strategy emphasizes the importance of integrating ICT in TVET to enhance TVET quality, the country's TVET sector continues to face many challenges which have consequences for education and educational policies, including teachers' lack of ICT skills and competencies, lack of an appropriate infrastructure, and the political conflict and Israeli occupation.

MALAKA SAMARA (Logica Consultancy Center) explores and analyzes the Palestinian government's new plan and mechanism for integrating e-learning in TVET through equipping TVET teachers with e-learning knowledge, skills and competencies. She also examines TVET teachers' practices, attitudes, and success stories in relation to e-learning. Her findings, based on interviews with 60 TVET teachers from 10 secondary vocational schools, indicate that most TVET teachers of technical subjects in Palestine have basic ICT knowledge and skills, but require training on how to implement didactical or methodological concepts in e-learning in TVET. Consequently, TVET authorities in Palestine must take into consideration the ICT competencies that TVET teachers already have, as well as the competencies that they must still acquire, before designing and providing training. Based on her findings, Samara proposes an E-Competence Framework (E-CF) and outlines eight key skills, competencies and attitudes that TVET teachers in Palestine require for delivering quality e-learning programs.

In **Germany**, demographic developments have resulted in an aging population and consequently a shortage of skilled workers, which in turn has prompted the German government to provide vocational training opportunities to disadvantaged youth with poor school-leaving qualifications or personal and social problems.

Yet, as KATHARINA PEINEMANN (University of Rostock) points out, TVET teachers in Germany's transitional system, where these disadvantaged young people study, do not currently receive training to help them deal with the challenges of supporting this vulnerable target group. Based on findings from interviews held with 65 teachers from 11 vocational schools in Mecklenburg-Western Pomerania, Peinemann outlines the key competencies that TVET teachers need to support them in their work with disadvantaged young learners. She also proposes reforms to TVET teacher training programs in Mecklenburg-Western Pomerania to ensure that the competencies identified are integrated into each phase of teacher training.

These authors' valuable contributions to this issue of TVET@Asia, offering insights from Southeast Asia, Africa, the Middle East and Europe, provide food for thought and promising

practices on how to address the challenges of ensuring that TVET teaching staff have the skills and personal qualities to navigate learners through the fast changes and unexpected events that increasingly characterize the world of work, both now and in the future.

*The Editors of Issue 16*

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