## Contents

### Part I  Situating ICT in Education

**Digital Technologies: An Effective Educational Change Agent?** ........................................ 3  
Jean Underwood

**The Evolution of Educational Technology Based on a Bibliometric Study** ................................................................. 15  
Tassos A. Mikropoulos, Demetrios G. Sampson, Alexandros Nikopoulos, and Panayotis Pintelas

**Theories of Learning in Math and Science Educational Software** ............... 25  
Dimitra Apostolopoulou, Christos Panagiotakopoulos, and Anthi Karatrantou

### Part II  ICT in Preschool and Primary Education

**Educational Software Use in Kindergarten** ................................................................. 39  
Kleopatra Nikolopoulos

**Geometry Teaching Through ICT in Primary School** ............................................. 59  
Nicholas Zaranis

**Teaching Informatics in Primary School With and Without Educational Software Support** ........................................... 73  
Panagiota Halki and Panagiotis Politis

### Part III  ICT and Teaching Programming

**Educational Games for Teaching Computer Programming** ................................. 87  
Christos Malliarakis, Maya Satratzemi, and Stelios Xinogalos
Robotics and Programming Concepts in Early Childhood Education: 
Anastasia Misirli and Vassilis Komis

Part IV  Web 2.0 Tools and Learning

Integrating Blogs in Primary Education.................................................. 121 
Nikoleia Eteokleous-Grigoriou and Stella Photiou

Effectiveness of Wiki-Based Learning in Higher Education ................. 137 
Panagiota Altanopoulou, Christos Katsanos, and Nikolaos Tselios

Courseware Evaluation Through Content, Usage 
and Marking Assessment........................................................................ 149 
Ioannis Kazanidis, Stavros Valsamidis, Sotirios Kontogiannis, 
and Alexandros Karakos

Part V  ICT for Learning in Museums

Game Design as a context for Learning in Cultural Institutions .......... 165 
Nikoleta Yiannoutsou and Nikolaos Avouris

Digital Applications in Museums: An Analysis from a Museum 
Education Perspective ........................................................................... 179 
Niki Nikonanou and Alexandra Bounia

Part VI  ICT and Pre- and In-service Teacher Practices

Technology Integration in the Most Favorable Conditions: 
Findings from a Professional Development Training Program .......... 197 
Ilias Karasavvidis and Vassilis Kollias

ICT Use in Secondary Education: Schooling Necessities 
and Needs for Human Resources............................................................ 225 
Mehdi Khaneboubi and Aurélie Beauné

Teacher Preparation for Educational Technology ................................. 245 
Ioanna Vekiri

Part VII  ICT for Specialized Uses

Conversational Agents for Learning: How the Agent Role 
Affects Student Communication.............................................................. 265 
Stergios Tegos, Anastasios Karakostas, and Stavros Demetriadis
Anxiety Awareness in Education: A Prototype Biofeedback Device .......... 277
Hippokratis Apostolidis, Panagiotis Stylianidis, and Thrasyvoulos Tsiatsos

Digital Storytelling for Children with Autism: Software Development and Pilot Application .................................................. 287
Konstantina Chatzara, Charalampos Karagiannidis, Sofia Mavropoulou, and Dimos Stamatis

Index ................................................................................................................................................................................. 301
Research on e-Learning and ICT in Education
Technological, Pedagogical and Instructional Perspectives
Karagiannidis, C.; Politis, P.; Karasavidis, I. (Eds.)
2014, XXI, 314 p. 61 illus., 48 illus. in color., Hardcover