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TVET@Asia Issue 18: Self-reliant learning by implementing work-based and work-related learning approaches

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, creativity, 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 and 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 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 of 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 18th 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, focusing 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 processes of the learner to meet current demands for qualified employees - today and for the future of work.

In the **Philippines**, graduates of technical and vocational education programmes tend to be offered good employment opportunities. Yet, only little information and data on the success of technical education programmes is available and families traditionally still wish for their children to follow an academic pathway. Consequently, more marketing and literature on TVET programmes is needed in the Philippines in order to promote the competitiveness and employability of TVET graduates in the country.

CHRISTIE ANN L. JACA and FELINO B. JAVINES JR. dedicate their article to filling this gap by providing relevant literature on the outcomes of a pilot study for the Technical-Vocational-Livelihood (TVL) Track at Senior High Schools. In its hybrid, collaborative and outcome-based Senior High School TVL Program, the Basic Education Department of the University of San Carlos tracked the number of enrollees in two chosen tracks as well as their employment opportunities after graduation. With data obtained from both qualitative and quantitative research procedures, the authors show that the large majority of students in the pilot study tracks were employed after graduating from Senior High School. What is more, most students were employed by the companies in which they had undergone their on-the-job training. The authors lay out that thanks to its hybrid nature based on a school-industry partnership, the programme succeeded in providing graduates with in-plant experience, turning them into workplace-ready graduates.

In **Germany**, business case studies are considered to be a particularly suitable teaching-learning instrument when it comes to promoting practice-orientated training. Despite the widespread use of such case studies, little seems to be known about the impact these case studies have in the teaching-learning context of German commercial schools.

SARAH HEUER and MATTHIAS PILZ address this research gap by providing insights into their empirical findings on the use and usefulness of business case studies in commercial education in the German TVET system. By means of a survey, the authors examine several aspects of the use of case studies in vocational school contexts from the students' perspective. The authors investigate how students perceive the didactic goals of case studies and in how far case study use is connected to students' situational interest. The survey results show that those students who are familiar with case studies have a positive perception of them, especially with regard to the development of self-competence and specialist knowledge. Lastly, the authors study the impact of curricular frameworks, necessary resources and the role of teachers and students on a meaningful implementation of case studies in TVET contexts.

In order to achieve its Vision 2020 and its Education Development Plan 2013-2025, **Malaysia** depends on an expansion and qualitative improvement of the national TVET sector.

The TVET system suffers, among others, from a negative perception, insufficiently competent teaching staff as well as from a lack of industry involvement in TVET education.

NUR 'ADNIN SYAMIL HALIK BASSAH therefore examines what the main factors are preventing the Malaysian TVET system from achieving its goals. She identifies the creation of a sustainable TVET ecosystem in cooperation with industry as a main chance for improving the TVET system. By means of several in-depth interviews with experts from industry, the author aims to investigate the exact challenges and problems industry representatives see in the current TVET system. An analysis of the interviewees' answers reveals that, from the industry's perspective, the main challenges of TVET in Malaysia consist of inefficient governance of TVET, unsatisfactory soft skills of graduates, insufficient competencies of teaching staff, as well as an overall negative perception of TVET in the country.

In the **United States**, there used to be very few possibilities for adults to achieve a high school diploma, once they had aged out of the public school system. Starting in Indiana, several Excel Centers have opened up throughout the country, allowing adult students to increase their employability by earning a certified high school diploma.

In her discussion paper, AMANDA ROBINS draws the readers' attention to the four Excel Centers established in Missouri whose mission consists in reducing barriers for students from impoverished communities on their way to gainful employment. The challenges in accomplishing this mission are manifold, and as one way to overcome them, the author underlines the potential of creating cooperations between Missouri Excel Centers and apprenticeship programmes. Furthermore, she highlights the importance of pre-apprenticeship programmes, which aim to prepare under-represented populations for registered apprenticeships and higher job training. The authors ends by suggesting the establishment of pre-apprenticeship programmes at the Missouri Excel Centers and by enumerating the necessary pre-conditions that would have to be fulfilled to guarantee a successful transition into high-quality apprenticeship programmes.

Following a global trend, students in **Pakistan** nowadays prefer modern educational approaches such as work-integrated learning to conventional teaching methods. Not only do work-integrated learning approaches increase the students' chances of employability, but they also view education expenses as an investment in their own future that should pay off for them.

With his study, GOUHAR PIRZADA explores the perspectives of design students with regard to the importance and the different aspects of work-integrated learning within their TVET programmes. The study reveals that TVET students have a clear understanding of what they expect from their TVET institutes in terms of work-integrated learning approaches. On the one hand, TVET institutes ought to maintain close links with industries, allowing for industrial visits on-site as well as internships and job placements. On the other hand, students expect their institutes to have updated software and equipment and to employ teachers with

solid practical skills and industry experience. The author argues that in order for TVET institutions to adapt to changing learning environments, they should understand their students' perspectives and adapt their education programmes accordingly.

Vietnam still faces a skilled workforce shortage, which is partly due to the way technical subjects are being taught in Vietnamese TVET institutes. Teachers still play a central role for students' learning outcomes and, as the former often apply theoretical teaching methods; little practical and hands-on skills are transferred to the learners. Furthermore, vocational training programmes do not place enough emphasis on teaching relevant soft skills such as critical thinking and problem solving.

In his article, XUAN TIEN VO argues in favour of a widespread application of Problem-based Learning (PBL) approaches. According to the author, in order for students to be able to apply their prior knowledge to new working situations, they need to be trained accordingly during their TVET programmes. By means of both qualitative and quantitative methods, the author investigates in how far engineering students apply Problem-based Learning (PBL) approaches when it comes to problem-solving situations. One way to get there consists of linking new practical challenges with prior theoretical knowledge. Another conclusion the author draws points to the usefulness of problem-solving tools, such as engineering design concepts. The author emphasises that an understanding of the mechanisms of information transmission and cognitive learning processes is a precondition for PBL approaches in teaching.

The Editors of Issue 18

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