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## **TVET@Asia Issue 17: Self-reliant learning by implementing work-based and work-related learning approaches**

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Whereas the demand for highly qualified personnel is constantly increasing, the lack of adequate and appropriate qualification measures that foster self-reliant learning competence is evident. Additionally, in today's complex world of work and lean forms of work organization, requirements not only include professional competences but also further dimensions such as social and personal competencies (e.g. teamwork, communication, problem solving etc.). In order to address these challenges, limiting TVET to theory-based and input-oriented learning is insufficient – rather it needs to be intertwined with experience-based, experiential and informal learning in real work situations. As a consequence, the concept of work-based learning – where the place of work becomes a learning venue is increasing in importance in the discussion of international TVET research in terms of initial and continuing vocational education and training. Hence, not only formal learning arrangements that are based on work-based learning, such as the dual TVET model, but also informal and non-formal learning that facilitate competence development need to be taken into consideration.

Thus far, there are no detailed analyses or comprehensive reviews of models and approaches to work-related learning, although common ground can be found that in the inclusion of learning inside and outside of the company, as well as school-based learning, that relate to work and work processes. With respect to learning organization, the relationship between the place of learning and the place of work can be distinguished by the following three models:

- In *work-integrated learning*, the place of learning and the workplace are identical. Learning takes place at the workplace or in the work process. The demands of the work processes are core issues of learning. How learning might be organized and integrated in work-processes could be a question for discussion.
- In the case of *work-connected learning*, the learning venue and the workplace are separated spatially but linked in terms of work organization (e.g. learning bay or work and learning tasks).
- *Work-oriented learning* takes place at formal learning sites through simulations of work organization, work tasks and processes (e.g. learning factory or project learning).

The authors contributing to this 17<sup>th</sup> issue of TVET@Asia have highlighted a variety of ways to strengthen self-reliant learning by implementing work-based and work-related learning approaches. A summary of the papers included in this issue of TVET@Asia is provided below, focussing first on the country context and then highlighting the authors' contribution to the question of how different approaches can be taken to enhance competence development, emphasizing action and experiential learning as well as self-regulation

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processes of the learner to meet current demands for qualified employees - today and for the future of work.

The Ministry of Education in **Thailand** sought to improve higher education by standardizing curricula, upgrading the quality of teachers, and establishing more competition by improving research. This strategy has been executed in a 20-year timespan, creating human capital in order to enhance the industrial sector.

BHOVORNSAK SOMKROR describes how one of these strategies has been applied at Rajamangala University of Technology Lanna (RMUTL) for agricultural and biological engineering students. As work-based learning is one of the key concepts, companies and RMTUL cooperate to combine the students' prior work experience with theoretical background. He implemented the project in a class of innovation and technology where students went to work as trainees and afterwards, followed a distance learning programme via Microsoft Teams. Evaluations reveal several advantages regarding learning outcomes, he reports. Students point out the necessity of sharing their own practical experiences and moreover, the teacher becomes a facilitator accompanying learners' development.

In **Indonesia**, vocational education largely contributes to unemployment. Education is offered in poor quality regarding curriculum, infrastructure or teaching which leads to the employees having little knowledge and few skills.

VINA DWIYANTI, A. ANA and HANISSA OKITASARI focus on the logistics industry, which has been growing since the COVID-19 pandemic. Students working in this sector should get excellent vocational education including skills and methods which they need to be successful in the logistics industry. Their study, which includes a qualitative research and literature review, shows what competences are required and highlights the fast pace of the industrial world to which one needs to adapt in order to optimize vocational learning. Based on their findings, they conclude that collaborations and the use of technology are essential to be prepared for vocational education.

**Myanmar** consists of three different types of TVET institutions: Government Technical Institute, Government Technical High School and Vocational School Training. All of them are affected by the industrial revolution 4.0 and vocational training thus plays a major role in preparing for all technological changes.

KHIN CHO TUN, NAY ZAR AUNG and SAI KYAW NAING OO emphasize the development of industries due to technological changes. They explore how required skill sets evolve in the IR4.0 industrial revolution. Their survey, based on questionnaires, found that factors such as gender, study major and nature in school and job influence how TVET academics perceive and prepare for Industry 4.0. The authors conclude that strategies need to be established which consider all these factors while designing curricula or teaching processes or government policies.

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**Thailand** is striving to be an innovative country, outgrowing high-income countries. One way to achieve this goal is by constantly developing a competitive workforce. Due to the impact of TVET, strategic policies need to be improved continuously.

NIWAT MOONPA, PATCHAREE CHAIYONG and SIRIPHORN SCHLATTMANN analyse a TVET model which aims at improving the implementation of the DUAL TVET system. Via document analysis and questionnaires, the authors discuss the specific roles of partners in the tripartite education system model and highlight the importance of successful communication. According to Moonpa, Chaiyong and Phalason, this system represents meaningful innovation for society.

Work-based Learning is common in **Palestine** and in TVET education there. Students who attend secondary vocational school do their practical training with the local private sector before graduation. As the number of TVET students has increasing over the last decade to tackle unemployment, new challenges haven arisen and new WBL techniques have come into play.

MALAKA SAMARA investigates different practices of WBL over this period time and considers their benefits and weaknesses in Palestine. Her paper argues that there is a lack of regulations with the private sector which is difficult for students as social and personal competences are neglected. She suggests that TVET teachers adapt new forms of learning like self-reliant learning and improve teacher qualification to gain sustainable professional competencies.

Learning during the process of work in **Germany** can be understood differently. However, the term work-based learning which has been established comprises all learning procedures in and outside companies as well as schools which are linked to the working space. In this context, learning can be seen as a consequence of changing work organization, the digitalization of work, and an increasing quality of work conducive to learning and competence development

YOKE LEE ROTH, SVEN SCHULTE and GEORG SPÖTTL illustrate how trends such as digitalization transform the occupational world. Employees and employers need to adapt to such developments and suitable TVET systems need to be established. Roth, Schulte and Spöttl examine factors for work designs which enhance competences based on the concept of work process-related learning and deploy them in different fields of action. They argue that order orientation, acting-based learning, self-reliant learning, shaping orientation as well as ways to measure competence development are essential in order to improve WBL.

THOMAS SCHRÖDER and PETER DEHNBOSTEL point out the significance of work-based learning (WBL) as a central element of TVET for improving the quality of TVET programmes. In this context, WBL primarily addresses the requirement to increase labour market relevance through phases of experiential learning at the workplace. The article presents models of WBL that reflect the proximity to the workplace, the quality of work with

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regard to its conduciveness to learning, and in-company learning concepts. It concludes with remarks on companies' training their personnel for successful WBL design and structures.

*The Editors of Issue 17*

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