have significant implications for the roles and responsibilities of VET teachers and trainers, as well as for competence requirements.

Conclusions

Current changes of the VET curricula, reforms of the VET systems and processes require following the holistic approach to the competences of VET teachers and trainers. What matters for the quality of vocational education and training and for meeting the changing demands of work processes and society is not just provision of vocational knowledge and skills that meet the requirements of workplaces, but ensuring a deep understanding of the nature and contents of work processes, as well as the roles of employees in these processes.

These conditions also require revision of the structure and content of the competences and qualifications of VET teachers and trainers by paying more attention to those elements that traditionally are not strongly identified with vocational teaching and training, such as key competences, personal attitudes and values to teaching and learning, constructive pedagogical relationships with students.

Current reforms and institutional changes in VET, such as decentralization of the VET provision, implementation of competence-based VET modules, intensification of work-based learning and application of ICT-based learning solutions have rather controversial implications for VET teachers' competences and their development. On the one hand, these changes demand development of educational-academic background, professional and pedagogical competences of the VET teachers (e.g., demand of higher education). Research clearly indicated a positive impact of higher education of VET teachers on the teaching processes and attitudes to students and quality of vocational teaching. On the other hand, the dynamics of these changes and neoliberal policies of their implementation tend to focus attention on the cost-effectiveness of VET teacher training by orienting to the minimum (threshold) requirements to teachers' competences imposed by the current needs of workplaces and possibilities of educational institutions.

References

Anderson, T., Dron, J. (2011). Three Generations of Distance Education Pedagogy. *International Review of Research in Open and Distance Learning*, 12(3),80–97.

Armstrong, S.J., Fucami, C.V. (2009). *Management Learning, Education and Development*. SAGE.

Day, C. (2017). Competence-based Education and Teacher Professional Development. In: Competence-based Vocational and Professional Education, edited by M. Mulder. *Technical and Vocational Education and Training: Issues, Concerns and Prospects*, Vol. 23 (Bern: Springer-Verlag), pp. 165–182.

Duch, H., and Andreasen, K.E. (2017). VET again: now as a VET teacher. *International journal for research in vocational education and training*, 4 (3), 289–305.

Ehlers, U.D. (2007). The "E" – Empowering Learners: Myths and Realities in Learner-Orientated eLearning Quality. *eLearning Papers*, 2(1), 1–9.

Gao, Q., Dai, Y., Fan, Z., Kang, R.. (2010). Understanding factors affecting perceived sociability of social software. *Computers in Human Behavior*, 26, 1846–1861.

Jen-Her, Wu, Tenyson, R.D., Tzyh-Lih H. (2010). A study of student satisfaction in a blended e-learning system environment. *Computer & Education* , 55, 155–164.

Jossberger, H., Brand-Guwel, S., van de Wiel, M.W.J. (2015). Teachers' Perceptions of Teaching in Workplace Simulations in Vocational Education. *Vocations and Learning*, 8(3), 287–318.

Katterfeld, C., König, G.(2008). Analysis of e-learning software and guidelines for quality assurance in photogrammetry, remote sensing and GIS. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XXXVII, Part B6a, 45–53.

Kember, D., McNaught, C., Chong, F.C.Y., Lam, P. & Cheng, K.F. (2010). Understanding the ways in which design features of educational websites impact upon student learning outcomes in blended learning environments. *Computers and Education*, 55, 1183–1192.

McLoughlin, C., Lee, M.J.W. (2010). Personalised and self-regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology*, 26(1), 28–43.

Nze, J.S.B. and Ginestie, J. (2012). Technical and vocational teaching and training in Gabon: how future teachers build their vocational identity? *International Journal of Technology and Design Education*, 22(3), 399–416.

O'Neil, H.F. (2013). *Web-based learning: Theory, research, and practice*. Routledge.

Tacconi, G. and Gomez, G., A., M. (2013). *Success stories. Quando è la Formazione Professionale a fare la differenza (Success stories. When the vocational education and training makes difference.* Roma: CNOS-FAP.

Tacconi, G., 2016. Il mestiere del formatore secondo Primo Levi (The teachers work according to Primo Levi). *Rassegna CNOS*, 32, 65–80.

Tait, A. (2014). From Place to Virtual Space: Reconfiguring Student Support for Distance and E-Learning in the Digital Age. *Open Praxis*, 6, 5–16.

28–57.

Wuttke, E, and Seifried, J. (2017). Modeling and Measurement of Teacher Competence: Old Wine in New Skins? In: Competence-based Vocational and Professional Education, edited by M. Mulder. *Technical and Vocational Education and Training: Issues, Concerns and Prospects*, Vol. 23 (Bern: Springer-Verlag), pp. 883–902.