

Secondary School Science And Technology In Mauritius

The fourth edition of Teaching Secondary Science has been fully updated and includes a wide range of new material. This invaluable resource offers a new collection of sample lesson plans and includes two new chapters covering effective e-learning and advice on supporting learners with English as a second language. It continues as a comprehensive guide for all aspects of science teaching, with a focus on understanding pupils' alternative frameworks of belief, the importance of developing or challenging them and the need to enable pupils to take ownership of scientific ideas. This new edition supports all aspects of teaching science in a stimulating environment, enabling pupils to understand their place in the world and look after it. Key features include: Illustrative and engaging lesson plans for use in the classroom Help for pupils to construct new scientific meanings M-level support materials Advice on teaching 'difficult ideas' in biology, chemistry, physics and earth sciences Education for sustainable development and understanding climate change Managing the science classroom and health and safety in the laboratory Support for talk for learning, and advice on numeracy in science New chapters on e-learning and supporting learners with English as a second language. Presenting an environmentally sustainable, global approach to science teaching, this book emphasises the need to build on or challenge children's existing ideas so they better understand the world in which they live. Essential reading for all students and practising science teachers, this invaluable book will support those undertaking secondary science PGCE, school-based routes into teaching and those studying at Masters level.

This book looks at the purpose and pedagogy of STEM teaching and explores the ways in which STEM subjects can interact in the curriculum to enhance student understanding, achievement and motivation. By reaching outside their own classroom, teachers can collaborate across STEM subjects to enrich learning and help students relate school science, technology and maths to the wider world. Packed with ideas and practical details for teachers of STEM subjects, the new revised edition of this book: ■ considers what the STEM subjects contribute separately to the curriculum and how they relate to each other in the wider education of secondary school students; ■ describes and evaluates different curriculum models for STEM; ■ suggests ways in which a critical approach to the pedagogy of the classroom, laboratory and workshop can support and encourage all pupils to engage fully in STEM; ■ addresses the practicalities of introducing, organising and sustaining STEM-related activities in the secondary school; ■ looks to ways schools can manage and sustain STEM approaches in the long-term. This new revised edition is essential reading for trainee and practising teachers, those engaged in further professional development and all who wish to make the learning of science, technology, engineering and mathematics an interesting, motivating and exciting experience for their students.

Innovations in Science and Technology Education

Application of Data-Logging Technology in Secondary School Science Classrooms

Elementary and Secondary Education Reform in Progress

The Politics of School Science and Technology in England and Wales Since 1945

School Science Practical Work in Africa

Technology/Society: A Framework for Curriculum Reform in Secondary School Science and Social Studies

Originally published in 1985. This book describes the Girls Into Science and Technology (GIST) Project, an action research programme carried out in co-educational comprehensive schools in Greater Manchester. GIST simultaneously took action to redress the balance of girls in science and technology and investigated the reasons for the shortfall. The book highlights the world of the typical school science lab and craft workshop where boys and girls compete with each other and teachers treat the two sexes differently. It reveals how boys and girls view science and sex roles and how their attitudes changed during the course of the project. The GIST team worked with science and craft teachers to alter school factors which discourage girls from continuing with scientific and technical subjects. The author describes the reactions of teachers and pupils to intervention strategies, which included visits to schools by women working in technical jobs, development of teaching material more orientated towards girls' interests and a humanistic view of science, observations in school labs and workshops, and careers education linked to option choices in school. In the final chapters she spells out the lessons to be learned for teachers and those engaged in training, and evaluates the national impact of the GIST project.

School Science Practical Work in Africa presents the scope of research and practice of science practical work in African schools. It brings together prominent science educators and researchers from Africa to share their experience and findings on pedagogical innovations and research-informed practices on school science practical work. The book highlights trends and patterns in the enactment and role of practical work across African countries. Practical work is regarded as intrinsic to science teaching and learning and the form of practical work that is strongly advocated is inquiry-based learning, which signals a definite paradigm shift from the traditional teacher-dominated to a learner-centered approach. The book provides empirical research on approaches to practical work, contextual factors in the enactment of practical work, and professional development in teaching practical work. This book will be of great interest to academics, researchers and post-graduate students in the fields of science education and educational policy.

The Environment and Science and Technology Education Report. Volume 1

Some Issues and Perspectives

Science and Technology Education and Future Human Needs

Science and Technology Education Promoting Wellbeing for Individuals, Societies and Environments

Teaching Secondary School Science

This collection examines issues of agency, power, politics and identity as they relate to science and technology and education, within contemporary settings. Social, economic and ecological critique and reform are examined by numerous contributing authors, from a range of international contexts. These chapters examine pressing pedagogical questions within socio-scientific contexts, including petroleum economies, food justice, health, environmentalism, climate change, social media and biotechnologies. Readers will discover far reaching inquiries into activism as an open question for science and technology education, citizenship and democracy. The authors call on the work of prominent scholars throughout the ages, including Bourdieu, Foucault, Giroux, Jasanoff, Kierkegaard, Marx, Nietzsche, Rancière and Žižek. The application of critical theoretical scholarship to mainstream practices in science and technology education distinguishes this book, and this deep, theoretical treatment is complemented by many grounded, more pragmatic exemplars of activist pedagogies. Practical examples are set within the public sphere, within selected new social movements, and also within more formal institutional settings, including elementary and secondary schools, and higher education. These assembled discussions provide a basis for a more radically reflexive reworking of science and technology education. Educational policy makers, science education scholars, and science and technology educators, amongst others, will find this work thought-provoking, instructive and informative.

This work explores the relationship between science and technology in the school curriculum. Examples of science as a resource for technological capability are drawn from both "real world technology" and from "school technology."

Cross Curricular Teaching and Learning in the Secondary School... Science

The Place of Science and Technology in School Curricula

How Can Non-formal Education Help?

Science

Strategies for Developing Scientific Literacy

African Girls and the School Science and Technology Curricula

The Science/Technology/Society (STS) theme describes a contemporary trend in education which focuses on the teaching of issues such as air quality, nuclear power, land use, and water resources but justification for including STS in the high school core curriculum has a precedence based on historical connections among science, technology, and society. Maintaining social order, perceiving contemporary events accurately, and advancing science and technology require secondary school students to understand the nature, concepts, and processes of these disciplines in a social context. While educators have stressed a need to implement STS-based core curriculums, their recommendations have not become trends in curriculum development or reform, and curriculum reformers estimate that more than 90 percent of high school graduates have reached only the lowest levels of scientific and technological literacy. Chapter one describes a curriculum framework organized into the categories of acquisition of knowledge, utilization of cognitive skills, and the development of attitudes. Chapters two to four discuss topics, concepts, issues, attitudes, and cognitive processes that can be used as integrative threads. Chapter five examines curriculum options and alternatives, such as developing interdisciplinary courses. Chapters six and seven focus on the infusion of STS content into social studies and science courses. The concluding chapters, eight and nine, describe underlying teaching concepts, cognitive process skills, and guidelines for curriculum reform. (JHP)

This edited volume provides theoretical and practical resources relating to the 'STEPWISE' curricular and instructional framework. 'STEPWISE' is the acronym for Science & Technology Education Promoting Wellbeing for Individuals, Societies & Environments. It is a framework for organizing teaching and learning domains in ways that prioritize personal and social actions to address 'critical socioscientific issues' – that is, controversial decisions by powerful individuals/groups about science and technology (and related fields) that may adversely affect individuals, societies and/or environments. The book contains chapters written by and/or with teachers who have used STEPWISE to guide their instructional practices, as well as chapters written by education scholars who have used a range of theoretical lenses to analyze and evaluate STEPWISE – and, in several cases, described ways in which it relates to (or could relate to) their practices and/or ways in which the framework might logically be amended. Overall, this book offers educators, policy makers and others with resources useful for arranging science and technology education in ways that may assist societies in addressing significant potential personal, social and/or environmental problems – such as dramatic climate change, preventable human diseases, species losses, and social injustices – associated with fields of science and technology.

Theory and Practice, 7-12,

Improving and Enriching Junior Secondary School Science and Technology

Primary and Secondary School Science

A Case Study

Science and Technology for Non-science Students in the Secondary School

Constructing Meaning and Developing Understanding

Through country case studies centred around Sub-Saharan Africa; this book provides critical insights into why science and

technology should be popularised; what and whose science and technology systems should be introduced and promoted; and how science and technology should be implemented and practised.

This dissertation, "Application of Data-logging Technology in Secondary School Science Classrooms: a Case Study" by ???, Suet-yu, Heather, Fielder Kwok, was obtained from The University of Hong Kong (Pokfulam, Hong Kong) and is being sold pursuant to Creative Commons: Attribution 3.0 Hong Kong License. The content of this dissertation has not been altered in any way. We have altered the formatting in order to facilitate the ease of printing and reading of the dissertation. All rights not granted by the above license are retained by the author. DOI: 10.5353/th_b3125621 Subjects: Science - Study and teaching (Secondary) - Data processing - China - Hong Kong

**Future Content in Science and Technology Education at Secondary Level
Technological Revolution?**

The Story of a Project

Guidelines for Policy-making in Secondary School Science and Technology Education

STEPWISE

School Science and Technology

This market-leading book has been updated to reflect the latest in learning theory, science reform, and professional development. Includes complete chapters on incorporating educational technology into the science classroom, classroom management and conflict resolution, and teaching science for cultural and gender differences. For Educators and School Administrators for Secondary Science.

Education, Industry and Technology is a result of a conference in Bangalore, which discusses industrial and technological issues in primary school science and other related topics. This text specifically examines building applications into secondary science curricula and strategies for teaching science, including the use of games and simulations, work experience programs, industrial visits, and methods of promoting technology as the means for solving problems. The needs of industry and the role of tertiary institutions in development are also some of the highlights of this text. This book will be very helpful to educators and government administrators assigned to advance education.

Occupational Information in Science and Technology Careers for Secondary School Students

Explorations in Secondary School Science

Education, Industry and Technology

Understanding Student Participation and Choice in Science and Technology Education

Girls into Science and Technology

Helping Teachers Meet The Challenge

This book brings together ongoing debates about personalised learning, creativity and ICT in education, with a cross-curricular focus, and establishes a principled framework for cross-curricular teaching and learning in Science.

Solidly grounded in current recommendations of the National Science Education Standards, this text offers teaching guidance and strategies for physical, biological, and earth science courses for middle school, junior high, and high school. The authors' extensive curriculum development experience imbues the text with a practical focus. Their collective knowledge of the field balances coverage of the theory and research behind the strategies they present. Also, inherent in the text is a description of the role of constructivism in science teaching and the connection between science and society including how technological development is driven by societal needs. KEY TOPICS: A seven-part organization includes an introduction, historical perspectives and contemporary trends, goals and objectives, curriculum perspectives, planning for instruction and assessment, understanding and working with students, and induction and professional development. MARKET: For middle through secondary school science teachers.

Some Case Studies from Africa

Technology and Secondary School Science Education

Experiences and Challenges

Science and Technology Awareness Among Secondary School Students

Technology's Challenge to Science Education

Elementary and Secondary Education for Science and Engineering

On technology education

Drawing on data generated by the EU's Interests and Recruitment in Science (IRIS) project, this volume examines the issue of young people's participation in science, technology, engineering and mathematics education. With an especial focus on female participation, the chapters offer analysis deploying varied theoretical frameworks, including sociology, social psychology and gender studies. The material includes reviews of relevant research in science education and summaries of empirical data concerning student choices in STEM disciplines in five European countries. Featuring both quantitative and qualitative analyses, the book makes a substantial contribution to the development of a theoretical agenda in STEM education. It augments available empirical data and identifies strategies in policy-making that could lead to improved participation—and gender balance—in STEM disciplines. The majority of the chapter authors are IRIS project members, with additional chapters written by specially invited contributors. The book provides researchers and policy makers alike with a comprehensive and authoritative exploration of the core issues in STEM educational participation.

Elementary and secondary education for science and engineering.

Teaching STEM in the Secondary School

Teaching Secondary Science

Science and Technology Education and National Development

Cathedral, Quarry, Or Company Store?

Using Information and Communications Technology in Secondary School Science

The Environment and Science and Technology Education covers topics on key issues in environmental education; school-based primary and secondary education; and community-based environmental education. The book also discusses topics on tertiary, professional and vocational environmental education and non-formal public environmental education. The text will give practical help to teachers in all countries in order to raise standards of education in those topics essential for development.

School in the New Era

The Potential for Greece

(Technology for Social Action Curriculum - TSAC)

*Popularisation of Science and Technology Education
Regent's Program for Meeting Needs in Science, Technology, and Education of the Talented
A Global Survey*