Chapter 10
Developing Digital Competences of Vocational Teachers

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ABSTRACT

In the context of corporate learning digital media and digital tools have become more accepted than in the field of education systems. Particularly vocational schools are obviously under pressure to deal with changes due to digitalization in many sectors and professions. One reason why technology-based learning is still underdeveloped in schools could be the insufficient digital competences of teachers. Presently most teachers gain their knowledge on how to use digital media for learning and teaching informally. In the implementation of formal educational efforts, a low practical feasibility in specific working context as well as time and financial aspects are criticized. Present research shows that non-formal and informal learning should be better linked in order to develop teachers' digital competences sustainably. The present contribution introduces a necessary framework to include informal learning processes in teacher education at vocational schools and furthermore fosters a school culture of learning together and from each other.

1. INTRODUCTION: DIGITAL COMPETENCES IN VOCATIONAL EDUCATION

Digital competences have become interdisciplinary and cross-generational cross-functional skills (Weiss, 2012), which employers usually already require of trainees and employees during and at the latest after their training. For this reason, there are growing calls to ensure sufficient media literacy for young people in the education sector. The aim of media education is to enable learning in schools with and through media and, through their integration in the curriculum and the development of technical and interdisciplinary skills, to contribute to constructively-oriented learning (Mayrberger, 2007, 2012). In

addition, digital media provide ways to strengthen hands-on learning approaches in the classroom and integrate informal modes of learning into formal learning. In this sense, digital media perform a bridging function through their direct relevance to the students' lifestyles and serve "as a cultural resource enabling them to participate and become involved in social processes [...] and develop personal world views and their identity" (Herzig & Grafe, 2009, p. 193, quoting Mayrberger, 2012, p. 401). The aim of media education is therefore to help individuals, in general and in a professional context, to use media knowledgeably, self-responsibly and critically (Seufert & Scheffler, 2014) and shape training rooms as well as learning and educational processes independently based on digital media (Mayrberger 2012, p 403; Spanhel, 2009). In this context, (vocational) schools and teachers play a key role.

2. PROBLEM AND RESEARCH QUESTION

Digital media have established themselves far more quickly and effectively in work and everyday life than in education (Weiss, 2012, p. 3). It is hoped that the use of media will improve learning efficiency, facilitate greater orientation to the future professional needs of learners and accompanied personality development in a digital society, etc. Digital media therefore are already part of vocational training at different levels: as part of the everyday life and work of students and teachers, as a method or as content in vocational school teaching. Especially the methodological and didactic use of digital media, often subsumed under the term eLearning, dominates public debate. Overall, however, the use of digital media and eLearning in vocational schools has only played a minor role to date (Wilbers, 2012, p. 38).

However, due to the growing importance in companies and thus the commercial part of the training, vocational schools are coming under increasing pressure to also address the implications of digital media for education and training. "In this area, vocational schools are facing a permanent and extremely differentiated need to adapt that is not seen in this scope or diversity in any other kind of school" (Wilbers 2012, p 40). Common teaching practices are seen as a central barrier to innovation. This is because whether or not media enter the classroom depends not only on the technical prerequisites, but also on the skills and the willingness of the individual teachers to try out new forms of teaching. So far, however, school routine is dominated by traditional forms of teaching, in which the tutorials, smaller individual and group work and lectures are predominant (Euler, 2012, p. 21). New teaching concepts, such as media-supported, problem-based learning or project forms featuring wikis or weblogs can only be integrated into such models to a limited extent.

Moreover, teachers addressing new digital skills such as the competent handling of online information are often entering uncharted territory in their respective fields (media education). In this context, teachers are increasingly demanding the teaching of media-specific qualification goals. However, what skills teachers need to acquire remains rather sketchy and is largely limited to the use and operation of the ICT (Blömeke, 2005). Furthermore, it is obvious that formal seminars, such as one-day training workshops in how to use ICT, are not sufficient and effective to develop teachers' digital competences. In order to be able to plan and design suitable education training measures for teachers initially requires a systematic approach for the professional development of teachers at vocational schools. The main research question of this paper focuses on this critical issue:

How to design a systematic approach for digital competences development (rather than the planning of selective training measures) from the perspective of both teachers and the school management?

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