**Education**

G. Conole, The Open University, UK

**Designing for Learning in an Open World**

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- The Role of Criticism in Understanding Problem Solving
- Honoring the Work of John C. Belland

**Student Participation in Online Discussions**

K. F. Hew, Nanyang Technological University, Singapore

**Student Participation in Online Discussions**

Challenges, Solutions, and Future Research

The increasingly prevalent use of online- or blended-learning in schools universities has resulted in asynchronous online discussion forum becoming an increasingly common means to facilitate dialogue between instructors and students, as well as students and students beyond the boundaries of their physical classrooms.

**Features**
- Provides an up-to-date and comprehensive review of more than 50 research studies on online discussions
- Completely dissects and analyzes nine contextualized case studies
- Provides concrete examples for creating a productive online learning environment

**Contents**
- 1 Introduction to asynchronous online discussion
- 2 Literature Review
- 3 Challenges: Students making few or no postings
- Students exhibiting surface-level critical thinking
- Students showing low-level knowledge construction
- Potential Solutions: Use of Grades, Use of number of postings
- Case Studies on student facilitation: What motivates students to participate
- Case Studies on student facilitation: How to sustain participants' online discussions
- 7 case Studies on student facilitation: How to foster high levels of knowledge construction?
- Exploring audio based online discussion

**Fields of interest**
- Educational Technology
- Philosophy of Education
- Learning and Instruction

**Target groups**
- Research

**Product category**
- Monograph

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F. Rivera, San Jose State University, CA, USA

Teaching and Learning Patterns in School Mathematics
Psychological and Pedagogical Considerations

This book synthesizes research findings on patterns in the last twenty years or so in order to argue for a theory of graded representations in pattern generalization. While research results drawn from investigations conducted with different age-level groups have sufficiently demonstrated varying shifts in structural awareness and competence, which influence the eventual shape of an intended generalization, such shifts, however, are not necessarily permanent due to other pertinent factors such as the complexity of patterning tasks.

Features
- The only book to advocate a patterns approach to mathematics education as a way of democratizing access to hard-to-reach concepts and processes
- Provides a synthesis of twenty years of research on the use patterns in mathematics education
- Includes concrete examples to guide the development of a patterns approach in school mathematics curricula for the K-12 classroom

Contents
- 1 Introduction
- 2 The Context of Generalization
- 3 Types and Levels of Pattern Generalization
- 4 The Theory of Graded Representations in Pattern Generalization
- 5 Gestures, Words, and Incipient Generalizations
- 6 Variables and Algebraic Generalizations
- 7 Patterns, Generalization, and Arithmetic Thinking
- 8 Patterns, Functional Thinking, and Algebraic Learning
- 9 Pedagogical Issues and Implications
- 10 Conclusions

Fields of interests
Mathematics Education; Pedagogical Psychology; Learning and Instruction

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D. G. Sampson, University of Piraeus, Greece;
P. Isaías, University of Aberta, Lisbon, Portugal;
D. Ifenthaler, University of Mannheim, Germany;
J. M. Spector, University of North Texas, Denton, TX, USA (Eds.)

Ubiquitous and Mobile Learning in the Digital Age

Papers from CELDA 2011

This edited volume with selected expanded papers from CELDA (Cognition and Exploratory Learning in the Digital Age) 2011

Features
- Offers a concrete perspective on the use of mobile devices for ubiquitous learning
- Provides an update on social web technologies in formal and informal educational settings
- Includes an expanded section on the latest virtual and game-based learning integration
- Presents peer-reviewed papers from the 2010 CELDA Conference

Contents
Ubiquitous and mobile formal and informal learning in the digital age
- Challenges and new perspectives
- Social web technologies for new knowledge representations
- Social web technologies for knowledge retrieval, creation, and sharing in formal and informal educational settings
- Virtual worlds and formal learning
- Virtual worlds and informal learning
- Game-based learning and assessment
- Location-based environments for learning
- Context-aware environments for learning
- Formal and informal learning integration
- Conclusions and future directions

Fields of interests
Educational Technology; User Interfaces and Human Computer Interaction; Learning and Instruction

Target groups
Research

Product category
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J. M. Spector, University of North Texas, Denton, TX, USA; M. D. Merrill, Utah State University, Logan, UT, USA; J. Elen, University of Leuven, Belgium (Eds.)

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Contents
Foundations of educational communications and technology
- Historical overview
- Research-based perspectives
- Examples
- Research methods
- Research approaches
- Design research
- Developmental research
- Activity research
- Classroom action research
- Qualitative methods
- Strategies and models
- Formal learning
- Informal learning
- Adult learners
- Instructional design and development models
- Model-based learning and performance
- Motivational models
- Models for personalized learning
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- Change agency in learning
- Cultural considerations
- Distributed educational practice
- Policies governing educational technology implementation
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- Emerging technologies
- Mobile technologies
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- Adaptive technologies
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- Technology integration
- TPACK
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- Technology integration in work settings
- Technology integration in health care
- Technology integration in public service contexts
- Technology integration in multi-cultural settings
- Technology integration for problem solving and decision making
- Technology integration and generational differences
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Fields of interests
Educational Technology; Computers and Education; Learning and Instruction

Target groups
Research

Product category
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Science | Environment | Health

Towards a Renewed Pedagogy for Science Education

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