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Abstract

This book concerns the design of technology enhanced learning experiences considering teaching as a design science. It also covers the orchestration, the learning activity management and the reflection of the implementation of educational scenarios, in order to improve the scenarios per se as well as the ability to design and teach. Upon becoming acquainted with the field of Technology Enhanced Learning and Learning Design, the studier is introduced to selected design methodologies and generalized design patterns for educational materials and scenarios. Moreover, through case studies, the studier is guided to develop the ability to design educational scenarios that will make effective use of digital educational technologies both as information media as well as cognitive tools, in order to transform conventional pedagogical practices into more constructivist ones. Digital learning materials, as a building block of educational scenarios, are systematically classified into generalized interaction

models with graded interactivity. This graduation supports designing with a controlled level of interactivity and utilization of modern teaching methods. The theoretical part of the book, which is independent of educational level, is completed by the assessment of learning and by reviewing the effectiveness of the scenarios based on their implementation experience, individually, in groups and within designer communities. Finally, case studies of implementing educational scenarios in real-life situations are analyzed and organized in sections, such as cross-thematic scenarios, mobile learning with the use of augmented reality and mobile devices, computational thinking and educational robotics, etc. Case studies focus on preschool education, although the scenario patterns can be useful in any educational setting. The textbook mainly concerns students of the Departments of Education and Preschool Education, as well as of Departments whose students attend courses for teacher license.