Tujuan pembelajaran matematika di sekolah dasar, secara rinci telah dituangkan dalam Permendiknas No. 22 (Depdiknas, 2006) yang bertujuan agar peserta didik memiliki kemampuan (1) memahami konsep matematika, menjelaskan keterkaitan antar konsep dan mengaplikasikan konsep atau algoritma; (2) menggunakan penalaran pada pola dan sifat, melakukan manipulasi matematika dalam generalisasi, menyesuaikan bukti, atau menjelaskan gagsaan dan pernyataan matematika; (3) memecahkan masalah yang meliputi kemampuan memahami masalah, merancang model matematika, menyelesaikan model dan menafsirkan solusi yang diperoleh; (4) mengomunikasikan gagasan dengan simbol, tabel, diagram, atau lainnya untuk menjelaskan keadaan atau masalah; (5) memiliki sikap menghargai penggunaan matematika dalam kehidupan sehari-hari. Uraian ini mengambarkan betapa pentingnya pelajaran matematika bagi seorang siswa, khususnya dalam menyiapkan siswa untuk belajar matematika di tingkat yang lebih tinggi dan menjadi bekal serta alat dalam menghadapi masalah yang dihadapi. Buku ini terdiri atas 6 bab, bab 1 berisi tentang inovasi pembelajaran matematika sekolah dasar, bab 2 berisi tentang Problem Based Learning, bab 3 berisi tentang Scaffolding, bab 4 berisi tentang pembelajaran Problem Based Learning berbasis Scaffolding, bab 5 berisi tentang pemodelan matematik, dan bab 6 berisi tentang komunikasi matematik. Inovasi Pembelajaran M atematika DI SD (Problem Based Learning Berbasis Scaffolding, Pemodelan Dan Komunikasi Matematik) ini diterbitkan oleh Penerbit Deepublish dan tersedia juga dalam versi cetak.
This book provides a panorama of complimentary and forward looking perspectives on the learning of mathematics and epistemology from some of the leading contributors to the field. It explores constructivist and social theories of learning, and discusses the role of the computer in the light of these theories. It brings analyses from psychoanalysis, Hermeneutics and other perspectives to bear on the issues of mathematics and learning. It enquires into the nature of enquiry itself, and an important emergent theme is the role of language. Finally it relates the history of mathematics to its teaching and learning. The book both surveys current research and indicates orientations for fruitful work in the future.

Bahan ajar ini digunakan sebagai pegangan peserta didik pada jenjang Sekolah Menengah Pertama/Madrasah Tsanawiyah berdasarkan kurikulum 2013 dengan tujuan untuk meningkatkan kemampuan koneksi dan komunikasi matematis peserta didik. Bahan ajar ini berisi materi Sistem Persamaan Linear Dua Variabel (SPLDV) yang dilengkapi dengan indikator kemampuan koneksi matematis serta Perbandingan Senilai dan Berbalik Nilai yang dilengkapi dengan indikator kemampuan komunikasi matematis.

Buku ini merupakan jawaban terhadap derasnya teknologi di era Revolusi Industri 4.0 saat ini termasuk di bidang pendidikan. Perubahan tersebut menjadikan berubahnya cara berpikir, cara komunikasi serta cara bertindak yang akan berpengaruh pada struktur dan tatanan kehidupan. Pola argumentasi sebagai bentuk komunikasi selain disampaikan secara langsung dapat dilakukan secara tertulis dalam platform berbasis teknologi yang kemudian disebut Digital Argumentation (DA). DA sebagai respon komunikatif berbasis digital yang terutama dilakukan oleh mahasiswa untuk menyampaikan pendapat, diskusi, memberikan sanggahan dapat diukur dan dijadikan sebagai indikator kemampuan berpikir tingkat tingginya atau Higher order thinking skills (HOTs). Khusus untuk matematika dan sains (IPA) penggunaan DA diformulasikan dengan penerapan pembelajaran berdasarkan masalah (PBM) yang memang sudah menjadi ciri khas dalam kegiatan pembelajarnannya. Didukung penggunaan learning management system (LMS) untuk e-learning yang diterapkan, maka PBM-DA menjadi bagian penting yang diulas dan dibahas dalam buku ini.

Research within a socio-political paradigm or “turn” has been gradually recognized and institutionalized as an important part of mathematics education. This book focuses on the neglected problems, tensions and contradictions evoked by this process. The authors do this by challenging current regimes of truth about mathematics education; by identifying how recent technological developments can challenge or suspend contemporary conceptions of mathematics education; by critiquing the ideological entanglement of mathematics, its education and schooling with capitalism; by self-reflective analyses of researchers’ impacts on shaping what is and can be perceived as the practice of mathematics education (research); and by confronting main-stream mathematics education with socio-political contexts that are usually neglected. In this way, “mathematical rationality” becomes contextualized within contemporary society, where it reproduces itself through technologies, social practices, media and other spheres of social life.

This book presents the conceptual framework underlying the fifth cycle of PISA, which covers reading, science and this year’s focus: mathematical literacy, along with problem solving and financial literacy.

The International Handbook of Leadership for Learning brings together chapters by distinguished authors from thirty-one countries in nine different regions of the world. The handbook contains nine sections that provide regional overviews; a consideration of theoretical and contextual aspects; system and policy approaches that promote leadership for learning with a focus on educating school leaders for learning and the role of the leader in supporting learning. It also considers the challenge of educating current leaders for this new perspective, and how leaders themselves can develop leadership for
learning in others and in their organisations, especially in diverse contexts and situations. The final chapter considers what we now know about leadership for learning and looks at ways this might be further improved in the future. The book provides the reader with an understanding of the rich contextual nature of learning in schools and the role of school leaders and leadership development in promoting this. It concludes that the preposition ‘for’ between the two readily known and understood terms of ‘leadership’ and ‘learning’ changes everything as it foregrounds learning and complexifies, rather than simplifies, what that word may mean. Whereas common terms such as ‘instructional leadership’ reduce learning to ‘outcomes’, leadership for learning embraces a much wider, developmental view of learning.

Aimed at in-service elementary teachers to help develop a problem solving and reasoning approach to teaching classroom activities. It conforms to all the latest NCTM standards for math education. There are over 200 problems worked out and discussed.

Mobile Learning and Mathematics provides an overview of current research on how mobile devices are supporting mathematics educators in classrooms across the globe. Through nine case studies, chapter authors investigate the use of mobile technologies over a range of grade levels and mathematical topics, while connecting chapters provide a strong foundational background in mobile learning theories, instructional design, and learner support. For current educators, Mobile Learning and Mathematics provides concrete ideas and strategies for integrating mobile learning into their mathematics instruction—for example, by sharing resources that will help implement Common Core State Standards, or by streamlining the process of selecting from the competing and often confusing technology options currently available. A cutting edge research volume, this collection also provides a springboard for educational researchers to conduct further study.

Monograf ini berisi penelitian tentang pengembangan Pembelajaran Preprospec Berbantuan TIK sampai pada tahap penyebaran, di mana pembelajaran tersebut dapat meningkatkan kemampuan pemecahan masalah matematis mahasiswa. Pada monograf ini juga disajikan telaah tentang kemampuan pemecahan masalah matematis mahasiswa yang mendapatkan Pembelajaran Preprospec Berbantuan TIK baik secara keseluruhan, ditinjau dari Kemampuan Awal Matematis, ditinjau dari Self-Renewal Capacity maupun ditinjau dari perspektif gender.

Sponsored by the National Council of Teachers of Mathematics and written by leading experts in the field of mathematics education, the Handbook is specifically designed to make important, vital scholarship accessible to mathematics education professors, graduate students, educational researchers, staff development directors, curriculum supervisors, and teachers. The Handbook provides a framework for understanding the evolution of the mathematics education research field against the backdrop of well-established conceptual, historical, theoretical, and methodological perspectives. It is an indispensable working tool for everyone interested in pursuing research in mathematics education as the references for each of the Handbook’s twenty-nine chapters are complete resources for both current and past work in that particular area.

Upaya meningkatkan kemampuan literasi siswa melalui program Gerakan Literasi Sekolah (GLS) secara nyata telah menumbuhkan kebiasaan literasi di sekolah. M eskipun demikian, kebiasaan literasi yang selama ini dicapai baru merupakan tahap pertama pelaksanaan GLS. Guna melaksanakan GLS pada tahap kedua dan ketiga masih diperlukan upaya nyata terutama dalam hal menentukan strategi pembelajaran dan penilaian literasi. Kehadiran buku Pembelajaran Literasi Strategi Meningkatkan Kemampuan Literasi M atematik, Sains, M embaca, dan M enulis diharapkan menjadi salah satu solusi bagi ketersediaan strategi pembelajaran dan
Curriculum standards for mathematics for grades K-4, 5-8, and 9-12 are presented which suggest areas of instructional emphasis for specific student outcomes. Also discusses evaluation standards for both the curriculum and student achievement.

The OECD Programme for International Student Assessment (PISA) examines not just what students know in science, reading and mathematics, but what they can do with what they know. Results from PISA show educators and policy makers the quality and equity of learning outcomes achieved elsewhere, and

Every year new secondary mathematics teachers take up positions in middle and high schools. The luckiest novices receive assistance from a coach or mentor: a master mathematics teacher who makes constructive comments, models effective approaches, and illuminates other practical aspects of teaching secondary math. But many new teachers don't have this advantage and must further their development on their own. If you are one of these teachers, this is the book you need. In these pages, veteran mathematics educators Alfred S. Posamentier, Daniel Jaye, and Stephen Krulik present a treasure chest of ideas to guide new secondary math teachers through the challenging first few months and also provide more experienced teachers with interesting alternatives to familiar methods. The topics covered include * The most effective instructional practices * The best uses of the textbook * Designing successful lessons * Creating homework that promotes learning * Incorporating challenge * Teaching reasoning and problem solving * Strategies for assessment and grading * Specific innovative ideas for teaching key concepts * Options for extracurricular activities * Long-term professional enrichment and growth. It's during the first few years of a teacher's experience that he or she develops the habits, methods, procedures, and techniques that tend to define a career. Exemplary Practices for Secondary Math Teachers provides both a foundation for excellence and a touchstone for years to come.

Examination stress and test anxiety are pervasive problems in modern society. As the information age continues to evolve, test scores will become even more important than they are today in evaluating applicants for demanding jobs and candidates for admission into highly competitive educational programs. Because test anxiety generally causes decrements in performance and undermines academic achievement, the development of effective therapeutic interventions for reducing its adverse effects will continue to be an important priority for counselors, psychologists, and educators. Allaying test anxiety will also serve to counteract the diminished access to educational and occupational opportunities that is frequently experienced by test-anxious individuals. As it promises, this volume provides a state-of-the-art evaluation of the nature, antecedents, correlates, and consequences of examination stress and test anxiety. Professor Zeidner’s cogent and comprehensive analysis of the affective, cognitive, somatic, and behavioral manifestations of test anxiety are grounded in the extensive knowledge he has gained from his own research on the assessment and treatment of test anxiety. This work has also benefited from the author’s longstanding and productive collaboration with leading contributors to test anxiety theory.
and research, and his active participation in national and international conferences devoted to understanding test anxiety, including those convened by the Society for Test Anxiety Research (STAR).

The field of design research has been gaining momentum over the last five years, particularly in educational studies. As papers and articles have grown in number, definition of the domain is now beginning to standardise. This book fulfils a growing need by providing a synthesised assessment of the use of development research in education. It looks at four main elements: background information including origins, definitions of development research, description of applications and benefits and risks associated with studies of this kind how the approach can serve the design of learning environments and educational technology quality assurance - how to safeguard academic rigor while conducting design and development studies a synthesis and overview of the topic along with relevant reflections.


This book is a product of love and respect. If that sounds rather odd I initially apologise, but let me explain why I use those words. The original manuscript was of course Freudenthal’s, but his colleagues have carried the project through to its conclusion with love for the man, and his ideas, and with a respect developed over years of communal effort. Their invitation to me to write this Preface bles me to pay my respects to the great man, although I am probably incurring his wrath for writing a Preface for his book without his permission! I just hope he understands the feelings of all colleagues engaged in this particular project. Hans Freudenthal died on October 13th, 1990 when this book project was well in hand. In fact he wrote to me in April 1988, saying “I am thinking about a new book. I have got the sub-title (China Lectures) though I still lack a title”. I was astonished. He had retired in 1975, but of course he kept working. Then in 1985 we had been helping him celebrate his 80th birthday, and although I said in an Editorial Statement in Educational Studies in Mathematics (ESM) at the time “we look forward to him enjoying many more years of non-retirement” I did not expect to see another lengthy manuscript.

Prosiding ini memuat 43 makalah yang disajikan dalam Seminar Nasional Pendidikan Matematika II dengan tema "Pembelajaran Matematika dalam Era Revolusi 4.0". Tiga makalah pembicara utama dimuat dalam prosiding ini: Prof. Tatag Yuli Eka Siswono (Universitas Negeri Surabaya), Dr. Hari Wibawanto (Universitas Negeri Semarang), dan Dr. Kodirun (Universitas Halu Oleo).

Provides an in-depth look at the state of the sciences in ancient Egypt, including discussion of philosophy, astronomy, and mathematics.

Social media are increasingly popular platforms for collaboration and quick information sharing. This title collects reports on how these technologies are being used to educate educators with social media in creative and effective ways. It examines the processes, design, delivery and evaluation of instruction using social media.
Impian besar melahirkan Generasi Emas Indonesia di tahun 2045, tentunya tidak akan pernah bisa terwujud andai kita masih saja berdiam diri, tak memerbaiki kinerja, tidak pula meningkatkan kualitas pribadi. Terlebih lagi, sekarang semakin tampak pula krisis karakter yang melanda bangsa ini, di samping jauhnya ketertinggalan di bidang IT. Oleh karena itu, hadirnya kegiatan seminar dan pelatihan nasional ini diharapkan menjadi salah satu langkah besar dalam menyiapkan generasi masa kini untuk lebih menghayati dan memahami perannya dalam membangun generasi masa depan yang kokoh karakternya dan mumpuni kemampuannya di bidang IT.

E-learning is now an essential component of education. Using examples from around the globe, the authors of E-Learning provide an in-depth examination of past and future e-learning approaches, and explore the implications of applying e-learning in practice. Topic include educational evolution; enriching the learning experience; extended learning; empowering learning; evolving theories of learning; emancipatory learning; and the creation of ecommunities

This stand-alone unit describes the rationale for the sweeping reforms recommended by the Curriculum and Evaluation Standards for School Mathematics recently developed by the National Council of Teachers of Mathematics (NCTM).

Problem-based learning (PBL) is an educational innovation for greater diversity and engagement in learning. PBL diversifies learning by catering for interdisciplinary knowledge application and multiple perspectives in problem solving. It also enhances engagement through more independent learning, peer learning and teamwork in problem solving with possibilities of future learning technologies. This collection on PBL and creativity provides another quantum leap by linking the quest for novelty, creativity and innovation with PBL. One of the key features of the PBL environment is immersion in a problem context. In this volume, we see how such immersion develops not only problem-solving acumen but also insights, intuition and inventive thinking. This volume captures examples and ideas of the interlink of PBL with creative ways of knowing, creative processes, creative learning environments and creative pedagogies. Also available in the Gale Virtual Reference Library (eBook). eBook pricing varies according to the size of your institution. Please contact us for details. eBook ISBN-13: 9789814253826 Available Now

Guidelines of curriculum planning for junior high schools in Indonesia.

Elaine Johnson demonstrates how implementing contextual teaching and learning can change students' lives and help them achieve academic excellence.

Explains how to ignite innate creativity and free thought processes through the discovery of hidden connections among familiar things

Buku ini bertujuan untuk memberikan gambaran positif karakteristik kemampuan komunikasi digital matematis siswa pada pembelajaran role play berbantuan game edukasi matematika, serta hubungannya dengan kemampuan komunikasi matematis, kemampuan pemahaman matematis serta kemampuan representasi matematis. Perkembangan teknologi informasi dan komunikasi yang berkembang secara pesat telah memberikan perubahan dalam dunia pendidikan, seperti memunculkan era komunikasi berbantuan media digital. Kemampuan matematis berbantuan media digital didefinisikan sebagai kemampuan digital matematis. Game edukasi matematika
merupakan alat untuk merepresentasikan kemampuan komunikasi digital matematis. Buku ini dapat memberikan manfaat yaitu membuka wawasan masyarakat khususnya guru mengenai karakteristik dan starategi kemampuan komunikasi digital matematis siswa dalam pembelajaran di masa digital. Game edukasi matematika sebagai salah satu media pembelajaran digital diharapkan dapat membantu kemampuan komunikasi digital matematis siswa (terdiri atas kemampuan pemahaman dan kemampuan representasi matematis) dalam mempelajari materi, dari tahap awal konkret sampai ke tahap abstrak. Pembelajaran yang lebih interaktif memberikan kemudahan kepada siswa dalam mencapai setiap kompetensi, sehingga mereka lebih termotivasi belajar matematika. Dalam pelaksanaannya, diharapkan komunikasi matematis berbantuan media digital dilakukan dengan baik.

Describes sixteen types of intelligent behavior called habits of mind and includes advice on how to assess and report student progress in using the habits of mind.


This easy-to-read summary is an excellent tool for introducing others to the messages contained in Principles and Standards.

In Action Research Methods, the authors acknowledge that the methodology component is where most of the struggle and confusion lies with students in research methods courses. The overall aim is to assist master's level education students with practical and theoretically grounded approaches to the action research process.