APOS Theory

A Framework for Research and Curriculum Development in Mathematics Education

Features
- The first book on APOS Theory in Mathematics Education, written by the people who developed APOS Theory
- Provides examples of curriculum development utilizing APOS Theory
- Links research and teaching APOS Theory in a coherent manner
- Describes relation of APOS Theory to Functions, Mathematical Induction, Discrete Mathematics, Linear and Abstract Algebra and more

Contents

Fields of interest
Mathematics Education; Learning and Instruction

Target groups
Research

Product category
Monograph

Early Mathematics Learning

Selected Papers of the POEM 2012 Conference

Contents
New Series Mathematics Education in the Digital Era

Eds: D. Martinovic, V. Freiman

The Mathematics Education in the Digital Era (MEDE) series explores ways in which digital technologies support mathematics teaching and the learning of Net Gen’s, paying attention also to educational debates. Each volume will address one specific issue in mathematics education (e.g., visual mathematics and cyber-learning; inclusive and community based e-learning; teaching in the digital era), in an attempt to explore fundamental assumptions about teaching and learning mathematics in the presence of digital technologies. This series aims to attract diverse readers including: researchers in mathematics education, mathematicians, cognitive scientists and computer scientists, graduate students in education, policy-makers, educational software developers, administrators and teachers-practitioners. Among other things, the high quality scientific work published in this series will address questions related to the suitability of pedagogies and digital technologies for new generations of mathematics students.

The series will also provide readers with deeper insight into how innovative teaching and assessment practices emerge, make their way into the classroom, and shape the learning of young students who have grown up with technology. The series will also look at how to bridge theory and practice to enhance the different learning styles of today’s students and turn their motivation and natural interest in technology into an additional support for meaningful mathematics learning. The series provides the opportunity for the dissemination of findings that address the effects of digital technologies on learning outcomes and their integration into effective teaching practices; the potential of mathematics educational software for the transformation of instruction and curricula; and the power of the e-learning of mathematics, as inclusive and community-based, yet personalized and hands-on.

Due June 2013

2013. Approx. 200 p. 50 illus. Hardcover
► approx. * € (D) 106,99 | € (A) 109,99 | sFr 133,50
► approx. € 99,99 | £90.00
ISBN 978-94-007-6856-7
Developing Wisdom Through Education
The Science and Practice of Wisdom-based Teaching
Wisdom has been sought since antiquity as an intellectual virtue associated with living a good life, but only recently has scientific evidence been gathered about it. Wisdom develops over the lifespan, and many suggestions exist about how it can be taught. This SpringerBrief in Education will examine the history and scientific evidence surrounding the development of wisdom, and about how it can be taught or fostered. We also situate our essay in the context of existing programs to promote character education, claiming that character education that ignores teaching for wisdom is necessarily incomplete.

Fields of interest
Educational Psychology; Educational Philosophy

Target groups
Research

Product category
Brief

Conceptual Profile: A Theory of Teaching and Learning Scientific Concepts
The idea of a conceptual profile - that people can exhibit different ways of seeing and representing the world, which are used in different contexts - was proposed by Mortimer in the 1990s, as an alternative to counterbalance a strong tendency that theories and models of conceptual change exhibited at that time. The idea of conceptual profile is an attempt to frame the problem of generating new meanings in science teaching considering the interplay between modes of thinking and ways of speaking. The basic assumption is that different modes of thinking that characterize the heterogeneity of verbal thinking are interwoven with different ways of speaking. The idea of conceptual profile recognizes the coexistence, in the individual, of two or more meanings for the same word or concept, which are accessed in the appropriate context. This book is about a research program on how people learn scientific concepts and how these concepts can be taught in terms of dialoguing this heterogeneity.

Features
► Reports the construction of a research program that is responsive to all the main developments in the field of science education ► Defines the fundamental tasks for founding the conceptual profile research program ► Positions the learner of science in a place coherent with his/her pluralist condition of belonging to different communities

Fields of interest
Science Education; Teaching and Teacher Education; Learning and Instruction

Target groups
Research

Product category
Contributed volume

Teaching and Learning in a Community of Thinking
The Third Model
This book explores a new pedagogical model called The Third Model, which places the encounter between the child and the curriculum at the center of educational theory and practice. The Third Model is implemented in an alternative classroom called Community of Thinking. Teaching and learning in a Community of Thinking is based on three “stations”: the fertile question; research; and concluding performance. The essence of a Community of Thinking is the formation of a group of students and teachers who grapple with a troubling question to which they do not know the answer at the outset – and sometimes even at the end of their investigation. The Community of Thinking framework is supported by a whole school model – the Intel-Lect School. The model, or parts of it, is currently implemented in schools in Israel, England, Australia, and New Zealand.

Features
► The first to bridge child-centered and curriculum-based models of schooling ► Sums up in an original way the leading educational insights of the last three decades ► Provides a new horizon for education

Contents

Fields of interest
Learning and Instruction; Educational Philosophy

Target groups
Research

Product category
Monograph
R. Huang, Kinshuk, N.-S. Chen (Eds)

The New Development of Technology Enhanced Learning: Concept, Research and Best Practices

The book will address the main issues concerned with the new development of learning processes, innovative pedagogies changes, effects of new technologies on education, future learning content, which aims to gather the newest concepts, research and best practices on the frontiers of technology enhanced learning from the aspects of learning, pedagogies, and technologies in learning in order to draw a picture of technology enhanced learning in the near future. Some issues like “e-learning ... m-learning ... u-learning – innovative approaches”, “the Framework and Method for Understanding the New Generation Students”, “Context-aware Mobile Role Playing Game for Learning”, “Pedagogical issues in content creation and use: IT literacy through Spoken Tutorials”, “Supporting collaborative knowledge construction and discourse in the classroom”, “Digital Systems for Hierarchical Open Access to Education”, “Using Annotated Patient Records to Teach Clinical Reasoning to Undergraduate Students of Medicine”, “Utilizing Cognitive Skills Ontology for Designing Personalized Learning Environments”, “Using Interactive Mobile Technologies to Develop Operating Room Technologies Competency” will be discussed in each chapter.

Features
► Presenting the most frontier of educational technology ongoing around the world ► Showing the effective research methods on the newly emerging phenomenon in education ► Guiding researches and practices in future educational technology

Field of interest
Educational Technology

Target groups
Professional/practitioner

Product category
Contributed volume

Due September 2013

2014. Approx. 300 p. (Lecture Notes in Educational Technology) Hardcover
► approx. * € (D) 106,99 | € (A) 109,99 | sFr 133,50
► approx. € 99,99 | £90.00
ISBN 978-3-642-38290-1

D. Ifenthaler, R. Hanewald (Eds)

Digital Knowledge Maps in Higher Education

Technology-Enhanced Support for Teachers and Learners

Digital knowledge maps are ‘at a glance’ visual representations that enable enriching, imaginative and transformative ways for teaching and learning, with the potential to enhance positive educational outcomes. The use of such maps has generated much attention and interest among tertiary education practitioners and researchers over the last few years as higher education institutions around the world begin to invest heavily into new technologies designed to provide online spaces within which to build resources and conduct activities.

Features
► Provides the only cross-disciplinary model for creating digital knowledge maps in higher education ► Includes concrete examples of technology enhanced curriculum design prototypes utilizing digital knowledge maps ► Facilitates transformational teaching and learning through the use of digital knowledge maps

Contents
► Current issues in concept mapping for higher education
► Theories of metacognitive tools in education.
► Framework for implementation of concept maps in higher education
► Case studies: Institutional scenarios and specific implementations
► Innovative pedagogy and educational transformation
► Research using digital concept maps

Fields of interest
Educational Technology; Learning and Instruction; Computers and Education

Target groups
Research

Product category
Contributed volume

Due August 2013

2014. L, 300 p. 50 illus. Hardcover
► approx. * € (D) 149,75 | € (A) 153,94 | sFr 186,50
► approx. € 139,95 | £126.50
ISBN 978-1-4614-3177-0

M. Kell, Charles Darwin University, Darwin, NT, Australia; P. Kell, Charles Darwin University, Darwin, NT, Australia

Literacy and Language in East Asia

Shifting Meanings, Values and Approaches

This book critically explores why some Asian nations are on top of the world in students’ achievement tests in reading and literacy, yet governments and industry in these nations are anxious about a crisis in education.

Features
► A critical analysis of the high performing East Asian nations and the "contests" and "league tables" derived from international literacy and numeracy achievement tests ► Argues for education systems to embrace reforms that promote capabilities which prepare students for life and work in modern and globalised communities ► A unique approach that departs from traditional country study approaches and seeks to identify how each nation has been influenced by cross national policy borrowing

Contents

Fields of interest
Literacy; International and Comparative Education; Educational Policy and Politics

Target groups
Research

Product category
Monograph

Due July 2013

2014. Approx. 140 p. 4 illus. (Education in the Asia-Pacific Region: Issues, Concerns and Prospects, Volume 24) Hardcover
► * € (D) 106,99 | € (A) 109,99 | sFr 133,50
► € 99,99 | £90.00
ISBN 978-981-4451-29-1
International Education Hubs
Student, Talent, Knowledge-Innovation Models

Contents

Fields of interest
International and Comparative Education; Higher Education; Educational Policy and Politics

Target groups
Research

Product category
Contributed volume

Due July 2013

► * € (D) 106,99 | € (A) 109,99 | sFr 133,50
► * € 99,99 | £90.00
ISBN 978-94-007-7024-9

Effective Group Work in Primary School Classrooms
The SPRinG Approach

This book offers a challenge to traditional approaches to classroom teaching and pedagogy.

Features
► Offers a major contribution to understanding and evidence on collaborative group work that challenges traditional approaches to teaching and pedagogy ► Develops a new and ambitious social pedagogic approach to classroom learning and group work ► Makes a substantial contribution to our knowledge of teaching and learning, particularly in the context of seeking more active forms of learning using more diverse forms of pedagogy

Contents

Fields of interest
Learning and Instruction; Child and School Psychology; Childhood Education

Target groups
Research

Product category
Monograph

Due July 2013

► * € (D) 106,99 | € (A) 109,99 | sFr 133,50
► * € 99,99 | £90.00
ISBN 978-94-007-6990-8

J. Larusson, Brandeis University, Waltham, MA, USA;
B. White, University of California, Berkeley, CA, USA (Eds)

Handbook of Learning Analytics
Methods, Tools and Approaches

Learning Analytics (LA) refers to the collection, analysis, and application of data accumulated throughout a semester to assess the behavior of educational communities. Through the use of statistical techniques and predictive modeling, its ultimate goal is to optimize both student learning and faculty performance, to refine pedagogical strategies, to streamline institutional costs, to determine students’ engagement with course material, to highlight potentially struggling students and alter pedagogy accordingly, and to allow instructors to accurately judge their own efficacy.

Features
► Consolidates current Learning Analytics research into one volume ► Includes numerous examples of Learning Analytics implementations ► Provides strategies for integrating Learning Analytics at the classroom, departmental, and institutional level

Contents

Fields of interest
Educational Technology; Computers and Education; Assessment, Testing and Evaluation

Target groups
Research

Product category
Handbook

Due June 2013

2013. Approx. 500 p. 50 Illus. (Computer-Supported Collaborative Learning Series, Tentative volume 10000) Hardcover
► approx. * € (D) 149,75 | € (A) 153,94 | sFr 186,50
► approx. * € 139,95 | £126.50
ISBN 978-1-4614-3304-0
C. Lindström, The University of Sydney, NSW, Australia

Human Knowledge Construction
On learning, teaching and discipline development

This book offers an introduction to how the brain learns, both physiologically and cognitively.

Contents
1 Delving into a complex system. 2 Knowledge. 2.1 Epistemology. 2.2 Types of knowledge – Bloom’s revised taxonomy. 2.3 Knowledge in physics. 3 Neuroscience. 3.1 Definitions. 3.2 Implicit memory. 3.3 Explicit memory. 3.3.1 Sensory input and attention. 3.3.2 Encoding. 3.3.3 Memory consolidation. 3.3.4 Memory storage. 3.3.5 Recall. 3.4 Neuroscientific teaching. 4 Cognitive psychology. 4.1 Attention. 4.2 Working memory. 4.2.1 Cognitive load theory. 4.3 Long-term memory. 4.3.1 Concepts. 4.3.2 Schema theory. 4.3.3 Sweller’s cognitive architecture. 5 Constructivism. 5.1 The transmission myth. 5.2 Different perspectives within constructivism. 5.3 Personal constructivism. 5.3.1 Piagetian constructivism. 5.3.2 Radical constructivism. 5.4 Social constructivism. 5.4.1 Social constructivism in science. 5.4.2 Sociocultural constructivism. 5.4.3 Postmodern constructivism. 5.5 Compare and align: Do they really disagree? 6 Theory into practice. 6.1 Direct instruction vs. discovery learning – the great debate. 6.2 The individual 6.2.1 Novices vs. experts. 6.2.2 The journey from novice to expert. 6.2.3 The Model of Domain Learning. 6.2.4 Instructional design. 6.3 The social? A reflection on the fields of Physics and Education.

Fields of interest
Learning and Instruction; Educational Psychology; Science Education

Target groups
Research

Product category
Brief

M. Miwa, S. Miyahara (Eds)
Quality Assurance in LIS Education
An International and Comparative Study

Features
➤ Compares and examines LIS education systems in Asia, North America, Latin America, Europe and Africa ➤ Written by leading researchers and scholars of LIS education in each country represented ➤ Focuses on the quality assurance of LIS professional education at the university level

Contents

Fields of interest
Educational Technology; Information Systems and Communication Service; International and Comparative Education

Target groups
Research

Product category
Contributed volume

C. Reid, University of Western Sydney, NSW, Australia; J. Collins, University of Technology Sydney, NSW, Australia; M. Singh, University of Western Sydney, NSW, Australia

Global Teachers, Australian Perspectives
Goodbye Mr Chips, Hello Ms Banerjee

This is the first book on global teachers and the increasingly important phenomenon of ‘brain circulation’ in the global teaching profession. A teaching qualification is a passport to an international professional career: the global teacher is found in more and more classrooms around the world today. It is a two-way movement.

Features
➤ The first detailed contemporary account of the experiences of global teachers in Australia ➤ Important text for the fields of sociology of education and immigration studies for undergraduate and postgraduate levels ➤ Contributes to the international literature across the globe regarding the mobility of professionals

Contents

Fields of interest
Sociology of Education; Migration; Educational Policy and Politics

Target groups
Research

Product category
Monograph
New Series
Cultural Studies and Transdisciplinarity in Education

Series editors: V. Carrington, A. KOH

We live in a time where the complex nature and implications of social, political, and cultural issues for individuals and groups is increasingly clear. While this may lead some to focus on smaller and smaller units of analysis in the hope that by understanding the parts we may begin to understand the whole, this book series is premised on the strongly held view that researchers, practitioners, and policy makers interested in education will increasingly need to integrate knowledge gained from a range of disciplinary and theoretical sources in order to frame and address these complex issues. A transdisciplinary approach takes account the uncertainty of knowledge and the complexity of social and cultural issues relevant to education. It acknowledges that there will be unresolved tensions and that these should be seen as productive. With this in mind, the reflexive and critical nature of cultural studies and its focus on the processes and currents that construct our daily lives has made it a central point of reference for many working in the contemporary social sciences and education.

This book series seeks to foreground transdisciplinary and cultural studies influenced scholarship with a view to building conversations, ideas, and sustainable networks of knowledge that may prove crucial to the ongoing development and relevance of the field of educational studies. The series will place a premium on manuscripts that critically engage with key educational issues from a position that draws from cultural studies or demonstrates a transdisciplinary approach. This can take the form of reports on new empirical research, critical discussions and/or theoretical pieces. In addition, the series editors are particularly keen to accept work that takes as its focus issues that draw from the wider Asia Pacific region but that may have relevance more globally, however all proposals that reflect the diversity of contemporary educational research will be considered.

Due July 2013

2014. XII, 242 p. 5 illus., 1 in color. (Educating the Young Child, Volume 8) Hardcover
► * € (D) 106,95 | € (A) 109,95 | sFr 133,50
► € 99,95 | £90.00

Due November 2013

2014. Approx. 160 p. 10 illus. (Cultural Studies and Transdisciplinarity in Education, Volume 1) Hardcover
► approx. * € (D) 106,95 | € (A) 109,95 | sFr 133,50
► approx. * € 99,95 | £90.00
ISBN 978-981-4451-02-4
Teaching and Research in Contemporary Higher Education

Contents

S. R. Waldstein, University of Maryland School of Medicine, College Park, MD, USA (Ed)

**Behavioral and Social Science in Medicine**

### Principles and Practice of Biopsychosocial Care

Behavioral and Social Science in Medicine: Principles and Practice of Biopsychosocial Care provides state of the art reviews of the critical topic areas in undergraduate medical education identified in the 2004 Institute of Medicine (IOM) report, “Improving Medical Education: Enhancing the Behavioral and Social Sciences Content of Medical School Curricula.”

**Features**
- Only comprehensive textbook on behavioral and social science in medicine
- Outlines the skills necessary to integrate complex interacting health-related variables across multiple frames of reference
- Addresses what physicians need to know and do to provide appropriate care to patients with differing social, cultural, and economic backgrounds

**Contents**
1. Biological Pathways of Mind-Body Interactions
2. Psychological Factors
3. Patient Behavior and Behavior Change
4. Social-Cultural Factors in Health and Healthcare
5. Development-Life Course Aspects and Family Dynamics of Illness
6. Clinical Applications of the Biopsychosocial Perspective
7. Applications to Specific Medical Conditions
8. Impact of Illness and Treatment on the Patient
9. Physician Role and Behavior
10. Physician-Patient/Family Interactions
11. Society: Health Policy and Economics

**Fields of interest**
Medical Education; Primary Care Medicine; Health Psychology

**Target groups**
Graduate

**Product category**
Graduate/Advanced undergraduate textbook

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L. Wang, Zhejiang University, Hangzhou, P.R. China

**A New Cultural Revolution?**

The Road to Privatization of Higher Education in China

**Contents**
Chapter 1: Introduction - This chapter explains the aim and scope of the book.
Chapter 2: Higher education in China: local, national and global context - This chapter provides the background for privatization of HE in China.
Chapter 3: Privatization of higher education: theoretical underpinnings - This chapter conceptualizes privatization of HE in the Chinese context.
Chapter 4: Implementation of privatization: scale and scope - This chapter aims to answer how privatization is implemented by looking at the development of the private HE sector, and the privatization strategies adopted in publish HEIs.
Chapter 5: Financing higher education: changing rationales for funding - This chapter examines the financial aspects of HE in terms of the private HE sector, and the privatization strategies adopted in publish HEIs.
Chapter 6: Control and regulation of higher education: innovative university governance - This chapter looks into the control of HE from three aspects, i.e. educational regulation, institutional autonomy and the mechanism of HE control.
Chapter 7: Rethinking privatization of higher education in China: lessons and impacts - This chapter concludes the book by evaluating the privatization of HE in China in terms of effects and problems.

**Features**
- Provide useful experience in general education curriculum innovations for Chinese educators
- Help readers better understand the innovation process in Peking University
- Helped identify and illuminate many salient issues that are essential to the success of general education innovations in Chinese universities

**Contents**
Chapter 1 Introduction
Chapter 2 Theoretical Frameworks for Understanding the Innovation
Chapter 3 The Concept of General Education
Chapter 4 Methodology
Chapter 5 The case of the Yuanpei program: Background and contextual factors
Chapter 6 Findings—Major conflicts, its rationales, and the mechanism of privatization
Chapter 7 Conclusions and Discussion

**Fields of interest**
Literacy; Migration

**Target groups**
Research

**Product category**
Monograph

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W. Wang, The University of Hong Kong, PR China

**The Yuanpei Program in Peking University**

A Case Study of Curriculum Innovation

The Yuanpei program is an institution wide curriculum innovation, modeling on the core curriculum in Harvard which is committed to carrying out general education. This research investigated the major conflicts that arose in the process of initiation and implementation of the Yuanpei program, how these conflicts evolved during the process, and what were the sources of these conflicts. The conflict model, primarily derived from conflict theory, was adopted to interpret and analyze the process of curriculum innovation in this context. The study employed a qualitative case study approach. Data were collected primarily through interviews, observations and document analysis.

**Features**
- Only comprehensive textbook on behavioral and social science in medicine
- Outlines the skills necessary to integrate complex interacting health-related variables across multiple frames of reference
- Addresses what physicians need to know and do to provide appropriate care to patients with differing social, cultural, and economic backgrounds

**Contents**
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Chapter 7 Conclusions and Discussion

**Fields of interest**
Literacy; Migration

**Target groups**
Research

**Product category**
Monograph

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Due July 2013

2013. 900 p. Hardcover
- *€ (D) 165,80 | € (A) 170,44 | sFr 222,00
- € 154,95 | £139.50

Due July 2013

- *€ (D) 106,99 | € (A) 109,99 | sFr 133,50
- € 99,99 | £90.00
ISBN 978-3-642-38302-1

Due July 2013

2014. XVIII, 166 p. Hardcover
- *€ (D) 106,99 | € (A) 109,99 | sFr 133,50
- € 99,99 | £90.00
ISBN 978-3-642-37514-9

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Assessment for Learning
Improvement and Accountability
The Enabling Power

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