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## Workplace learning and competence development

In this Editorial I would like to share two things. The first is about a workshop that was organized by the Bundesinstitut für Berufliche Bildung (BIBB) and the International Centre for Technical and Vocational Education and Training (UNEVOC) of the United National Educational, Scientific and Cultural Organization (UNESCO), both located in Bonn, Germany, and second being the citation performance development of the JAEE.

So first the BIBB/UNEVOC workshop, which took place in Bonn, on June 22 and 23, 2017. The theme of the workshop was ‘Work-based learning as a pathway to competence-based education. Research and implementation strategies from a comparative and global VET perspective’. The link between work-based learning and competence-based education is of course evident. Authentic learning in real workplaces contributes significantly to the development of personal professional competence. Since work-based learning is (or: should be) an essential part of vocational education, and the main goal of vocational education is to develop professional, citizenship and learning competence, the theme of the workshop was very timely. In many countries around the world, VET policy makers, teacher educators, VET institution executives and managers, program teams, teachers and assessment specialists are trying to improve the quality of VET in various ways, and the connection between overarching developments such as workplace learning and competence-based education needs to be further established/improved, especially because both concepts are ill-defined, open to many different theoretical perspectives, and often operationalized based on outdated conceptions. So, I strongly applaud the initiative of the BIBB/UNEVOC to organize this event, especially while the BIBB is the key institution in Germany which supports the governance and further development of VET, and UNEVOC is a worldwide network of around 255 technical-vocational education and training institutions in 165 UNESCO member states, regionally coordinated by seven cluster coordinating centres. Needless to say that both organizations cover the field of agricultural, environmental, food manufacturing, trade, logistics and retail education, although the roles of these education sectors differ considerably across the globe.

The guiding general questions for this workshop were: (1) Which are the most relevant research areas of work-based learning from an international perspective? (2) What would be the understanding of the concept of work-based learning in terms of learning for work, learning at work, and learning through work? (3) What are good methodologies for designing and conducting empirical research which focuses on work-based learning? (4) How can findings for empirical research be used to support and improve VET practice? (5) What insights does the workshop deliver that can be used to inspire, initiate or continue collaborative research among the UNEVOC network member organizations? (6) What can be done to establish a collaborative network and research agenda?

The full program was kicked off by Professor Friedrich Hubert Esser, President of the BIBB. In his opening speech he outlined the work of the BIBB and stressed the importance of VET for society. I had the honour to follow with a keynote on ‘The global need for competence. Competence-based VET and implications for policy and practice’. My conclusions were that worldwide, competence-based practices are more popular than ever, that there is a wide variation in competence theories and practices, that the concept has a long history and is now

institutionalized, that competence-based VET approaches have various pitfalls, that many competence-based education initiatives concentrate on known tasks and present jobs, and that we must further think about competence for the unknown future. I have given various recommendations for policy and practice for the development and implementation of good twenty-first century competence-based vocational education and training. I will not elaborate on this, but refer to the full power point presentation which is downloadable from [www.mmulder.nl](http://www.mmulder.nl). Interesting though is that during my preparations for the workshop I bumped on a recent song of Sira Kouyaté from Mali, called *Compétence*. I must say I like the melody of the song, but do not understand the lyrics. I have placed a call for a translation of the lyrics on Facebook, but did not receive a reaction yet. To anyone who can help me with the lyrics of this song or can establish a contact with the singer, your email will be greatly appreciated!

Next, Borhène Chakroun, Chief of the Youth, Literacy and Skills Development Section of UNESCO, Paris, gave a welcome speech. He pointed at the importance of the workshop for the further development of technical-vocational education and training worldwide, and the research which can underpin this development.

The second keynote was given by Stephen Billett, who is a global expert in the field of vocational and professional learning, including work-based learning. His presentation was on 'Securing occupational capacities through workplace experiences: Premises, conceptions and practices'. Not only were the theoretical reflections on work-based learning interesting and important, the recent synthesis of his work in the handout 'Learning occupations through practice: Curriculum, pedagogy and epistemology of practice' is very enlightening. It is a very condensed summary of his many and profound insights in learning within and for practice. He summarizes a number of 'premises for considering learning through practice', different kinds of knowledge which need to be learnt, activities that contribute to learning, 'limitations of learning through everyday work activities', support activities that stimulate learning through work, 'practice pedagogies', 'epistemological practices', and 'implications for developing occupational capacities in workplaces'. The handout then presents three tables, with overviews of workplace curriculum practices, workplace pedagogic practices, and personal epistemological practices. This synthesis of his work to me seems very rich both in terms of theoretical background, and advise for policy and practice.

After both keynotes there was a lively plenary discussion with the participants about various questions. Interesting was the question about the understanding of the concept of work in work-based learning. As discussed, the concept of work varies a lot, from work in the context of regulated jobs which are very prominent in Germany, livelihood activities in informal economies such as in certain developing countries, work in the context of entrepreneurship or self-employment, or voluntary work. The notion of work also has that personal meaning of how one interprets it oneself. I have noticed that the concept of work in the context life can change after retirement into work as a leisurely activity. Stephen Billett nicely interpreted this in terms of the difference between occupations and vocations. He sees occupations in the context of paid jobs, whereas vocations are sets of activities one conducts because one likes to do those, which fulfil meaning, and which belong to the personal professional identities of people.

Of course there are many other questions, such as how to teach and learn competencies which are important for the future, where to teach and learn them, and how to assess them. This may require another workshop, but if we would focus on ambiguity handling competence, the pedagogy for that would certainly include discovery, inquiry and experiential learning concentrated on open and wicked problems for which there are no single right answers, such as in environmental or sustainability studies. Or take creativity competence development,

which can be supported by open assignments which emphasize imagination, design process, engineering activities and artistic expression. There are various domain-specific and interdisciplinary exemplary didactics which include cases, games and augmented reality to support the learning of such competencies.

The workshop then continued with another welcome by Birgit Thomann, Head of the Department 'Internationalisation of VET/Knowledge Management at the BIBB, and Jens Liebe, Senior Programme Expert, UNESCO-UNEVOC International Centre in Bonn. Next, workshop organizers Anke Bahl and Agnes Dietzen introduced the workshop, which proceeded with two paper sessions, the 1st on 'Identification of conducive factors for learning on the level of the individual subject and the work environment', and the 2nd on 'The role and nature of guidance and counselling available from tutors, fellow workers and instructors in work-based learning'. These sessions were chaired and facilitated by Moana Monnier, who is a Research Associate at the BIBB, Maren Verführt, who is a Senior Technical Advisor at the BIBB/GOVET, Philipp Grollmann, who is a Research Associate at the BIBB, and Ilona Medrikat, Senior Technical Advisor at the BIBB/GOVET. Papers in these sessions were presented by Christian Harteis (on supporting learning at work in times of digitalization of work), Annalise Schnitzler & Stefanie Velten (on assessing work-based learning in German dual VET), Lorna Unwin (on improving workplace capacity as the prerequisite for effective work-based learning), Roger Harris (on enhancing work-based learning: different 'trainer' roles, different types of guidance), Claudia Jacinto (on different types of internships in VET in Argentina: challenges for their implementation and for defining the role of tutors and mentors) and Anke Bahl (on the social construction of the in-company trainers' role in German apprenticeship). The first day was wrapped up by Thomas Schröder from the Technical University of Dortmund in Germany.

The second day had three more paper sessions, the 3rd on 'Curriculum Development for WBL-schemes in schools, companies and institutions of higher education', the 4th on 'Boundary crossing: Options for the transfer of knowledge, skills and competences between contexts' and the 5th on 'Challenges of formalizing the informal'. The sessions were chaired and facilitated by Ute Hippach-Schneider, Research Associate at the BIBB, Hanno Kress, Senior Technical Advisor at the BIBB/GOVET, Christiane Eberhardt, Research Associate at the BIBB, Michael Schwarz, Senior Technical Advisor at the BIBB, Isabelle Le Mouillour, Head of Division 1.1 'Basic Issues of Internationalisation/Monitoring of Vocational Education Systems at the BIBB, and Daniel Solterbeck, Senior Technical Advisor at the BIBB/GOVET. Papers in the 3rd session were presented by Zhiqun Zhao/Yilu Shen (on Curriculum Development for WBL-Schemes in Vocational Schools and Colleges in China), Georg Spöttl (on Conducting Work-Process Analyses for the Development of Advanced Detailed Curricula), Benjamin A. Ogwo (on a Global Perspective and Trends in Work-based Learning of Technical and Vocational Education and Training (TVET) Programmes in Sub-Saharan Africa), Benadeth N. Ezekoy (on Integrating Gender Issues into the Work-based Learning Programmes of Higher Education, Institutions in Sub-Saharan Africa). Papers in the 4th session were presented by Natasha Kersh (on Learning through boundary-crossing in VET settings: insights from the UK), Loek F.M. Nieuwenhuis (on the Triple helix models for educating professionals in Higher Education), and Peter Rushbrook (on Work-based learning in Singapore: Case studies of the research-workplace nexus). Papers in the 5th and last session were presented by Salim Akoojee (on Understanding Learning and Apprenticeships in, and for, the informal sector: Issues, problematization and response) and Carolin Böse, Agnes Dietzen & Christiane Eberhardt (on Work-based learning: Documenting, validating, certifying of competence, skills and work experience in different settings).

Next, the day was wrapped up by Keshawna E. Salmon-Ferguson, UTECH/UNEVOC Centre for Research and Sustainable Development, Kingston, Jamaica.

Finally a perspective was given on future prospects by Borhène Chakroun.

Given the very rich program, high level presenters, the inclusive international scope, the exchange at North-North, North-South, and South-South level, which was appreciated by all participants, I believe this workshop deserves a follow-up, which I think it will get.

In my talk I did not go into the relationship between mainstream vocational educational and training and agricultural technical-vocational education (ATVET) and agricultural extension, although in many low GDP countries the development of agricultural and environmental knowledge systems and practices would benefit from tighter relationships between and coordination of higher agricultural education, ATVET, and rural advisory services. New combinations between agricultural, educational and learning, and human resource development sciences, would also be helpful, as at present, many scholars in these sciences are working in isolated silos. So far for the report on this workshop.

Secondly, the citation performance development of the JAEE. As you know we are permanently monitoring the citation score of the JAEE. This can easily be done by CiteScore of Scopus (The CiteScore 2015 is 0.64, which is calculated by Scopus Citation Count 2015/ Scopus Documents 2012-through 2014, which equals 71 citations/111 documents). We are happy that the CiteScore 2016 is considerably higher, namely 1.16. Scopus, which is calculated by Citation Count 2016/ Scopus Documents 2013 – through 2015, which equals 118 Citations to date/ 102 Documents to date.

As the JAEE is already in Scopus, and we are heading for inclusion in the Social Science Citation Index, it is also interesting to look at the citation scores of the JAEE within the set of SSCI journals. This citation analysis is done by Ellen Fest of the Library of Wageningen University (with thanks). She has computed two impact factors for the JAEE, one based on the assumption that one article is citing only one publication in JAEE, and one based on the assumption that one article can cite more publications in JAEE. Both lead to an estimated impact factor of respectively 0.98 and 1.31. As I think it is plausible to depart from the second assumption, the second estimated impact factor would be the valid one. We have had a consultation with the publisher of the JAEE, and Taylor and Francis found comparable results.

If we compare the estimated 2016 impact factor of 1.31 with those of 2013 (IF = 0.56), 2014 (IF = 0.45), and 2015 (IF = 0.54), we can conclude that a we have made a giant leap forward. Even if we depart from the first assumption, progress is still very good.

But, the question now is whether the context of journal publishing in general, or the quality improvement of the JAEE in particular has caused the increase of the impact factor. For, like the JAEE, more journals have been admitted to the Emerging Sources Index of Thompson Reuters. Taylor and Francis staff will now find out if there is a systems effect of this new index, namely that all journals which were included show a comparable increase in impact factor. As soon as we know that, we will report this. But in general I think we are on the right track, and of course hope that the upward trend in the citation scores will continue further. Thanks all who are helping to further improve the journal.

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