

Professional and Practice-based Learning

Volume 21

Series editors

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Professional and practice-based learning brings together international research on the individual development of professionals and the organisation of professional life and educational experiences. It complements the Springer journal *Vocations and Learning: Studies in vocational and professional education*.

Professional learning, and the practice-based processes that often support it, are the subject of increased interest and attention in the fields of educational, psychological, sociological, and business management research, and also by governments, employer organisations and unions. This professional learning goes beyond, what is often termed professional education, as it includes learning processes and experiences outside of educational institutions in both the initial and ongoing learning for the professional practice. Changes in these workplaces requirements usually manifest themselves in the everyday work tasks, professional development provisions in educational institution decrease in their salience, and learning and development during professional activities increase in their salience.

There are a range of scientific challenges and important focuses within the field of professional learning. These include:

- understanding and making explicit the complex and massive knowledge that is required for professional practice and identifying ways in which this knowledge can best be initially learnt and developed further throughout professional life.
- analytical explications of those processes that support learning at an individual and an organisational level.
- understanding how learning experiences and educational processes might best be aligned or integrated to support professional learning.

The series integrates research from different disciplines: education, sociology, psychology, amongst others. The series is comprehensive in scope as it not only focusses on professional learning of teachers and those in schools, colleges and universities, but all professional development within organisations.

More information about this series at <http://www.springer.com/series/8383>

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Editor

The Impact of Digitalization in the Workplace

An Educational View

 Springer

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Series Editors' Foreword

A major goal of this book series is to provide contributions to the debate on learning in the context of daily work. Workplaces provide tasks, resources and barriers that all may have effects on the learning and development of the persons who participate in these workplaces. This volume focuses on the digitalization of work – a mega-trend of societal development – and its contributions discuss issues about how changes in workplace environments influence workers and employees from an educational perspective.

The digitalization of work does not only mean supporting production processes through computer technology but also refers to the implementation of cyber-physical systems that autonomously communicate with machines, humans and other cyber-physical systems (i.e. Internet of things). Complex software shapes this communication on the basis of immanent, hidden algorithms. In this way, work processes change as well as business organization. A major concern here is that in complex software-controlled systems, machines make decisions on the basis of their implemented algorithms. People, then, have either to monitor and control those systems or they have to react on them. The educational consequences of those changes are the core focus of this volume. The contributions discuss different aspects on how digitalization in work contexts transforms and modifies occupational practices. The overwhelming consensus is that there will be workplaces (and occupations) that become dispensable, on the one hand, whereas other novel workplaces (and occupations) will emerge, on the other hand, through these changes. However, the discussion remains more abstract than precise and confident conclusions being made. The contributions to this volume take up this issue and provide arguments from diverse perspectives. These contributions, hence, are highly relevant to the book series.

The current discourse on digitalization is dominated by contributions from technological domains (e.g. software engineering, systems engineering, robotics). However, digitalization generates technological challenges for individuals, organizations and societies. Hence, digitalization of work is a topic of interdisciplinary interest and relevance. This volume comprises contributions written by researchers from different academic disciplines who discuss the effects of digitalization of work

at individual, organizational and societal levels. They provide considerations for the still open discussion on how individuals, organizations and society want to shape the transformation processes related to digitalization. It is the opportunity to contribute to this discussion now and – thus – to participate in the development of the public, legal and ethical framework for digitalization that makes this volume both timely and important.

The book series aims at understanding and explaining problem- and practice-based learning, to learn about how best to prepare individuals for work and how best to maintain their skills and capabilities across lengthening working lives. This volume addresses digitalization of work as a challenge for occupational practices and vocational education and training. It comprises attempts that specify possible changes through digitalization of work, arising opportunities and limitations and approaches to secure the required skills and capabilities. The particular educational view implies a humanistic idea that aims at supporting individuals to act independently and to make decisions and choices autonomously. The contributions of this volume explore consequences of digitalization that challenge such an ideal. Hence, this compilation of contributions provides exemplary viewpoints on a current and highly relevant issue of technological and societal development. It is important to acknowledge not only technical problems but also educational problems, to establish conditions for the digitalization of work that are socially shared and respected. To support the understanding of problem- and practice-based learning in digitalized work may provide a valuable contribution to the scientific and the societal discourse. This volume, hence, addresses researcher and practitioner audiences.

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