

HÖGSKOLAN VÄST

Recompetencing: Coping with Digital and Robotic Agents at Work

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Abstract

With the increasing use of digital and robotic technology in the workplace, the trend toward adopting automation is on the rise. The widespread automation, in turn, impacts the organizing of work, forms of required competences, and models of learning at work. The purpose of this dissertation is to first attend to changes in competences in the main and by association to work and learning from two vantage points. The first is work-as-doing, which asks what work is in practice rather than regarding it in terms of job titles and occupational labels. The second is technology-in-use, which maintains adapting to the physical realities of technological development as well as new realities created by the digital world. Against such a backdrop, this dissertation problematizes what we mean by a competent workforce by dissociating competent work from routine, habitual, or imitative practices in the face of advanced digital and robotic solutions. Insights are drawn using a qualitative method from two empirical settings. The first setting is an example of the digital transformation of the profession of communications. The second setting covers a change process of a small manufacturing plant from a manual assembly line to an assembly line equipped with automatic robotic systems. The theoretical concept of material agency is combined with historical examples to highlight the breadth, depth, and significance of using digital and robotic solutions in the workplace. Investigations reveal new insights on digitalization and robotization as two closely-related, yet distinct technological phenomena. The findings then provide new perspectives on conceptualizing competence in relation to digitalization and robotization. By examining the effects of digitalization and robotization on skills and competences, this dissertation provides detailed insights about the evolution of competences in response to new materialities and the intentionality argument that frequently surfaces in attempts to explain material agency and competence.