Physical Science Wikispaces

Teachers in higher education have had to become more professional in their approach to teaching, matching their professionalism in research. The first edition of this book prepares teachers to do and undergo quality audits and appraisals, and to achieve their personal aims of improving their teaching and their students' learning. The strength of this book is that it provides a sound theoretical basis for designing and using learning technologies in university teaching. This new edition builds upon the success of the first and contains major updates to the information on learning technologies and includes the implications of using technology for the university context - both campus and electronic - which suggests a new approach to managing learning at institutional level.

Semiconductors are at the heart of modern living. Almost everything we do, be it work, travel, communication, or entertainment, all depend on some feature of semiconductor technology. Comprehensive Semiconductor Science and Technology captures the breadth of this important field, and presents it in a single source to the large audience who study, make, and exploit semiconductors. Previous attempts at this achievement have been abbreviated, and have omitted important topics. Written and Edited by a truly international team of experts, this work delivers an objective yet cohesive global review of the semiconductor world. The work is divided into three sections. The first section is concerned with the fundamental physics of semiconductors, showing how the electronic features and the lattice dynamics change drastically when systems vary from bulk to a low-dimensional structure and further to a nanometer size. Throughout this section there is an emphasis on the full understanding of the

underlying physics. The second section deals largely with the transformation of the conceptual framework of solid state physics into devices and systems which require the growth of extremely high purity, nearly defect-free bulk and epitaxial materials. The last section is devoted to exploitation of the knowledge described in the previous sections to highlight the spectrum of devices we see all around us. Provides a comprehensive global picture of the semiconductor world Each of the work's three sections presents a complete description of one aspect of the whole Written and Edited by a truly international team of experts

"Now a major motion picture! Includes full-color movie photos and exclusive content!"--Dust jacket.

First Published in 2017. Routledge is an imprint of Taylor and Francis, an Informa company. This sweeping new history recognizes that the Civil War was not just a military conflict but also a moment of profound transformation in Americans' relationship to the natural world. To be sure, environmental factors such as topography and weather powerfully shaped the outcomes of battles and campaigns, and the war could not have been fought without the horses, cattle, and other animals that were essential to both armies. But here Judkin Browning and Timothy Silver weave a far richer story, combining military and environmental history to forge a comprehensive new narrative of the war's significance and impact. As they reveal, the conflict created a new disease environment by fostering the spread of microbes among vulnerable soldiers, civilians, and animals; led to large-scale modifications of the landscape across several states; sparked new thinking about the human relationship to the natural world; and demanded a reckoning with disability and death on an ecological scale. And as the guns fell silent, the change continued; Browning and Silver show how the war influenced the future of

weather forecasting, veterinary medicine, the birth of the conservation movement, and the establishment of the first national parks. In considering human efforts to find military and political advantage by reshaping the natural world, Browning and Silver show not only that the environment influenced the Civil War's outcome but also that the war was a watershed event in the history of the environment itself.

This volume aims to document the most important worldwide accomplishments in converging knowledge and technology, including converging platforms, methods of convergence, societal implications, and governance in the last ten years. Convergence in knowledge, technology, and society is the accelerating, transformative interaction among seemingly distinct scientific disciplines, technologies, and communities to achieve mutual compatibility, synergism, and integration, and through this process to create added value for societal benefit. It is a movement that is recognized by scientists and thought leaders around the world as having the potential to provide far-reaching solutions to many of today's complex knowledge, technology, and human development challenges. Four essential and interdependent convergence platforms of human activity are defined in the first part of this report: nanotechnology-biotechnology-information technology and cognitive science ("NBIC") foundational tools; Earth-scale environmental systems; human-scale activities; and convergence methods for societal-scale activities. The report then presents the main implications of convergence for human physical potential, cognition and communication, productivity and societal outcomes, education and physical infrastructure, sustainability, and innovative and responsible governance. As a whole, the report presents a new model for convergence. To effectively take advantage of this potential, a proactive governance approach is suggested. The study identifies an international

opportunity to develop and apply convergence for technological, economic, environmental, and societal benefits. The panel also suggests an opportunity in the United States for implementing a program aimed at focusing disparate R and D energies into a coherent activity - a "Societal Convergence Initiative". This study received input from leading academic, industry, government, and NGO experts from the United States, Latin America, Europe, Asia, and Australia.

Outlines the concepts of chemical engineering so that non-chemical engineers can interface with and understand basic chemical engineering concepts Overviews the difference between laboratory and industrial scale practice of chemistry, consequences of mistakes, and approaches needed to scale a lab reaction process to an operating scale Covers basics of chemical reaction eningeering, mass, energy, and fluid energy balances, how economics are scaled, and the nature of various types of flow sheets and how they are developed vs. time of a project Details the basics of fluid flow and transport, how fluid flow is characterized and explains the difference between positive displacement and centrifugal pumps along with their limitations and safety aspects of these differences Reviews the importance and approaches to controlling chemical processes and the safety aspects of controlling chemical processes, Reviews the important chemical engineering design aspects of unit operations including distillation, absorption and stripping, adsorption, evaporation and crystallization, drying and solids handling, polymer manufacture, and the basics of tank and agitation system design Library and Information Studies for Arctic Social Sciences and Humanities serves as a key interdisciplinary title that links the social sciences and humanities with current issues, trends, and projects in library, archival, and information sciences within shared Arctic frameworks and

geographies. Including contributions from professionals and academics working across and on the Arctic, the book presents recent research, theoretical inquiry, and applied professional endeavours at academic and public libraries, as well as archives, museums, government institutions, and other organisations. Focusing on efforts that further Arctic knowledge and research, papers present local, regional, and institutional case studies to conceptually and empirically describe real-life research in which the authors are engaged. Topics covered include the complexities of developing and managing multilingual resources; working in geographically isolated areas; curating combinations of local, regional, national, and international content collections; and understanding historical and contemporary colonial-industrial influences in indigenous knowledge. Library and Information Studies for Arctic Social Sciences and Humanities will be essential reading for academics, researchers, and students working the fields of library, archival, and information or data science, as well as those working in the humanities and social sciences more generally. It should also be of great interest to librarians, archivists, curators, and information or data professionals around the globe. Teaching Secondary Science: Theory and Practice provides a dynamic approach to preparing preservice science teachers for practice. Divided into two parts - theory and practice - the text allows students to first become confident in the theory of teaching science before showing how this theory can be applied to practice through ideas for implementation, such as sample lesson plans. These examples span a variety of age levels and subject areas, allowing preservice teachers to adapt each exercise to suit their needs when they enter the classroom.Each chapter is supported by pedagogical

features, including learning objectives, reflections, scenarios, key terms, questions, research topics and further readings. Written by leading science education researchers from universities across Australia, Teaching Secondary Science is a practical resource that will continue to inspire preservice teachers as they move from study into the classroom. This book includes a single-use twelve-month subscription to Cambridge Dynamic Science.

Everything students need to know to succeed on the Biochemistry portions of the MCAT exam (Medical College Admission Test) including 3 full-length practice tests. The past half-century has witnessed a dramatic increase in the scale and complexity of scientific research. The growing scale of science has been accompanied by a shift toward collaborative research, referred to as "team science." Scientific research is increasingly conducted by small teams and larger groups rather than individual investigators, but the challenges of collaboration can slow these teams' progress in achieving their scientific goals. How does a team-based approach work, and how can universities and research institutions support teams? Enhancing the Effectiveness of Team Science synthesizes and integrates the available research to provide guidance on assembling the science team; leadership, education and professional development for science teams and groups. It also examines institutional and organizational structures and policies to support science teams and identifies areas where further research is needed to help science teams and groups achieve their scientific and

translational goals. This report offers major public policy recommendations for science research agencies and policymakers, as well as recommendations for individual scientists, disciplinary associations, and research universities. Enhancing the Effectiveness of Team Science will be of interest to university research administrators, team science leaders, science faculty, and graduate and postdoctoral students. "Emerging Research and Developments - The Rehabilitation Engineering Research Center on Universal Design and the Built Environment (RERC-UD), a federally funded research center located in The University at Buffalo, hosted a series of State of the Science ("

Grade level: 9, 10, 11, 12, i, s.

Physical Chemistry: Concepts and Theory provides a comprehensive overview of physical and theoretical chemistry while focusing on the basic principles that unite the sub-disciplines of the field. With an emphasis on multidisciplinary, as well as interdisciplinary applications, the book extensively reviews fundamental principles and presents recent research to help the reader make logical connections between the theory and application of physical chemistry concepts. Also available from the author: Physical Chemistry: Multidisciplinary Applications (ISBN 9780128005132). Describes how materials behave and chemical reactions occur at the molecular and atomic levels Uses theoretical constructs and mathematical computations to explain chemical properties and describe behavior of molecular and condensed matter Demonstrates the

connection between math and chemistry and how to use math as a powerful tool to predict the properties of chemicals Emphasizes the intersection of chemistry, math, and physics and the resulting applications across many disciplines of science Focusing on geoscience, this book applies a uniquely cross-disciplinary perspective to its examination of the relationship between scientific research and teaching at universities. Contributions show how the use of technology and innovative pedagogical design allows students at different stages of their university studies to develop skills and experience in geoscience research. The book offers wide-ranging insight from academics in geoscience, science education and higher education policy and pedagogy, as well as from students and industry experts. The opening section sets the context, with a chapter on teaching and research in the contemporary university by a world-leading academic in higher education, and an essay by the editor on the case of moving from research-implicit to research-enhanced teaching. Part Two addresses the research-teaching nexus in geoscience, offering chapters entitled The Challenge of Combining Research and Teaching: A Young Geoscientist's Perspective; Teaching on the High Seas: How Field Research Enhances Teaching at All Levels; Curricula and Departmental Strategies to Link Teaching and Geoscience Research; and Geoscience Internships in the Oil and Gas Industry, among others. In Part Three, the use of technology is discussed in chapters such as Using Interactive Virtual Field Guides and Linked Data in Geoscience Teaching and Learning; and Towards Technology- and

Research-enhanced Education (TREE): Electronic Feedback as a Teaching Tool in Geoscience. The Program Design section includes chapters on Introducing University Students to Authentic, Hands-on Undergraduate Geoscience Research, and the opportunity to link research and teaching in students' final projects and more. Geoscience Research and Education: Teaching at Universities is a useful resource for understanding the research-teaching nexus and how it has been implemented in different types of universities and in different countries. Science academics seeking to integrate research into teaching will find the book highly relevant to their work. The emphasis on using technology as a means to link research and teaching will be of great interest and practical benefit to learning technologists, science educators and university policymakers. Together with the companion volume Geoscience Research and Outreach: Schools and Public Engagement, this book showcases the key role that geoscience research plays in a wide spectrum of educational settings.

Libraries have historically played a role as a community builder, providing resources and spaces where knowledge can be archived, shared and created. They can also play a pivotal role in fostering the public's understanding of science and scientific processes. From makerspaces to data visualization labs to exhibits, many libraries already delve into scientific explorations and many more could join them. Scientists often need to include "broader impacts" goals in grant proposals, but they might not know where to begin or feel that they do not have the time to devote to public engagement. This is

where libraries and librarians can help. Research in science communication also supports tapping into libraries for public engagement with science. Studies show that it is important for scientists to present findings in an apolitical way-not aligning with one solution or one way of thinking and not being seen as an activist (Druckman, 2015; Jamieson & Hardy, 2014). One of the core tenets of librarians and libraries is to present information in a neutral way. Research also shows that Informal conversations about science can have a greater effect on people than reading about it online or hearing about it on the news (Eveland & Cooper, 2013). Again, libraries can play a role in fostering these types of conversations. Given this landscape, this book will demonstrate concrete ways that libraries and librarians can play a role in fostering public engagement with science. In addition to background information on the current landscape of public knowledge and understanding of science, it will also include best practices and case studies of different types of programming and services that libraries can offer. Often libraries do not jump to mind when people think about science education or science literacy, and many librarians do not come from a science background. Literature on science programming and sharing science is largely absent from the library field. This book will help give confidence to librarians that they can participate in engaging the public with science. At the same time, it will provide a conduit to bring informal science educators, communication officers from universities or research organizations who share scientific discoveries with the public, and librarians

together to explore ways to align their work to promote scientific literacy for all. Demonstrates concrete ways that libraries and librarians can play a role in fostering public engagement with science Features best practices and case studies of different types of programming and services that libraries can offer Provides a conduit to bring informal science educators, communication officers, and librarians together to explore ways to align their work to promote scientific literacy

It is hard to deny the ubiquity of web technologies used for educational tools; which have provided significant breakthroughs in learning environments. These innovations have contributed to the growing approach of computer-supported education. Technology Platform Innovations and Forthcoming Trends in Ubiquitous Learning overviews the opportunities provided by new technologies, applications, and research in the areas of ubiquitous learning and how those technologies can be successfully implemented. This publication is addressed to a wide audience of researchers, students, and educators interested in a better comprehension of learning process requirements that are mediate by an assorted set of technology innovations.

Science teaching has evolved as a blend of conventional methods and modern aids owing to the changing needs and techniques of education with an objective to develop scientific attitude among the students. This Fourth Edition of

Innovative Science Teaching aims to strike balance between modern teaching methods and time-tested theories. FEATURES OF THE FOURTH EDITION • Chapters 3, 8 and 13 have been thoroughly revised and updated in the light of advancements of application of technology in teaching. • Chapter 13—New Technology to Promote Learning—has been expanded to include the impact of technology on teaching and learning. • E-learning materials and website addresses relevant to science teaching have been updated. • All chapters have been revised and extensive coverage of all aspects of modern teaching has been included. This edition of Innovative Science Teaching is designed for the undergraduate and postgraduate students of Education specializing in science teaching. It can also prove useful as a reference book for administrators, researchers and teacher-trainers. TARGET AUDIENCE • B.Ed (specialization in Science Teaching • M.Ed (specialization in Science Teaching) • Diploma Courses in Education

This edited volume brings together large-scale research as well as case studies from a range of geographical contexts and represents a variety of educational settings involving second language learners and users. Its aim is to explore the interrelated issues of psychology and technology use in second language learning settings as well as in more autonomous environments. As language

learning professionals continue to devote more time and attention to making various technological tools an integral part of the classroom, it is just as important to understand the influences that these tools have on the psychological state of the learners who use them. In consideration of this objective, the volume examines factors such as learner attitudes and motivation, emotion and behaviour, and the cognitive processes that are at play in the minds of the language users. This volume will be of interest not only to language teachers but also to researchers working in second language acquisition (SLA), applied linguistics, and educational psychology.

How can teachers harness the power of STEM education and learning in the primary curriculum? This book gives practical STEM ideas for the classroom and supports teachers to make the most of opportunities for rich STEM experiences across the primary curriculum. This book: Explores the nature of STEM education and why it matters Highlights the opportunities for STEM learning across the curriculum Supports teachers to design and innovate engaging STEM learning experiences Includes a chapter on STEM in the early years.

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Information Security Science: Measuring the Vulnerability to Data Compromises provides the scientific background and analytic techniques to understand and measure the risk associated with information security threats. This is not a traditional IT security book since it includes methods of information compromise that are not typically addressed in textbooks or journals. In particular, it explores the physical nature of information security risk, and in so doing exposes subtle, yet revealing, connections between information security, physical security, information technology, and information theory. This book is also a practical risk management guide, as it explains the fundamental scientific principles that are directly relevant to information security, specifies a structured methodology to evaluate a host of threats and attack vectors, identifies unique metrics that point to root causes of technology risk, and enables estimates of the effectiveness of risk mitigation. This book is the definitive reference for scientists and engineers with no background in security, and is ideal for security analysts and practitioners who lack scientific training. Importantly, it provides security professionals with the tools to prioritize information security controls and thereby develop cost-effective risk management strategies. Specifies the analytic and scientific methods necessary to estimate the vulnerability to information loss for a spectrum of

threats and attack vectors Represents a unique treatment of the nexus between physical and information security that includes risk analyses of IT device emanations, visible information, audible information, physical information assets, and virtualized IT environments Identifies metrics that point to the root cause of information technology risk and thereby assist security professionals in developing risk management strategies Analyzes numerous threat scenarios and specifies countermeasures based on derived quantitative metrics Provides chapter introductions and end-of-chapter summaries to enhance the reader's experience and facilitate an appreciation for key concepts

Almost one in four people in OECD countries is currently obese. This epidemic has far-reaching consequences for individuals, society and the economy. Using microsimulation modelling, this book analyses the burden of obesity and overweight in 52 countries (including OECD, European Union and G20 countries), showing how overweight reduces life expectancy, increases healthcare costs, decreases workers' productivity and lowers GDP.

The activities in Geometry and Measurement are based on an Olympic theme, so students discover interesting facts about Olympic athletes from the first Olympic runners to Michael Johnson while they learn how to solve maths problems. Students will sharpen numerous skills, including how to: identify points, lines and

planes, identify and name angles, identify properties and parts of a circle, determine the circumference of circles, identify similar and congruent figures, identify congruent triangles and other polygons, recognise and define space figures, identify and use units of measurement and find perimeter, area and volume.

In the 21st century, digitalization is a global challenge of mankind. Even for the public, it is obvious that our world is increasingly dominated by powerful algorithms and big data. But, how computable is our world? Some people believe that successful problem solving in science, technology, and economies only depends on fast algorithms and data mining. Chances and risks are often not understood, because the foundations of algorithms and information systems are not studied rigorously. Actually, they are deeply rooted in logics, mathematics, computer science and philosophy. Therefore, this book studies the foundations of mathematics, computer science, and philosophy, in order to guarantee security and reliability of the knowledge by constructive proofs, proof mining and program extraction. We start with the basics of computability theory, proof theory, and information theory. In a second step, we introduce new concepts of information and computing systems, in order to overcome the gap between the digital world of logical programming and the analog world of real computing in mathematics and science. The book also considers consequences for digital and analog physics, computational neuroscience, financial mathematics, and the Internet of Things (IoT). Contents: Introduction Basics of Computability Hierarchies of Computability Constructive Proof Theory Computational Mathematics and Digital Information Systems Intuitionistic Mathematics

and Human Creativity Proof Mining bridging Logic, Mathematics, and Computer Science Reverse Mathematics Bridging Logic, Mathematics, and Computer Science From Intuitionistic to Homotopy Type Theory — Bridging Logic, Mathematics, and Computer Science Real Computability and Real Analysis Complexity Theory of Real Computing Real Computing and Neural Networks Complexity of Algorithmic Information Complexity of Information Dynamics Digital and Real Physics Digital and Real Computing in the Social World Philosophical Outlook Readership: Undergraduate and graduate students, scientists and readers who are interested in foundational, interdisciplinary, and philosophical questions of mathematics, computer science, and science in general. Keywords: Computability;Complexity;Constructive Mathematics;Proof Mining;Real Computing;Analog Networks;Information System;Digital PhysicsReview: Key Features: Compact introduction into the foundations of modern mathematics and computer science Bridging the gap between digital, real and analog computing by new concepts of information systems Consequences in natural and social sciences with respect to scientific computing

Their eyes light up, they ask good questions, they can explain the concept to other students, and they relate what they learn in class to what happens in the world. That's how students respond to the project-based, cooperative-inquiry Earth, life, environmental, and physical science lessons this book fully describes. Theoretical discussion of constructivist learning introduces the detailed lessons, many of which hinge on reproducible handouts to present a puzzling scientific phenomenon for students to investigate. Grades 5-8. Index. Suggested resources. Illustrated. Good Year Books. 268 pages.

Sensors are everywhere. Small, flexible, economical, and computationally powerful, they

operate ubiquitously in environments. They compile massive amounts of data, including information about air, water, and climate. Never before has such a volume of environmental data been so broadly collected or so widely available. Grappling with the consequences of wiring our world, Program Earth examines how sensor technologies are programming our environments. As Jennifer Gabrys points out, sensors do not merely record information about an environment. Rather, they generate new environments and environmental relations. At the same time, they give a voice to the entities they monitor: to animals, plants, people, and inanimate objects. This book looks at the ways in which sensors converge with environments to map ecological processes, to track the migration of animals, to check pollutants, to facilitate citizen participation, and to program infrastructure. Through discussing particular instances where sensors are deployed for environmental study and citizen engagement across three areas of environmental sensing, from wild sensing to pollution sensing and urban sensing, Program Earth asks how sensor technologies specifically contribute to new environmental conditions. What are the implications for wiring up environments? How do sensor applications not only program environments, but also program the sorts of citizens and collectives we might become? Program Earth suggests that the sensor-based monitoring of Earth offers the prospect of making new environments not simply as an extension of the human but rather as new "technogeographies" that connect technology, nature, and people.

The three-volume set LNCS 10860, 10861 and 10862 constitutes the proceedings of the 18th International Conference on Computational Science, ICCS 2018, held in Wuxi, China, in June 2018. The total of 155 full and 66 short papers presented in this book set was carefully reviewed and selected from 404 submissions. The papers were organized in topical sections

named: Part I: ICCS Main Track Part II: Track of Advances in High-Performance Computational Earth Sciences: Applications and Frameworks; Track of Agent-Based Simulations, Adaptive Algorithms and Solvers; Track of Applications of Matrix Methods in Artificial Intelligence and Machine Learning; Track of Architecture, Languages, Compilation and Hardware Support for Emerging ManYcore Systems; Track of Biomedical and Bioinformatics Challenges for Computer Science; Track of Computational Finance and Business Intelligence; Track of Computational Optimization, Modelling and Simulation; Track of Data, Modeling, and Computation in IoT and Smart Systems; Track of Data-Driven Computational Sciences; Track of Mathematical-Methods-and-Algorithms for Extreme Scale; Track of Multiscale Modelling and Simulation Part III: Track of Simulations of Flow and Transport: Modeling, Algorithms and Computation; Track of Solving Problems with Uncertainties; Track of Teaching Computational Science; Poster Papers

The Palgrave International Handbook of Action Research offers a vivid portrait of both theoretical perspectives and practical action research activity and related benefits around the globe, while attending to the cultural, political, social, historical and ecological contexts that localize, shape and characterize action research. Consisting of teachers, youth workers, counselors, nurses, community developers, artists, ecologists, farmers, settlement-dwellers, students, professors and intellectual-activists on every continent and at every edge of the globe, the movement sustained and inspired by this community was born of the efforts of intellectual-activists in the mid-twentieth century specifically: Orlando Fals Borda, Paulo Freire, Myles Horton, Kurt Lewin. Cross-national issues of networking, as well as the challenges, tensions, and issues associated with the transformative power of action research are explored

from multiple perspectives providing unique contributions to our understanding of what it means to do action research and to be an action researcher. This handbook sets a global action research agenda and map for readers to consider as they embark on new projects. The National Science Foundation funded a synthesis study on the status, contributions, and future direction of discipline-based education research (DBER) in physics, biological sciences, geosciences, and chemistry. DBER combines knowledge of teaching and learning with deep knowledge of discipline-specific science content. It describes the discipline-specific difficulties learners face and the specialized intellectual and instructional resources that can facilitate student understanding. Discipline-Based Education Research is based on a 30-month study built on two workshops held in 2008 to explore evidence on promising practices in undergraduate science, technology, engineering, and mathematics (STEM) education. This book asks questions that are essential to advancing DBER and broadening its impact on undergraduate science teaching and learning. The book provides empirical research on undergraduate teaching and learning in the sciences, explores the extent to which this research currently influences undergraduate instruction, and identifies the intellectual and material resources required to further develop DBER. Discipline-Based Education Research provides guidance for future DBER research. In addition, the findings and recommendations of this report may invite, if not assist, post-secondary institutions to increase interest and research activity in DBER and improve its quality and usefulness across all natural science disciples, as well as guide instruction and assessment across natural science courses to improve student learning. The book brings greater focus to issues of student attrition in the natural sciences that are related to the quality of instruction. Discipline-Based Education Research will be of interest

to educators, policy makers, researchers, scholars, decision makers in universities, government agencies, curriculum developers, research sponsors, and education advocacy groups.

This book introduces researchers and practitioners to Cyber-Physical Systems (CPS) and its applications in the built environment. It begins with a fundamental introduction to CPS technology and associated concepts.It then presents numerous examples of applications from managing construction projects to smart transportation systems and smart cities. It concludes with a discussion of future directions for CPS deployment in the construction, operation and maintenance of constructed facilities. Featuring internationally recognized experts as contributors, Cyber-Physical Systems in the Built Environment, is an ideal resource for engineers, construction managers, architects, facilities managers, and planners working on a range of building and civil infrastructure projects.

Don't blame technology for poor student grammar; instead, use technology intentionally to reach students and actually improve their writing! In this practical book, bestselling authors Jeremy Hyler and Troy Hicks reveal how digital tools and social media – a natural part of students' lives – can make grammar instruction more authentic, relevant, and effective in today's world. Topics Covered: Teaching students to code switch and differentiate between formal and informal sentence styles Using flipped lessons to teach the parts of speech and help students build their own grammar guides Enlivening vocabulary instruction with student-produced video Helping students master capitalization and punctuation in different digital contexts Each chapter contains examples, screenshots, and instructions to help you implement the ideas. With the strategies in this book, you can empower students to become better writers

with the tools they already love and use daily. Additional resources and links are available on the book's companion wiki site: textingtoteaching.wikispaces.com

Rapid advances in computer technology and the internet have created new opportunities for delivering instruction and revolutionizing the learning environment. This development has been accelerated by the significant reduction in cost of the Internet infrastructure and the easy accessibility of the World Wide Web. This book evaluates the usefulness of advanced learning systems in delivering instructions in a virtual academic environment for different engineering sectors. It aims at providing a deep probe into the most relevant issues in engineering education and digital learning and offers a survey of how digital engineering education has developed, where it stands now, how research in this area has progressed, and what the prospects are for the future.

Problem: You feel shaky about being assigned to teach upper-level science and math and need to get up to speed fast. Solution: Follow this concise book s tried-and-true methods, which you can integrate into your classroom and lesson plans starting from the first day of class. *You Want Me to Teach What?* avoids long discussions of education theory and specific lesson plans. Instead, it concentrates on general techniques for approaching a variety of problems and enhancing your teaching skills in

science and math. It covers student psychology, classroom management, planning, instruction, problem-solving techniques, laboratory methods and reporting, assessment, and professional development. Without feeling inundated, you'll find a wealth of sensible guidance whether you're a preservice education major wanting to teach physical science or mathematics, a new teacher looking for practical methods to integrate into your instruction, or an experienced teacher in search of fresh ways to improve in the classroom.

Recent technological advancements and other related factors and trends are contributing to the production of an astoundingly large and rapidly accelerating collection of data, or 'Big Data'. This data now allows us to examine urban and regional phenomena in ways that were previously not possible. Despite the tremendous potential of big data for regional science, its use and application in this context is fraught with issues and challenges. This book brings together leading contributors to present an interdisciplinary, agenda-setting and action-oriented platform for research and practice in the urban and regional community. This book provides a comprehensive, multidisciplinary and cutting-edge perspective on big data for regional science. Chapters contain a collection of research notes contributed by experts from all over the world with a wide array of disciplinary backgrounds. The content is organized along four themes: sources of big data; integration, processing and management of big

data; analytics for big data; and, higher level policy and programmatic considerations. As well as concisely and comprehensively synthesising work done to date, the book also considers future challenges and prospects for the use of big data in regional science. Big Data for Regional Science provides a seminal contribution to the field of regional science and will appeal to a broad audience, including those at all levels of academia, industry, and government.

The two-volume set LNCS 10777 and 10778 constitutes revised selected papers from the 12th International Conference on Parallel Processing and Applied Mathematics, PPAM 2017, held in Lublin, Poland, in September 2017. The 49 regular papers presented in the proceedings were selected from 98 submissions. For the workshops and special sessions, that were held as integral parts of the PPAM 2017 conference, a total of 51 papers was accepted from 75 submissions. The papers were organized in topical sections named as follows: Part I: numerical algorithms and parallel scientific computing; particle methods in simulations; task-based paradigm of parallel computing; GPU computing; parallel non-numerical algorithms; performance evaluation of parallel algorithms and applications; environments and frameworks for parallel/distributed/cloud computing; applications of parallel computing; soft computing with applications; and special session on parallel matrix factorizations. Part II: workshop on models, algorithms and methodologies for hybrid parallelism in new HPC systems; workshop power and energy aspects of computations (PEAC 2017); workshop on scheduling for

parallel computing (SPC 2017); workshop on language-based parallel programming models (WLPP 2017); workshop on PGAS programming; minisymposium on HPC applications in physical sciences; minisymposium on high performance computing interval methods; workshop on complex collective systems.

Using probes as diagnostic tools that identify and analyze students' preconceptions, teachers can easily move students from where they are in their current thinking to where they need to be to achieve scientific understanding.

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