Teaching Statistics in School Mathematics-Challenges for Teaching and Teacher Education

A Joint ICMI/IASE Study: The 18th ICMI Study

Teaching Statistics in School Mathematics-Challenges for Teaching and Teacher Education results from the Joint ICMI/IASE Study Teaching Statistics in School Mathematics: Challenges for Teaching and Teacher Education. Oriented to analyse the teaching of statistics in school and to recommend improvements in the training of mathematics teachers to encourage success in preparing statistically literate students, the volume provides a picture of the current situation in both the teaching of school statistics and the pre-service education of mathematics teachers.

Features
► Focused on the elements needed to train teachers to teach statistics, as opposed to focusing on students' reasoning or learning  ► Centered on teaching statistics at the primary and secondary school level while most literature in statistics education only consider school level in a very tangential way

Fields of interest
Mathematics Education; Statistics for Social Science, Behavioral Science, Education, Public Policy, and Law

Target groups
Research

Type of publication
Contributed volume

Assessment Reform in Education
Policy and Practice

This book discusses the recent assessment movements in the eastern and western worlds with particular focuses on the policies, implementation, and impacts of assessment reform on education. A new perspective of assessment sees assessment as a means to enhance learning. This book examines the tensions, challenges and outcomes (intended and unintended) of assessment reform arising at the interface of policy and implementation, and implementation and student learning. The book reviews the experiences insights gained from research, and identifies the facilitators and hindrances to effective change. It reflects current thinking of assessment and provides the readers with ample background information of assessment development in many countries including USA, England, Scotland, Wales, Northern Ireland, Australia, Singapore, Taiwan, and Hong Kong.

Features
► Is the first work that has brought together the perspectives, practices, and national policies related to assessment and assessment reform  ► Comparative approach to recent assessment movements in the Eastern and Western world  ► Examines the tensions, challenges and outcomes (intended and unintended) of assessment reform arising at the interface of policy and implementation, and implementation and student learning

Fields of interest
Assessment, Testing and Evaluation; Educational Policy; Teaching and Teacher Education

Target groups
Research

Type of publication
Contributed volume

Mathematics Education and Subjectivity

Cultures and Cultural Renewal

This book is centrally concerned with how mathematics education is represented and how we understand mathematical teaching and learning with view to changing them. It considers teachers, students and researchers. It explores their mathematical thinking and the concepts that this thought produces. But also how these concepts acquire cultural layers that mediate our apprehension. The book examines some of the linguistic and socio-cultural filters that influence mathematical understanding. But above all it introduces some contemporary theories of human subjectivity, in which subjectivity is seen primarily as consequential to, rather than productive of, our attempts to represent or categorise the world in which we live.

Features
► Considers how learners and teachers in different cultural settings construct mathematical knowledge as a result of their socially determined needs  ► Introduces cutting edge theories of subjectivity shows how mathematics can provoke alternative ways of thinking towards enlivening our transformative capacities

Contents

Field of interest
Mathematics Education

Target groups
Research

Type of publication
Monograph
Schooling for Sustainable Development in South America
Policies, Actions and Educational Experiences

This book supplies both empirical evidence and scholarly analysis that exemplify successful innovation in South America in the field of sustainability education. Examining the issues from a three-fold perspective, of national policy, regional planning and grassroots projects in schools and communities, the volume offers a comprehensive overview of the contemporary situation in Brazil, Chile, Bolivia, Argentina and Venezuela. It provides case studies as detailed illustrations of the recipe for success as well as to inform researchers and practitioners of the kinds of obstacles and challenges they might face in seeking to manifest sustainability. A good deal of the research and scholarly studies in the field of education for sustainability and sustainable development is underpinned by ‘Western’ norms and culture.

Features
► Expert authorship from several South American countries ► Includes authoritative presentations by directors of influential recent projects ► Balances case study details and more general national and regional discussions

Fields of interest
Educational Policy; Sustainable Development

Target groups
Research

Type of publication
Contributed volume

Due July 2011

2011. X, 190 p. (Schooling for Sustainable Development, Volume 2) Hardcover
► approx. € 99,95 | £90.00
► approx. * € (D) 106,95 | € (A) 109,95 | sFr 143,50
ISBN 978-94-007-1753-4

Surgical Education
Theorising an Emerging Domain

Surgical Education: Theorising an Emerging Domain delineates surgical (as opposed to medical) education as a new and emerging field of academic enquiry. This reflects profound changes in healthcare training and practice on an international basis. As such, this book introduces, examines and explores the contribution of selected concepts and theories to surgical learning and practice. The first four chapters consider core facets of surgical education, such as simulation, while subsequent chapters take a key idea, often well known in another field, and examine its relevance to surgical education.

Features
► Addresses need for surgical education material ► Applies to related fields such as medical education ► Includes contributions from well-respected authors ► Emerging as distinct field with its own identity

From the contents

Fields of interest
Medical Education; Surgery

Target groups
Research

Type of publication
Contributed volume

Due August 2011

2011. X, 290 p. 50 illus. (Advances in Medical Education, Volume 2) Hardcover
► approx. € 100,10 | £90.00
► approx. * € (D) 107,11 | € (A) 110,11 | sFr 166,50
ISBN 978-94-007-1681-0

Equity in Discourse for Mathematics Education
Theories, Practices, and Policies

This book covers the discourse and equity in mathematics education research. Given the inherent connection between discourse and equity, this book focuses on two approaches to the connection. Contributors consider the ways in which the social, mathematical, cultural, and political aspects of classroom interactions impact students’ opportunities to participate in the kinds of discourse practices that provide access to resources. Contributors also consider the perceptions and practices of educators, particularly the extent to which they view diversity as a resource and to which they are aware of structural inequities in the ways they perceive and design classroom discourse practices.

Features
► Investigates the complex connections between equity and discourse ► Makes explicit connections between discourse and equity in mathematics education research ► Connects the research to policy implications

From the contents

Fields of interest
Mathematics Education

Target groups
Research

Type of publication
Contributed volume

Due June 2011

2011. X, 190 p. 20 illus. (Mathematics Education Library, Volume 52) Hardcover
► approx. € 99,95 | £90.00
► approx. * € (D) 106,95 | € (A) 109,95 | sFr 143,50

H. Fry, Higher Education Funding Council for England, Bristol, UK; R. Kneebone, Imperial College London, London, UK (Eds.)

B. Herbel-Eisenmann, Michigan State University, East Lansing, MI, USA; J. Choppin, University of Rochester, Rochester, NY, USA; D. Wagner, University of New Brunswick, Fredericton, NB, Canada; D. Pimm, University of Alberta, Edmonton, AB, Canada (Eds.)

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Citizenship Pedagogies in Asia and the Pacific

How are students in Asia and the Pacific taught to be effective citizens? Following two successful volumes previously published in this series, Citizenship Education in Asia and the Pacific: Concepts and Issues and Citizenship Curriculum in Asia and the Pacific, this volume focuses on citizenship pedagogies that are promoted by governments in the region, advocated by scholars, and adapted in the schools and classrooms where citizenship education takes place every day. Thirteen case studies from diverse societies in Asia and the Pacific highlight the ways in which teachers and students think about, experience or plan for citizenship teaching and learning. Different methods – vignettes, student surveys, case studies and literature reviews – are used to portray these experiences, from both macro- and micro-analytic perspectives. The wide array of case studies provides rich information and insights into the realities and possibilities of pedagogies for citizenship across the region.

Features
► Expands the study of citizenship education pedagogies to world’s most dynamic region and societies
► Presents a complex picture that shows an interesting array of both similarities and differences in approaches to the citizenship education pedagogies across the region
► Provides new insights into the global, national, and local dynamics that shape citizenship education across Asia and the Pacific
► Reveals critical tensions between global and national forces over the shaping of the citizenship education pedagogies

Fields of interest
International and Comparative Education; Curriculum Studies; Educational Policy

Target groups
Research

Type of publication
Contributed volume

Learning Trajectories, Innovation and Identity for Professional Development

Education in the professions has always had unique demands placed upon it. These include the need to: keep pace with rapidly evolving knowledge bases, developing skills and attitudes appropriate to practice, learning in the workplace and fostering public confidence. Over the past twenty years, new demands have created additional educational imperatives. Public accountability has become more intensive and extensive. Practitioners practice in climates more subject to scrutiny and less forgiving of error. The contexts in which professionals practice and learn have changed and will continue to change, globally. This book explores the pedagogic implications of these challenges internationally for a wide range of professions which include: accountants, military company commanders, surgeons, nurse practitioners, academics, managers, community physicians and dentists; examining learning across the professional lifespan.

Features
► Extends scholarly attention to lifespan development of professionals
► Supports learning: cross-professional and inter-disciplinary in relation to research and learning and teaching practices
► Extends understanding of the complexities of professional practice Enables learning from the experience and contexts of a range of professions
► Develops new approaches to empirical educational research in professional education and emergent methodologies.

Fields of interest
Professional and Vocational Education; Medical Education

Target groups
Research

Type of publication
Contributed volume

Educational Encounters: Nordic Studies in Early Childhood Didactics

Qualitative analyses of young children’s learning in natural settings are rare, so this new book will make educators sit up and pay attention. It lays out a Nordic, or continental European teaching and learning paradigm whose didactic framework is distinct from the Anglo-American system. This analysis, which features contributions and case studies from researchers in a range of subjects, is built on principles such as the learner’s perspective, establishing sufficient intersubjectivity, ‘pointing out’, and informing experience linguistically. After clarifying some historical background, the book discusses the contemporary emphasis in early childhood education on pedagogy/learning. What should ‘didactics’ mean in educating young children? The book examines the opportunities for learning that teachers provide for children in early childhood education, as well as how children respond to these opportunities. It presents empirical studies from a variety of naturalistic settings, including mathematics, making visual art, ecology, music, dance, literacy and story-telling, as well as learning about gender, morality and democracy.

Features
► Presents a new perspective on early childhood education (didactics), based on empirical research in naturalistic settings with children 1-8 years old
► Introduces the concept of didactics in a form relevant to early childhood education
► Presents illustrations of Nordic early childhood education, for which there is an international interest
► Covers a number of theoretical frameworks for studying and conceptualising children’s learning and development

Fields of interest
Childhood Education; Art Education; Language Education

Target groups
Research

Type of publication
Contributed volume