

2015 psle science paper

The 2015 PSLE Science Paper: A Retrospective and its Unforeseen Implications for Education

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Introduction: The 2015 PSLE Science paper continues to be a topic of discussion amongst educators, parents, and students in Singapore. While seemingly just another annual examination, a closer analysis of its content, structure, and the subsequent reactions reveals significant implications for the evolution of science education in Singapore and potentially, broader educational trends. This article delves into the specifics of the 2015 PSLE Science paper, analyzing its impact on pedagogical approaches, curriculum design, and the overall learning environment.

Keywords: 2015 PSLE Science paper, PSLE Science, Singapore education, Science curriculum, Educational assessment, Pedagogical approaches, STEM education

H1: Analyzing the 2015 PSLE Science Paper: A Deep Dive

The 2015 PSLE Science paper, while not publicly available in its entirety, sparked considerable debate due to its perceived difficulty and the range of topics covered. Anecdotal evidence suggests an increased emphasis on higher-order thinking skills (HOTS), requiring students to apply their knowledge in unfamiliar contexts rather than simply recalling facts. This shift mirrored a broader move towards a more inquiry-based learning approach, championed by the Ministry of Education (MOE). The paper's focus on experimental design, data analysis, and problem-solving was a significant departure from previous years, leading to significant discussion amongst teachers and parents regarding the best preparation strategies. The 2015 PSLE Science paper served as a catalyst, prompting a reevaluation of teaching methodologies and the resources available to support students.

H2: Implications for Pedagogical Approaches

The 2015 PSLE Science paper's emphasis on HOTS forced a reassessment of traditional teaching methods. Rote learning became less effective, replaced by a need for active learning strategies. Teachers had to adapt their methodologies, incorporating more hands-

on experiments, collaborative projects, and problem-based learning activities. This, in turn, placed a higher demand on teachers' professional development, requiring them to upskill in innovative teaching techniques capable of fostering critical thinking and problem-solving skills. The 2015 PSLE Science paper thus indirectly acted as a powerful impetus for educational reform, accelerating the adoption of more progressive pedagogical approaches.

H3: The Impact on Curriculum Design

The 2015 PSLE Science paper's focus on application and analysis led to a review of the science curriculum itself. The MOE likely reassessed the balance between theoretical knowledge and practical application, striving for a more integrated and holistic approach. This involved scrutinizing the learning objectives, assessment methods, and the overall structure of the science curriculum to better reflect the demands of the 2015 PSLE Science paper and its implied future expectations. The subsequent curriculum revisions likely incorporated feedback and lessons learned from the 2015 paper, leading to a more robust and adaptable science curriculum.

H4: The Broader Context: STEM Education and Beyond

The 2015 PSLE Science paper can be viewed within the wider context of Singapore's push for STEM (Science, Technology, Engineering, and Mathematics) education. The paper's focus on critical thinking, problem-solving, and data analysis directly aligns with the skills required for success in STEM fields. The experience gained from navigating the challenges of the 2015 PSLE Science paper potentially helped prepare a generation of students better equipped for a future dominated by technological advancements and complex scientific challenges. The paper acted as a subtle but effective filter, identifying students with a stronger aptitude and inclination towards analytical and problem-solving approaches.

H5: Long-Term Effects and Ongoing Discussions

The ripples from the 2015 PSLE Science paper continue to be felt today. The ongoing debate regarding the ideal balance between assessment and learning, the appropriate level of difficulty for national examinations, and the optimal methods for fostering higher-order thinking skills are all informed by the experience and insights gained from this specific examination. Understanding the nuances of the 2015 PSLE Science paper provides valuable context for current educational policies and initiatives.

Conclusion:

The 2015 PSLE Science paper, despite its seemingly singular existence as a single examination, holds significant implications for the broader landscape of science education in Singapore. It served as a catalyst for pedagogical innovation, curriculum reform, and a deeper understanding of how to effectively assess and nurture higher-order thinking skills in young learners. Its lasting impact underscores the crucial role of assessment in shaping not only student learning but also the future direction of the education system as a whole. The lessons learned from the 2015 PSLE Science paper continue to resonate, informing current pedagogical practices and future curriculum development.

FAQs:

1. Was the 2015 PSLE Science paper unusually difficult? While opinions vary, anecdotal evidence suggests a higher emphasis on application and analysis compared to previous years.
2. How did the 2015 PSLE Science paper impact teaching methodologies? It led to a greater emphasis on hands-on learning, collaborative projects, and problem-based learning.
3. What changes were made to the science curriculum following the 2015 PSLE Science paper? Specific details are not publicly available, but likely included adjustments to learning objectives and assessment methods.
4. Did the 2015 PSLE Science paper effectively assess higher-order thinking skills? The paper aimed to assess HOTS, prompting debate on the efficacy of its design.
5. How did parents react to the 2015 PSLE Science paper? Many expressed concern about its difficulty and the need for enhanced preparation strategies.
6. What resources were developed in response to the 2015 PSLE Science paper? Various supplemental learning materials and tutoring services likely emerged.
7. Did the 2015 PSLE Science paper contribute to Singapore's push for STEM education? It certainly aligned with the goals of promoting critical thinking and problem-solving skills crucial for STEM fields.
8. Are there any long-term studies analyzing the impact of the 2015 PSLE Science paper? This would require further research and data analysis.
9. Where can I find more information about the 2015 PSLE Science paper? Unfortunately, the full paper is not publicly available, but discussions and analyses can be found in educational forums and publications.

Related Articles:

1. "Analyzing Higher-Order Thinking Skills in the Singapore PSLE Science Curriculum": This article examines the evolution of HOTS assessment in the PSLE Science curriculum, contextualizing the 2015 paper within this broader trend.
2. "The Impact of Inquiry-Based Learning on Student Performance in Science": An analysis of the effectiveness of inquiry-based learning methods in improving student understanding and performance, referencing the shift evident in the 2015 PSLE Science paper.
3. "Teacher Professional Development and the Implementation of Innovative Teaching

Strategies": This article explores the challenges and strategies involved in upskilling teachers to adopt more modern pedagogical approaches, a crucial consequence of the 2015 PSLE Science paper.

4. "Curriculum Reform in Singapore Science Education: A Retrospective": A comprehensive overview of changes to the Singapore science curriculum, with a dedicated section analyzing the influence of the 2015 PSLE Science paper.
5. "Assessment and Learning: Finding the Optimal Balance in Singapore's Education System": This explores the ongoing debate about the ideal balance between assessment and the learning process, spurred partly by the 2015 paper's impact.
6. "The Role of Parental Involvement in Student Success in Science": This discusses the influence of parental support and engagement on student performance, in the context of the challenges posed by the 2015 PSLE Science paper.
7. "Preparing Students for STEM Careers: A Look at Singapore's Educational Initiatives": An analysis of Singapore's STEM education strategies, highlighting the 2015 PSLE Science paper's role in this broader initiative.
8. "A Comparative Study of PSLE Science Papers from 2010-2020": A longitudinal analysis of PSLE Science papers, comparing the 2015 paper to its predecessors and successors.
9. "The Future of Science Education in Singapore: Trends and Predictions": This looks forward, exploring potential future directions for science education, informed by lessons learned from the 2015 PSLE Science paper and similar events.

2015 psle science paper: Primary Science Education in East Asia Yew-Jin Lee, Jason Tan, 2018-09-26 This edited volume is a state-of-the-art comparison of primary science education across six East-Asian regions; namely, the People's Republic of China, Republic of Korea, Republic of China, Hong Kong SAR, Japan, and Singapore. While news of educational policies, classroom teaching, assessment, and other educational innovations here often surface in the international media, this book brings together for the first time relevant information regarding educational systems and strategies in primary science in East Asia. Above all, it is a readable yet comprehensive survey—readers would have an accurate sense of what has been accomplished, what has not worked so well, and what remains to be done. Invited experts in comparative education research and/or science education also provide commentary by discussing common themes across the six regions. These types of critical synoptic reviews add much value by enabling readers to understand broad commonalities and help synthesize what must surely be a bewildering amount of very interesting albeit confusing body of facts, issues, and policies. Education in East Asia holds many lessons (both positive and negative) to offer to the rest of the world to which this volume is a timely contribution to the literature.

2015 psle science paper: Singapore School Principals: Leadership Stories Zoe Suan Loy Boon, 2018-04-09 This book is undertaken by the author who has personally walked the journey of a classroom teacher, middle leader and school principal in the Singapore education system. It is a culmination of two research projects undertaken in two phases — the first is derived from the PhD

Thesis entitled *The Making of School Principals in Singapore* and the second is based on interviews with school principals who have retired from the Singapore education system. Both research projects provide invaluable input to describe the four career phases of school leadership, that is, formation, accession, incumbency, and divestiture. This research describes how the formative years of a school principal have tremendous impact on who the principal is, and how the values and beliefs of an aspiring/potential school leader serve to guide him/her in taking on the principalship post. This well-structured book is both exploratory and descriptive. It provides the necessary background for anyone interested in understanding school leadership as a career. More specifically, it will be of value to educators and stakeholders interested in understanding the nature of school leadership in the Singapore education system.

2015 psle science paper: Alex's Adventures in Numberland Alex Bellos, 2011-04-04 The world of maths can seem mind-boggling, irrelevant and, let's face it, boring. This groundbreaking book reclaims maths from the geeks. Mathematical ideas underpin just about everything in our lives: from the surprising geometry of the 50p piece to how probability can help you win in any casino. In search of weird and wonderful mathematical phenomena, Alex Bellos travels across the globe and meets the world's fastest mental calculators in Germany and a startlingly numerate chimpanzee in Japan. Packed with fascinating, eye-opening anecdotes, *Alex's Adventures in Numberland* is an exhilarating cocktail of history, reportage and mathematical proofs that will leave you awestruck.

2015 psle science paper: The Wiley Handbook of Teaching and Learning Gene E. Hall, Linda F. Quinn, Donna M. Gollnick, 2018-09-12 Provides a comprehensive reference for scholars, educators, stakeholders, and the general public on matters influencing and directly affecting education in today's schools across the globe. This enlightening handbook offers current, international perspectives on the conditions in communities, contemporary practices in schooling, relevant research on teaching and learning, and implications for the future of education. It contains diverse conceptual frameworks for analyzing existing issues in education, including but not limited to characteristics of today's students, assessment of student learning, evaluation of teachers, trends in teacher education programs, technological advances in content delivery, the important role for school leaders, and innovative instructional practices to increase student learning. The Wiley Handbook of Teaching and Learning promotes new, global approaches to studying the process of education, demonstrates the diversity among the constituents of schooling, recognizes the need for and presents a variety of approaches to teaching and learning, and details exemplary practices in education. Divided into four sections focused on general topics—context and schooling; learners and learning; teachers and teaching; and educators as learners and leaders—and with all-new essays that look at what has been, what is, and what could be, this book is destined to inspire thoughtful contemplation from readers about what it means to teach and learn. Examines teaching, learners, and learning from a contemporary, international perspective, presenting alternative views and approaches. Provides a single reference source for teachers, education leaders, and agency administrators. Summarizes recent research and theory. Offers evidence-based recommendations for practice. Includes essays from established and emerging U.S. and international scholars. Each chapter includes a section encouraging readers to think ahead and imagine what education might be in the future. Scholars from around the world provide a range of evidence-based ideas for improving and modifying current educational practices, making *The Wiley Handbook of Teaching and Learning* an important book for the global education community and those planning on entering into it.

2015 psle science paper: The Oxford Handbook of Program Design and Implementation Evaluation Anu Rangarajan, 2023-10-13 This handbook brings together evaluation approaches relevant across the program life cycle, starting from program design, to implementation, and ultimately to the scaling up of successful interventions. It fills a gap in available publications, which are predominantly focused on impact evaluations and inadequately grounded in methods that can address why programs succeed or fail as well as their potential to contribute to broader and more systemic change. This chapter starts by setting the context and describes key questions relevant to each stage of the program lifecycle. The second section highlights four cross-cutting considerations

that social programs today must confront including: (1) ensuring culturally responsive and equitable evaluations, (2) the decolonization of evaluation practices, (3) adapting to the COVID-19 pandemic and other global health crises, and (4) understanding the impact of climate change on social programs. The last section describes how this handbook can be used and highlights relevant evaluation topics and case studies covered in each section of the handbook--

2015 psle science paper: *Comparing High-Performing Education Systems* Charlene Tan, 2018-09-03 *Comparing High-Performing Education Systems* provides original insights into the educational structures, ideologies, policies, and practices in Singapore, Shanghai, and Hong Kong. Taking as its basis their global reputation and consistently strong performance in formal assessments, the author provides an in-depth analysis and comparison of these three education systems that draws on cutting-edge research. Chapters explore the dominant cultural and educational norms in Singapore, Shanghai, and Hong Kong to give a wider picture of these high-performing education systems. The performance of students in international large-scale assessments such as Programme for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), and Progress in International Reading Literacy Study (PIRLS) is considered, alongside an exploration of attitudes to schooling, tutoring, and assessment. The book shows how Singapore, Shanghai, and Hong Kong exemplify an East Asian Educational Model (EAEM). Such a model - is rooted in and shaped by Confucian habitus: unconscious and ingrained worldviews, dispositions, and habits that reflect the standards of appropriateness in a Confucian Heritage Culture; aspires high performance: a balance between academic excellence and holistic development; and utilises educational harmonisation: the art of bringing together different and contradictory means and ends to achieve desired educational outcomes. Informative and thought-provoking, this book is a useful reference for policymakers, researchers, educators, and general readers on high-performing education systems, school reforms in East Asia, Confucian influences on education, and cross-cultural policy learning and transfer.

2015 psle science paper: *A Diversity of Pathways Through Science Education* Yann Shiou Ong, 2015-09-15 *A Diversity of Pathways Through Science Education* provides original insights into the educational structures, ideologies, policies, and practices in Singapore, Shanghai, and Hong Kong. Taking as its basis their global reputation and consistently strong performance in formal assessments, the author provides an in-depth analysis and comparison of these three education systems that draws on cutting-edge research. Chapters explore the dominant cultural and educational norms in Singapore, Shanghai, and Hong Kong to give a wider picture of these high-performing education systems. The performance of students in international large-scale assessments such as Programme for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), and Progress in International Reading Literacy Study (PIRLS) is considered, alongside an exploration of attitudes to schooling, tutoring, and assessment. The book shows how Singapore, Shanghai, and Hong Kong exemplify an East Asian Educational Model (EAEM). Such a model - is rooted in and shaped by Confucian habitus: unconscious and ingrained worldviews, dispositions, and habits that reflect the standards of appropriateness in a Confucian Heritage Culture; aspires high performance: a balance between academic excellence and holistic development; and utilises educational harmonisation: the art of bringing together different and contradictory means and ends to achieve desired educational outcomes. Informative and thought-provoking, this book is a useful reference for policymakers, researchers, educators, and general readers on high-performing education systems, school reforms in East Asia, Confucian influences on education, and cross-cultural policy learning and transfer.

2015 psle science paper: *Shaping the Futures of Work* Nilanjan Raghunath, 2021-09-15 The widespread belief that tech-savvy, educated millennials are well positioned to handle the challenges of the fourth industrial revolution is unfounded. It does not fully grasp the reality of a flux society, where relevant technological skills and knowledge are continuously changing: no one is permanently tech-savvy. Millennials, like other generations, face the challenge of needing to continually reskill. This has compounded their struggle to begin their careers at a point when there is no longer any guarantee of lifetime employment or retirement at a set age. *Shaping the Futures of Work* is a timely sociological exploration of the impact of technological innovations on employment. Nilanjan Raghunath proposes that stakeholders such as states, enterprises, and citizens hold equally important roles in ensuring that people can adapt, innovate, and thrive within conditions of flux. A promising model focuses on collaboration and proactive governance. While good governance includes citizen engagement, proactive governance goes one step further, creating inclusive policies, roadmaps, and infrastructure for social and economic progress. This book reveals that lifelong learning and adaptability are imperative, even for well-educated professionals. Using Singapore and Singaporean millennials as a case study, Raghunath examines proactive governance and delivers research and analysis to elucidate career trajectories, pointing to a work ethic that aims to engage with technological futures. Looking at local and global sociological literature to confirm the need for proactive governance, *Shaping the Futures of Work* suggests that Singaporean millennials - and professionals around the world - need to better prepare themselves for flux, risk, failure, and reinvention for career mobility.

2015 psle science paper: *How to Become a Straight-A Student* Cal Newport, 2006-12-26 Looking to jumpstart your GPA? Most college students believe that straight A's can be achieved only through cramming and painful all-nighters at the library. But Cal Newport knows that real straight-A students don't study harder—they study smarter. A breakthrough approach to acing academic assignments, from quizzes and exams to essays and papers, *How to Become a Straight-A Student*

reveals for the first time the proven study secrets of real straight-A students across the country and weaves them into a simple, practical system that anyone can master. You will learn how to: • Streamline and maximize your study time • Conquer procrastination • Absorb the material quickly and effectively • Know which reading assignments are critical—and which are not • Target the paper topics that wow professors • Provide A+ answers on exams • Write stellar prose without the agony A strategic blueprint for success that promises more free time, more fun, and top-tier results, *How to Become a Straight-A Student* is the only study guide written by students for students—with the insider knowledge and real-world methods to help you master the college system and rise to the top of the class.

2015 psle science paper: *Where Have All the Textbooks Gone?* Tony Read, 2015-07-22 This World Bank report is a rich compilation of information on teaching learning materials (TLM) in Africa based on the extensive and multi-faceted experience of the author's work in the education sector in Africa. The study examines a wide range of issues around TLM provision including curriculum, literacy and numeracy, language of instruction policy, procurement and distribution challenges, TLM development and production and their availability, management and usage in schools. It also looks at the role of information and communication technology (ICT) based TLMs and their availability. The study recognizes that improved TLM system management is a critical component in achieving affordable and sustainable TLM provision for all students. This study, which draws from more than 40 Anglophone, Francophone, Lusophone, and Arabic-speaking countries will be particularly useful for policymakers, development partners, and other stakeholders attempting to understand the wide range of issues surrounding the complexity of textbook provision in Sub Saharan Africa.

2015 psle science paper: *The Perfect Slime* Hans-Curt Flemming, Dr Thomas R. Neu, Dr Jost Wingender, 2016-09-15 *The Perfect Slime* presents the latest state of knowledge and all aspects of the Extracellular Polymeric Substances, (EPS) matrix – from the ecological and health to the antifouling perspectives. The book brings together all the current material in order to expand our understanding of the functions, properties and characteristics of the matrix as well as the possibilities to strengthen or weaken it. The EPS matrix represents the immediate environment in which biofilm organisms live. From their point of view, this matrix has paramount advantages. It allows them to stay together for extended periods and form synergistic microconsortia, it retains extracellular enzymes and turns the matrix into an external digestion system and it is a universal recycling yard, it protects them against desiccation, it allows for intense communication and represents a huge genetic archive. They can remodel their matrix, break free and eventually, they can use it as a nutrient source. The EPS matrix can be considered as one of the emergent properties of biofilms and are a major reason for the success of this form of life. Nevertheless, they have been termed the “black matter of biofilms” for good reasons. First of all: the isolation methods define the results. In most cases, only water soluble EPS components are investigated; insoluble ones such as cellulose or amyloids are much less included. In particular in environmental biofilms with many species, it is difficult to impossible isolate, separate the various EPS molecules they are encased in and to define which species produced which EPS. The regulation and the factors which trigger or inhibit EPS production are still very poorly understood. Furthermore: bacteria are not the only microorganisms to produce EPS. Archaea, Fungi and algae can also form EPS. This book investigates the questions, What is their composition, function, dynamics and regulation? What do they all have in common?

2015 psle science paper: *The Global Testing Culture* William C. Smith, 2016-01-04 The past thirty years have seen a rapid expansion of testing, exposing students worldwide to tests that are now, more than ever, standardized and linked to high-stakes outcomes. The use of testing as a policy tool has been legitimized within international educational development to measure education quality in the vast majority of countries worldwide. The embedded nature and normative power of high-stakes standardized testing across national contexts can be understood as a global testing culture. The global testing culture permeates all aspects of education, from financing, to parental

involvement, to teacher and student beliefs and practices. The reinforcing nature of the global testing culture leads to an environment where testing becomes synonymous with accountability, which becomes synonymous with education quality. Underlying the global testing culture is a set of values identified from the increasing literature on world culture. These include: education as a human right, academic intelligence, faith in science, decentralization, and neoliberalism. Each of these values highlights different aspects of the dialogue in support of high-stakes standardized testing. The wide approval of these values and their ability to legitimate various aspects of high-stakes testing reinforces the taken-for-granted notion that such tests are effective and appropriate education practices. However, a large body of literature emphasizes the negative unintended consequences – teaching to the test, reshaping the testing pool, the inequitable distribution of school resources and teachers' attention, and reconstructing the role of the student, teacher, and parent – commonly found when standardized, census-based tests are combined with high-stakes outcomes for educators or students. This book problematizes this culture by providing critical perspectives that challenge the assumptions of the culture and describe how the culture manifests in national contexts. The volume makes it clear that testing, per se, is not the problem. Instead it is how tests are administered, used or misused, and linked to accountability that provide the global testing culture with its powerful ability to shape schools and society and lead to its unintended, undesirable consequences.

2015 psle science paper: *Thermo-Hydro-Mechanical-Chemical Processes in Fractured Porous Media: Modelling and Benchmarking* Olaf Kolditz, Hua Shao, Wenqing Wang, Sebastian Bauer, 2014-11-26 The present book provides guidance to understanding complicated coupled processes based on the experimental data available and implementation of developed algorithms in numerical codes. Results of selected test cases in the fields of closed-form solutions (e.g., deformation processes), single processes (such as groundwater flow) as well as coupled processes are presented. It is part of the OpenGeoSys initiative - an open source project to share knowledge and experience in environmental analysis and scientific computation with the community.

2015 psle science paper: *Education in Singapore* Yew-Jin Lee, 2022-04-06 This edited book is a comprehensive resource for understanding the history as well as the current status of educational practices in Singapore. It is a one-stop reference guide to education and educational issues/concerns here. There are three sections: Part 1 provides a sectorial overview of how education has been organized in this country such as preschool, special needs, primary and secondary, and adult education divisions. In Part 2, contributors critically delve into issues and policies that are pertinent to understanding education here such as underachievement, leadership, language education, assessment, and meritocracy to question what Part 1 might have taken for granted. Part 3 contains the largest number of contributors because it offers a scholarly examination into specific subject histories. This section stands out because of the comparative rarity of its subject matter (history of Physical Education, Art, Music, Geography Education, etc.) in Singapore.

2015 psle science paper: *Families Across Cultures* James Georgas, John W. Berry, Fons J. R. van de Vijver, Çigdem Kagitçibasi, Ype H. Poortinga, 2006-08-03 Contemporary trends such as increased one-parent families, high divorce rates, second marriages and homosexual partnerships have all contributed to variations in the traditional family structure. But to what degree has the function of the family changed and how have these changes affected family roles in cultures throughout the world? This book attempts to answer these questions through a psychological study of families in thirty nations, carefully selected to present a diverse cultural mix. The study utilises both cross-cultural and indigenous perspectives to analyse variables including family networks, family roles, emotional bonds, personality traits, self-construal, and 'family portraits' in which the authors address common core themes of the family as they apply to their native countries. From the introductory history of the study of the family to the concluding indigenous psychological analysis of the family, this book is a source for students and researchers in psychology, sociology and anthropology.

2015 psle science paper: *International Trends in Educational Assessment* , 2018-12-10

Assessment and evaluation have always been an integral part of the educational process. Quality and purposeful assessment can assist in students' learning and their achievement. In recent years, considerable attention has been given to the roles of educational measurement, evaluation, and assessment with a view to improving the education systems throughout the world. Educators are interested in how to adequately prepare the young generation to meet the ever-growing demands of the 21st century utilizing robust assessment methods. There has also been increased demand in accountability and outcomes assessment in schools to bridge the gap between classroom practices and measurement and assessment of learners' performance. This volume contains selected and invited papers from the First International Conference on Educational Measurement, Evaluation and Assessment (ICEMEA). Contributors are: Peter Adams, Derin Atay, Nafisa Awwal, Helen Barefoot, Patrick Griffin, Bahar Hasirci, Didem Karakuzular, Don Klinger, Leigh Powell, Vicente Reyes, Mark Russell, Charlene Tan, Bryan Taylor, and Zhang Quan.

2015 psle science paper: ANSI Common Lisp Paul Graham, 1996 Teaching users new and more powerful ways of thinking about programs, this two-in-one text contains a tutorial--full of examples--that explains all the essential concepts of Lisp programming, plus an up-to-date summary of ANSI Common Lisp. Informative and fun, it gives users everything they need to start writing programs in Lisp and highlights innovative Lisp features.

2015 psle science paper: Southeast Asian Affairs 2017 Daljit Singh, 2018-02-14 Southeast Asian Affairs, first published in 1974, is an annual review of significant trends and developments in the region. It provides comprehensive commentaries to further the understanding of not only the region's dynamism but also of its tensions and conflicts. Thematic chapters examine key issues for the region as a whole whilst country-specific chapters provide detailed roundups of the developments, and their implications, of the year's events.

2015 psle science paper: Journey In Blue: A Peek Into The Workers' Party Of Singapore Jenn Jong Yee, 2020-12-18 After decades of overwhelming political domination by the People's Action Party (PAP), Singapore has entered a phase of political transition. It started with the loss of a Group Representation Constituency (GRC) in the 2011 general election (GE2011). After a huge rebound in the fortunes of the PAP in the 2015 general election following the death of founding Prime Minister Lee Kuan Yew, the transition resumed in the 2020 general election with the loss of yet another GRC. This book looks at the Workers' Party, Singapore's leading opposition party, through the eyes of Yee Jenn Jong, former Non-constituency Member of Parliament and Central Executive Committee member of the party. Jenn Jong took an unexpected leap into opposition politics just weeks before GE2011 and came out with a narrow loss of just one percent of the popular votes. In this book, he recounts his three contests in the general elections from 2011-2020, parliamentary work, and other activities in opposition politics. This book hopes to let readers better understand the nature of the work by opposition politicians in Singapore, which has been dominated by the PAP's narrative since 1959. The author also shares his thoughts on the shape of Singapore's politics going forward. Related Link(s)

2015 psle science paper: Toward a Better Future Fredriksen Birger, Sing Kong Lee, Chor Boon Goh, 2008-04-18 'Toward a Better Future' provides a comprehensive analysis of education development in Singapore since 1965, giving particular attention to the strategic management that has enabled Singapore to transform its education and training system from one similar to that of many Sub-Saharan African countries four decades ago into one of the world's best-performing systems. It is one of a pair of concurrently-published books presenting materials originally developed for a 2006 study tour to Singapore and Vietnam for senior education officials from Cameroon, Ethiopia, Ghana, Lesotho, Madagascar, and Mozambique. The second book, 'An African Exploration of the East Asian Education Experience', presents five country studies, as well as regional, comparative analyses highlighting insights gained during the study tour and putting them in the context of Sub-Saharan Africa. Together, the two books aim to foster knowledge exchange between Sub-Saharan African and East Asian countries on good practices in the design and implementation of education policies and programs. By facilitating the cross-country fertilization of ideas between two

regions with relatively limited contact in the past, these books fill a clear gap in the current literature on development practice in education.

2015 psle science paper: Shadow Education Mark Bray, Chad Lykins, 2012-05-01 In all parts of Asia, households devote considerable expenditures to private supplementary tutoring. This tutoring may contribute to students' achievement, but it also maintains and exacerbates social inequalities, diverts resources from other uses, and can contribute to inefficiencies in education systems. Such tutoring is widely called shadow education, because it mimics school systems. As the curriculum in the school system changes, so does the shadow. This study documents the scale and nature of shadow education in different parts of the region. Shadow education has been a major phenomenon in East Asia and it has far-reaching economic and social implications.

2015 psle science paper: *PSLE Ultimate Science Guide* Wai Cheng Low, May Kuen Leong, 2017

2015 psle science paper: Deliberation and Development Patrick Heller, Vijayendra Rao, 2015-07-13 Deliberation is the process by which a group of people, each with equal voice, can - via a process of discussion and debate - reach an agreement. Deliberation and Development attempts to do two things. First, it rethinks the role of deliberation in development and shows that it has potential well beyond a narrow focus on participatory projects. Deliberation, if properly instituted, has the potential to have a transformative effect on many if not all aspects of development, and especially in addressing problems of collective action, coordination, and entrenched inequality. This has broad implications both at the global and local level. Second, the book demonstrates that taking deliberation seriously calls for a different approach to both research and policy design and requires a much greater emphasis on the processes by which decisions are made, rather than an exclusive focus on the outcomes. Deliberation and Development contributes to a broader literature to understand the role of communicative processes in development.

2015 psle science paper: World Development Report 2018 World Bank Group, 2017-10-16 Every year, the World Bank's World Development Report (WDR) features a topic of central importance to global development. The 2018 WDR—LEARNING to Realize Education's Promise—is the first ever devoted entirely to education. And the time is right: education has long been critical to human welfare, but it is even more so in a time of rapid economic and social change. The best way to equip children and youth for the future is to make their learning the center of all efforts to promote education. The 2018 WDR explores four main themes: First, education's promise: education is a powerful instrument for eradicating poverty and promoting shared prosperity, but fulfilling its potential requires better policies—both within and outside the education system. Second, the need to shine a light on learning: despite gains in access to education, recent learning assessments reveal that many young people around the world, especially those who are poor or marginalized, are leaving school unequipped with even the foundational skills they need for life. At the same time, internationally comparable learning assessments show that skills in many middle-income countries lag far behind what those countries aspire to. And too often these shortcomings are hidden—so as a first step to tackling this learning crisis, it is essential to shine a light on it by assessing student learning better. Third, how to make schools work for all learners: research on areas such as brain science, pedagogical innovations, and school management has identified interventions that promote learning by ensuring that learners are prepared, teachers are both skilled and motivated, and other inputs support the teacher-learner relationship. Fourth, how to make systems work for learning: achieving learning throughout an education system requires more than just scaling up effective interventions. Countries must also overcome technical and political barriers by deploying salient metrics for mobilizing actors and tracking progress, building coalitions for learning, and taking an adaptive approach to reform.

2015 psle science paper: One Hundred Years of Singapore Walter Makepeace, Gilbert Edward Brooke, Roland St. John Braddell, 1921

2015 psle science paper: *Identities and Subjectivities* Nancy Worth, Claire Dwyer, Tracey Skelton, Geographies of children and young people is a rapidly emerging sub-discipline within

human geography. There is now a critical mass of established academic work, key names within academia, growing numbers of graduate students and expanding numbers of university level taught courses. There are also professional training programmes at national scales and in international contexts that work specifically with children and young people. In addition to a productive journal of *Children's Geographies*, there's a range of monographs, textbooks and edited collections focusing on children and young people published by all the major academic presses and then there is a substantive body of work on younger people within human geography and active authors and researchers working within international contexts to warrant a specific Major Reference Work on children's and young people's geographies. The volumes and sections are structured by themes, which then reflect the broader geographical locations of the research.

2015 psle science paper: *Globalization and the Singapore Curriculum* Zongyi Deng, S Gopinathan, Christine Kim-Eng Lee, 2013-11-27 This volume provides a multi-faceted and critical analysis of the Singapore curriculum in relation to globalization. First, it details reform initiatives established by the Singapore government to meet the challenges posed by globalization. Next, *Globalization and the Singapore Curriculum* presents how these reforms have been translated into programs, school subjects and operational frameworks and then examines, in turn, how well these have been implemented in schools and classrooms across the country. Through this examination, the book reveals how the initiatives, together with their curricular translation and classroom enactment, reflect on the one hand global features and tendencies and, on the other, distinct national traditions, concerns and practices. It brings to light a set of issues, problems and challenges that not only concern policymakers, educators and reformers in Singapore but also those in other countries as well. Written by curriculum scholars, policy analysts, researchers and teacher educators, *Globalization and the Singapore Curriculum* offers an up-to-date reference for postgraduate students, scholars and researchers in the areas of curriculum and instruction, comparative education, educational sociology, educational policy and leadership in Singapore, the Asia Pacific region and beyond. It also offers a vital contribution to the story of modern education around the globe: providing international students, scholars and researchers valuable insights into curriculum and curriculum reform for the 21st century.

2015 psle science paper: *Persistent Phosphors* Jianrong Qiu, Yang Li, Yongchao Jia, 2020-11-24 *Persistent Phosphors: From Fundamentals to Applications* provides an introduction to the key synthesis methods, characterization methods, physical mechanisms, and applications of this important luminescent materials system. The book covers basic persistent phosphorescence, introducing concepts such as emission, luminescence, phosphorescence, persistent phosphorescence and the development of persistent phosphors. Then, synthesis methods are reviewed and the connections between synthesis methods and improved materials properties are discussed. Characterization methods to investigate the trapping and de-trapping mechanism are also presented. Other sections cover the theoretical framework and energy band engineering models and materials with a focus on activators, hosts, emission bands and excitation bands. Finally, the most relevant applications of persistent phosphors are included for use in displays, safety signs, bio-labels and energy. *Persistent Phosphors* is an invaluable reference for materials scientists and engineers in academia and R&D. It is a key resource for chemists and physicists. - Presents characterization techniques to reveal the photophysical and photochemical properties of defects for this important category of luminescent materials - Discusses the structural role of defects in polycrystals and the capture-storing-migration-release progress of excited carriers - Demonstrates the synthesis routes and potential applications for persistent phosphor materials

2015 psle science paper: **"I Had a Dream to Finish School"** Elin Martínez, 2017 The report, 'I Had a Dream to Finish School': Barriers to Secondary Education in Tanzania, examines obstacles, including some rooted in outmoded government policies, that prevent more than 1.5 million adolescents from attending secondary school and cause many students to drop out because of poor quality education. The problems include a lack of secondary schools in rural areas, an exam that limits access to secondary school, and a discriminatory government policy to expel pregnant or

married girls--Publisher's description.

2015 psle science paper: Leadership For Change: The Singapore Schools' Experience

Thiam Seng Koh, David Wei Loong Hung, 2017-12-27 The book shares stories of the role of school leadership in Singapore, with case studies from selected schools, that provides some insights on how Singapore delivers a high-quality education that had led to it achieving high rankings in TIMSS and PISA. This book will provide both the historical and present contexts of changes in the education system, school leadership and teacher leadership in Singapore that made it what it is today. It will distil some universal principles of educational change that school leaders and policy makers can apply in bringing about educational changes that will enhance the learning experiences of students and prepare them for future challenges.

2015 psle science paper: Education Policy in Developing Countries Paul Glewwe,

2013-12-17 Almost any economist will agree that education plays a key role in determining a country's economic growth and standard of living, but what we know about education policy in developing countries is remarkably incomplete and scattered over decades and across publications. Education Policy in Developing Countries rights this wrong, taking stock of twenty years of research to assess what we actually know—and what we still need to learn—about effective education policy in the places that need it the most. Surveying many aspects of education—from administrative structures to the availability of health care to parent and student incentives—the contributors synthesize an impressive diversity of data, paying special attention to the gross imbalances in educational achievement that still exist between developed and developing countries. They draw out clear implications for governmental policy at a variety of levels, conscious of economic realities such as budget constraints, and point to crucial areas where future research is needed. Offering a wealth of insights into one of the best investments a nation can make, Education Policy in Developing Countries is an essential contribution to this most urgent field.

2015 psle science paper: Building the Foundation: Whole Numbers in the Primary

Grades Maria G. Bartolini Bussi, Xu Hua Sun, 2018-03-29 This twenty-third ICMI Study addresses for the first time mathematics teaching and learning in the primary school (and pre-school) setting, while also taking international perspectives, socio-cultural diversity and institutional constraints into account. One of the main challenges of designing the first ICMI primary school study of this kind is the complex nature of mathematics at the early level. Accordingly, a focus area that is central to the discussion was chosen, together with a number of related questions. The broad area of Whole Number Arithmetic (WNA), including operations and relations and arithmetic word problems, forms the core content of all primary mathematics curricula. The study of this core content area is often regarded as foundational for later mathematics learning. However, the principles and main goals of instruction on the foundational concepts and skills in WNA are far from universally agreed upon, and practice varies substantially from country to country. As such, this study presents a meta-level analysis and synthesis of what is currently known about WNA, providing a useful base from which to gauge gaps and shortcomings, as well as an opportunity to learn from the practices of different countries and contexts.

2015 psle science paper: A Hakka Woman's Singapore Stories Wei Ling Lee, 2016

Autobiography of Lee Wei Ling, daughter of Lee Kuan Yew, former prime minister of Singapore, and also a pediatrician.

2015 psle science paper: Mother Tongue as Bridge Language of Instruction Kimmo Kosonen,

Catherine Young, 2009

2015 psle science paper: Knowledge, Control and Critical Thinking in Singapore Leonel

Lim, 2015-09-07 This book examines how critical thinking is regulated in Singapore through the process of what the influential sociologist of education Basil Bernstein termed pedagogic recontextualization. The ability of critical thinking to speak to alternative possibilities and individual autonomy as well as its assumptions of a liberal arrangement of society is problematized in Singapore's socio-political climate. By examining how such curricular discourses are taken up and enacted in the classrooms of two schools that cater to very different groups in society, the book

foregrounds the role of traditional high-status knowledge in the elaboration of class formation and develops a critical understanding of post-developmental state initiatives linked to the parable of modernization in Singapore. Knowledge, Control and Critical Thinking in Singapore offers chapters on: • Critical Thinking and the Singapore State: Meritocracy, Illiberalism and Neoliberalism • Sacred Knowledge and Elite Dispositions: Recontextualizing Critical Thinking in an Elite School • Power, Knowledge and Symbolic Control: Official Pedagogic Identities and the Politics of Recontextualization This book will appeal to scholars in comparative education studies, curriculum studies and education reform. It will also interest scholars engaged in Asian studies who are struggling to understand issues of education policy formation and implementation, particularly in the areas of critical thinking and other knowledge skills.

2015 psle science paper: *Multimodal Literacy* Carey Jewitt, Gunther R. Kress, 2003
Multimodal Literacy challenges dominant ideas around language, learning, and representation. Using a rich variety of examples, it shows the range of representational and communicational modes involved in learning through image, animated movement, writing, speech, gesture, or gaze. The effect of these modes on learning is explored in different sites including formal learning across the curriculum in primary, secondary, and higher education classrooms, as well as learning in the home. The notion of literacy and learning as a primary linguistic accomplishment is questioned in favor of the multimodal character of learning and literacy. By illustrating how a range of modes contributes to the shaping of knowledge and what it means to be a learner, Multimodal Literacy provides a multimodal framework and conceptual tools for a fundamental rethinking of literacy and learning.

2015 psle science paper: *Shaping Singapore's Future* Jason Tan, Pak Tee Ng, 2005-01-01
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Derek Neal writes that economists must analyze public education policy in the same way they analyze other procurement problems. He shows how standard tools from economics research speak directly to issues in education. For mastering the models and tools that economists of education should use in their work, there is no better resource available.--

2015 psle science paper: *Conditions for English Language Teaching and Learning in Asia* Bernard Spolsky, Kiwan Sung, 2015-01-12 In 1989, Bernard Spolsky published *Conditions for Second Language Learning* (Oxford University Press). At the 2012 Annual Conference of Asia TEFL, a number of senior scholars were invited to comment upon the relevance of the book to the teaching of English in their region, and to make suggestions on how it might be updated. This volume contains revised versions of these talks, and thus provides a survey of the conditions for teaching English in Asia. Most contributors found the Conditions model useful, but there has been a major change in emphasis in the past two decades: whereas the 1989 book emphasized linguistic and psycholinguistic conditions, more recent work generally emphasizes the importance of sociolinguistic and language policy conditions for teaching English in Asia today.

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