Foreword

From the early days of theorizing on knowledge building, much emphasis has been put on the creation of new knowledge through collaborative idea refinement rather than on learning things that are already known. The basic idea has been that learners should develop skills of contributing to the generation of new knowledge in interaction with other members of a knowledge community or a network. Until recently, the technology to support these processes was not highly developed and especially not very widespread. Currently, dynamic research fields like Technology-Enhanced Learning (TEL) and Computer-Supported Collaborative Learning (CSCL) are exploring the potentials of forums, wikis, and other forms of social software to support collaborative knowledge construction processes and outcomes in a systematic way. Although some researchers and educational practitioners consider these new software types as ideal technologies for collaborative knowledge building, research on computer-supported (collaborative) learning does not warrant optimism with respect to effects of new technologies on learning. The field has seen the rise and fall of many hopes with respect to how new technologies might revolutionize learning and instruction. Rather than addressing the direct effects of technologies on learning, it seems more promising to investigate how technologies can support and change educational practices. The idea of technology enhancement should thus not only be seen in connecting distant learners with social software, but also in offering or giving access to challenging learning contexts and in support for structuring and orchestrating processes of collaborating and learning for both distant and co-present collaborators.

A focus in e-collaborative knowledge construction is on knowledge generated in technology-enhanced social interaction, rather than on information structures to be transmitted into the learners’ heads with the help of technology. This does not imply that knowledge construction can be reasonably considered as being completely independent of the cognitive systems of the participating individuals. It does imply, however, that collaborative knowledge construction processes exceed individual cognitive systems. A multitude of approaches from different perspectives seems thus necessary to appropriately cover the complexity of the phenomenon. Such a multitude of approaches typically is accompanied by conceptual and methodological heterogeneity. This heterogeneity, in turn, can hamper the accumulation of scientific knowledge on the phenomenon. The present book is thus a very important and timely contribution to bring together the most important approaches to technology-enhanced collaborative knowledge construction from different disciplines and perspectives. It is a great state-of-the-art resource for researchers who want to improve our understanding of how knowledge is generated and shaped through social interaction in groups and networks and what role technology can play to support the cognitive and social processes involved. Although I am aware of the fact that
scientific understanding of a phenomenon and educational innovations can be quite different things, I strongly believe that this research has a high potential to contribute to a more participatory culture of learning in our schools and universities.

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Frank Fischer earned his Doctorate in Psychology in 1997, and his Habilitation (professorial dissertation) in Psychology and Education in 2002, both from the University of Munich. He served as an Assistant Professor for Applied Cognitive Psychology and Media Psychology at the University of Tuebingen held a professorship for Instructional Psychology at the University of Erfurt (2002-2003). From 2004-2006 he was an Associate Professor for Research on Learning and Instruction at the University of Tuebingen and head of the research unit Collaborative Knowledge Construction at the Knowledge Media Research Center. Since October 2006, he is a Full Professor of Education and Educational Psychology at the University of Munich. His research has been revolving around collaborative knowledge construction in interactive learning environments. In recent research projects, he has been focusing on facilitating collaborative knowledge construction with computer-supported socio-cognitive scaffolding with collaboration scripts in school (biology and physics) and university (educational science, medicine, computer science) contexts.