The Impact of Scientific Evidence on the Criminal Trial

Oriola Sallavaci 2014 "The English criminal trial is of central importance in the structure of the criminal justice system. It is traditionally perceived as a public, oral and continuous event in which the prosecution case is presented and tested by professional lawyers in front of an impartial adjudicator and the verdict of guilty beyond reasonable doubt reached by the jury is based solely on the evidence presented to the court. Today the contested criminal trial faces many challenges which affect its traditional principles and values, features and procedures as well as its very existence. This book considers how the increasing use of and reliance upon scientific evidence in the fact finding process is a significant factor in challenging the traditional principles and procedures of criminal trial. While exploring the use of DNA evidence it identifies challenges which until now have received remarkably little attention. The book draws on interviews with key personnel including forensic scientists, lawyers and police to examine some of the limitations of existing theories of the criminal trial process in the face of the increased use of scientific evidence in the court room. The book contends that tensions arise when scientific evidence is relied upon at trial in part because of its complexity but also because of the scientific illiteracy of many trial actors, unfounded expectations as to what scientific evidence can and cannot do, and inadequate pre-trial communication between lawyers and experts. The book concludes by advocating measures to help question undue deference to scientific reasoning currently frequently mirrored in trial narratives which can mislead the jury"--

The Impact of Scientific Evidence on the Criminal Trial

Oriola Sallavaci 2014-02-05 This book explores challenges posed by the use of DNA evidence to the traditional features, procedures and principles of the criminal trial. It examines the limitations of existing theories of criminal trial processes in the face of increasing use of scientific evidence in the court room. The research elucidates the interconnections at trial of three epistemologies, namely legal reasoning, as represented by counsel and trial judge, common sense manifested by the jury and scientific reasoning expounded by the expert witness. Sallavaci argues that while scientific reasoning is part of this hybrid of trial languages and practices, its extended use is producing specifically novel tensions which impact on the traditional criminal trial landscape. Through the lens of DNA evidence, the book investigates how far the use of scientific evidence in the fact finding process poses challenges for the adversarial character of the proceedings and rules
of evidence; how it affects the role of the judge, jury and expert witness, as well as the principle of orality and continuity of the trial. In comparing the challenges faced in English common law trials to those of the USA, this book has international scope, and will be of great use and interest to students and researchers of Criminal Law and Practice, Policing, and the role of Forensics in Law.

Taking Science to School-National Research Council 2007-04-16 What is science for a child? How do children learn about science and how to do science? Drawing on a vast array of work from neuroscience to classroom observation, Taking Science to School provides a comprehensive picture of what we know about teaching and learning science from kindergarten through eighth grade. By looking at a broad range of questions, this book provides a basic foundation for guiding science teaching and supporting students in their learning. Taking Science to School answers such questions as: When do children begin to learn about science? Are there critical stages in a child's development of such scientific concepts as mass or animate objects? What role does nonschool learning play in children's knowledge of science? How can science education capitalize on children's natural curiosity? What are the best tasks for books, lectures, and hands-on learning? How can teachers be taught to teach science? The book also provides a detailed examination of how we know what we know about children's learning of science--about the role of research and evidence. This book will be an essential resource for everyone involved in K-8 science education--teachers, principals, boards of education, teacher education providers and accreditors, education researchers, federal education agencies, and state and federal policy makers. It will also be a useful guide for parents and others interested in how children learn.

Science in the Courts-Carol 1956

The Science of Science-Dashun Wang 2021-02-28 This is the first comprehensive overview of the exciting field of the 'science of science'. With anecdotes and detailed, easy-to-follow explanations of the research, this book is accessible to all scientists, policy makers, and administrators with an interest in the wider scientific enterprise.

Communicating Science Effectively-National Academies of Sciences, Engineering, and Medicine 2017-03-08 Science and technology are embedded in virtually every aspect of modern life. As a result, people face an increasing need to integrate information from science with their personal values and other considerations as they make important life decisions about medical care, the safety of foods, what to do about climate change, and many other issues. Communicating science effectively, however, is a complex task and an acquired skill. Moreover, the approaches to communicating science that will be most effective for specific audiences and circumstances are not obvious. Fortunately, there is an expanding science base from diverse disciplines that can support science communicators in making these determinations. Communicating Science Effectively offers a research agenda for science communicators and researchers seeking to apply this research and fill gaps in knowledge about how to communicate effectively about science, focusing in particular on issues that are contentious in the public sphere. To inform this research agenda, this publication identifies important influences—psychological, economic, political, social, cultural, and media-related—on how science related to such issues is understood, perceived, and used.

The impact of spending cuts on science and scientific research-Great Britain: Parliament: House of Commons: Science and Technology Committee 2010-03-25 The pressure to be seen to be making cuts across the public sector is threatening to undermine both the Government's good record on investment in science and the economic recovery. Whilst the contribution of a strong domestic science base is widely acknowledged, methodological problems with quantifying its precise value to the economy mean that it is in danger of losing out in Whitehall negotiations. Scientists are under increasing pressure to demonstrate the impact of their work and there is concern that areas without immediate technology applications are being undervalued. The Committee believes the Government faced a strategic choice: invest in areas with the greatest potential to influence and improve other areas of spending, or make cuts of little significance now, but
that will have a devastating effect upon British science and the economy in the years to come.

**Forensic Evidence and the Police** - Joseph L. Peterson 1984

**Science in the Courts** - A Survey of Scientific Evidence and Its Impact upon the Judicial Process - Raymond Louis Carol 1956

**The Impact of Spending Cuts on Science and Scientific Research** - Great Britain. Parliament House of Commons. Select Committee on Science and Technology 2010


**The Information Revolution: Impact on Science and Technology** - Jacques-Emile Dubois 2013-03-12 J.-E. Dubois and N. Gershon This book was inspired by the Symposium on "Communications and Computer Aided Systems" held at the 14th International CODATA Conference in September 1994 in Chambéry, France. It was conceived and influenced by the discussions at the symposium and most of the contributions were written following the Conference. This is the first comprehensive book, published in one volume, of issues concerning the challenges and the vital impact of the information revolution (including the Internet and the World Wide Web) on science and technology. Topics concerning the impact of the information revolution on science and technology include: • Dramatic improvement in sharing of data and information among scientists and engineers around the world • Collaborations (on-line and off-line) of scientists and engineers separated by distance • Availability of visual tools and methods to view, understand, search, and share information contained in data • Improvements in data and information browsing, search and access and • New ways of publishing scientific and technological data and information. These changes have dramatically modified the way research and development in science and technology are being carried out. However, to facilitate this information flow nationally and internationally, the science and technology communities need to develop and put in place new standards and policies and resolve some legal issues.

**Science in the Courts** - Raymond Louis Carol 1956

**Understanding Marijuana** - Mitch Earleywine 2002-08-15 Marijuana is the world's most popular illicit drug, with hundreds of millions of regular users worldwide. One in three Americans has smoked pot at least once. The Drug Enforcement Agency estimates that Americans smoke five million pounds of marijuana each year. And yet marijuana remains largely misunderstood by both its advocates and its detractors. To some, marijuana is an insidious "stepping-stone" drug, enticing the inexperienced and paving the way to the inevitable abuse of harder drugs. To others, medical marijuana is an organic means of easing the discomfort or stimulating the appetite of the gravely ill. Others still view marijuana, like alcohol, as a largely harmless indulgence, dangerous only when used immoderately. All sides of the debate have appropriated the scientific evidence on marijuana to satisfy their claims. What then are we to make of these conflicting portrayals of a drug with historical origins dating back to 8,000 B.C.? Understanding Marijuana examines the biological, psychological, and societal impact of this controversial substance. What are the effects, for mind and body, of long-term use? Are smokers of marijuana more likely than non-users to abuse cocaine and heroine? What effect has the increasing potency of marijuana in recent years had on users and on use? Does our current legal policy toward marijuana make sense? Earleywine separates science from opinion to show how marijuana defies easy dichotomies. Tracing the medical and political debates surrounding marijuana in a balanced, objective fashion, this book will be the definitive primer on our most controversial and widely used illicit substance.
**Fair Weather** - National Research Council 2003-06-14
Decades of evolving U.S. policy have led to three sectors providing weather services — NOAA (primarily the National Weather Service [NWS]), academic institutions, and private companies. This three-sector system has produced a scope and diversity of weather services in the United States second to none. However, rapid scientific and technological change is changing the capabilities of the sectors and creating occasional friction. Fair Weather: Effective Partnerships in Weather and Climate Services examines the roles of the three sectors in providing weather and climate services, the barriers to interaction among the sectors, and the impact of scientific and technological advances on the weather enterprise. Readers from all three sectors will be interested in the analysis and recommendations provided in Fair Weather.

**Reproducibility and Replicability in Science** - National Academies of Sciences, Engineering, and Medicine 2019-10-20
One of the pathways by which the scientific community confirms the validity of a new scientific discovery is by repeating the research that produced it. When a scientific effort fails to independently confirm the computations or results of a previous study, some fear that it may be a symptom of a lack of rigor in science, while others argue that such an observed inconsistency can be an important precursor to new discovery. Concerns about reproducibility and replicability have been expressed in both scientific and popular media. As these concerns came to light, Congress requested that the National Academies of Sciences, Engineering, and Medicine conduct a study to assess the extent of issues related to reproducibility and replicability and to offer recommendations for improving rigor and transparency in scientific research. Reproducibility and Replicability in Science defines reproducibility and replicability and examines the factors that may lead to non-reproducibility and non-replicability in research. Unlike the typical expectation of reproducibility between two computations, expectations about replicability are more nuanced, and in some cases a lack of replicability can aid the process of scientific discovery. This report provides recommendations to researchers, academic institutions, journals, and funders on steps they can take to improve reproducibility and replicability in science.

**The Health Effects of Cannabis and Cannabinoids** - National Academies of Sciences, Engineering, and Medicine 2017-03-31
Significant changes have taken place in the policy landscape surrounding cannabis legalization, production, and use. During the past 20 years, 25 states and the District of Columbia have legalized cannabis and/or cannabidiol (a component of cannabis) for medical conditions or retail sales at the state level and 4 states have legalized both the medical and recreational use of cannabis. These landmark changes in policy have impacted cannabis use patterns and perceived levels of risk. However, despite this changing landscape, evidence regarding the short- and long-term health effects of cannabis use remains elusive. While a myriad of studies have examined cannabis use in all its various forms, often these research conclusions are not appropriately synthesized, translated for, or communicated to policy makers, health care providers, state health officials, or other stakeholders who have been charged with influencing and enacting policies, procedures, and laws related to cannabis use. Unlike other controlled substances such as alcohol or tobacco, no accepted standards for safe use or appropriate dose are available to help guide individuals as they make choices regarding the issues of if, when, where, and how to use cannabis safely and, in regard to therapeutic uses, effectively. Shifting public sentiment, conflicting and impeded scientific research, and legislative battles have fueled the debate about what, if any, harms or benefits can be attributed to the use of cannabis or its derivatives, and this lack of aggregated knowledge has broad public health implications. The Health Effects of Cannabis and Cannabinoids provides a comprehensive review of scientific evidence related to the health effects and potential therapeutic benefits of cannabis. This report provides a research agenda "outlining gaps in current knowledge and opportunities for providing additional insight into these issues" that summarizes and prioritizes pressing research needs.

**Beyond the HIPAA Privacy Rule** - Institute of Medicine 2009-03-24
In the realm of health care, privacy protections are needed to preserve patients' dignity and prevent possible harms. Ten years ago, to address these concerns as well as set guidelines for ethical health research, Congress called for a set of federal standards now known as the HIPAA Privacy Rule. In its 2009 report, Beyond the HIPAA Privacy Rule: Enhancing Privacy, Improving Health Through Research, the Institute of Medicine's Committee...
on Health Research and the Privacy of Health Information concludes that the HIPAA Privacy Rule does not protect privacy as well as it should, and that it impedes important health research.

**Scientific Scholarly Communication** - Pali U. K. De Silva 2017-01-18 This book critically examines the historical developments and current trends in the scientific scholarly communication system, issues and challenges in scientific scholarly publishing and scientific data sharing, implications and debates associated with the influence of intellectual property rights on scientific information sharing, and new trends related to peer reviewing and measuring the impact of scientific publications. Based on thorough examination of published literature, the book illustrates the involvement of many stakeholders—scientists, science educators, university administrators, government entities, research funders, and other interested parties—in this complex and dynamic system. The discussion highlights the roles these stakeholders have to play, individually and collaboratively, to help transform the future of the scientific scholarly communication system.

**Scientific Research Effectiveness** - J. Hurley 2012-12-06 This book deals with the role of the organization in scientific research. It examines organizational influences such as leadership, group dynamics, resources and technology, and their importance in relation to scientific performance. It also deals with issues of scientific research policy, the measurement of scientific productivity, and the wider social and personal influences affecting scientific performance.

**Compassionomics** - Anthony Mazzarelli 2019


**The Impact of Federal Research and Development Policies Upon Scientific and Technical Manpower** - National Research Council 2002-03-28 Researchers, historians, and philosophers of science have debated the nature of scientific research in education for more than 100 years. Recent enthusiasm for "evidence-based" policy and practice in education have codified in the federal law that authorizes the bulk of elementary and secondary education programs have brought a new sense of urgency to understanding the ways in which the basic tenets of science manifest in the study of teaching, learning, and schooling. Scientific Research in Education describes the similarities and differences between scientific inquiry in education and scientific inquiry in other fields and disciplines and provides a number of examples to illustrate these ideas. Its main argument is that all scientific endeavors share a common set of principles, and that each field including education research develops a specialization that accounts for the particulars of what is being studied. The book also provides suggestions for how the federal government can best support high-quality scientific research in education.

**Open Science by Design** - National Academies of Sciences, Engineering, and Medicine 2018-09-09 Openness and sharing of information are fundamental to the progress of science and to the effective functioning of the research enterprise. The advent of scientific journals in the 17th century helped power the Scientific Revolution by allowing researchers to communicate across time and space, using the technologies of that era to generate reliable knowledge more quickly and efficiently. Harnessing today’s stunning, ongoing advances in information technologies, the global research enterprise and its stakeholders are moving toward a new open science ecosystem. Open science aims to ensure the free availability and usability of scholarly publications, the data that result from scholarly research, and the methodologies, including code or algorithms, that were used to generate those data. Open Science by Design is aimed at...
overcoming barriers and moving toward open science as the default approach across the research enterprise. This report explores specific examples of open science and discusses a range of challenges, focusing on stakeholder perspectives. It is meant to provide guidance to the research enterprise and its stakeholders as they build strategies for achieving open science and take the next steps.

**Integrity in Scientific Research** - National Research Council 2002-11-02

"Many people say that it is the intellect which makes a great scientist. They are wrong: it is character." – Albert Einstein


In May 2012, the National Park Service (NPS) asked the National Research Council to conduct a scientific review of a Draft Environmental Impact Statement (DEIS) to evaluate the effects of issuing a Special Use Permit for the commercial shellfish operation in Drakes Estero for a ten year time span. Drakes Bay Oyster Company (DBOC) currently operates the shellfish farm in Drakes Estero, part of Point Reyes National Seashore, under a reservation of use and occupancy that will expire on November 30, 2012 if a new Special Use Permit is not issued. Congress granted the Secretary of the Interior the discretionary authority to issue a new ten year Special Use Permit in 2009; hence, the Secretary now has the option to proceed with or delay the conversion of Drakes Estero to wilderness. To inform this decision, the NPS drafted an Environmental Impact Statement (EIS) for the DBOC Special Use Permit. Under the National Environmental policy Act (NEPA), as EIS is prepared to inform the public and agency decision-makers regarding the potential environmental impacts of a proposed federal action and reasonable alternatives. The Department of the Interior commissioned a peer review of the DEIS that was released in March 2012. Scientific Review of the Draft Environmental Impact Statement: Drakes Bay Oyster Company Special Use Permit reviews the scientific information presented in the DEIS that is used to determine the potential environmental impacts of a ten year extension of DBOC operations. In particular, this report responds to the following tasks given to the committee: assess the scientific information, analysis, and conclusions presented in the DEIS for Drakes Bay Oyster Company Special Use Permit, and evaluate whether the peer review of the DEIS is fundamentally sound and materially sufficient. Scientific Review of the Draft Environmental Impact Statement: Drakes Bay Oyster Company Special Use Permit focuses on eight of twelve resource categories considered in the DEIS: wetlands, eelgrass, wildlife and wildlife habitat, special-status species, coastal flood zones, soundscapes, water quality, and socioeconomic resources.

**Fostering Integrity in Research** - National Academies of Sciences, Engineering, and Medicine 2018-01-13

The integrity of knowledge that emerges from research is based on individual and collective adherence to core values of objectivity, honesty, openness, fairness, accountability, and stewardship. Integrity in science means that the organizations in which research is conducted encourage those involved to exemplify these values in every step of the research process. Understanding the dynamics that support or distort practices that uphold the integrity of research by all participants ensures that the research enterprise advances knowledge. The 1992 report Responsible Science: Ensuring the Integrity of the Research Process evaluated issues related to scientific responsibility and the conduct of research. It provided a valuable service in describing and analyzing a very complicated set of issues, and has served as a crucial basis for thinking about research integrity for more than two decades. However, as experience has accumulated with various forms of research misconduct, detrimental research practices, and other forms of misconduct, as
subsequent empirical research has revealed more about the nature of scientific misconduct, and because technological and social changes have altered the environment in which science is conducted, it is clear that the framework established more than two decades ago needs to be updated. Responsible Science served as a valuable benchmark to set the context for this most recent analysis and to help guide the committee’s thought process. Fostering Integrity in Research identifies best practices in research and recommends practical options for discouraging and addressing research misconduct and detrimental research practices.

The Impact of Academic Research on Industrial Performance
National Academy of Engineering 2003-10-06 Drawing on the findings of sector-specific workshops, e-mail surveys, research literature, expert testimony, and committee and panel members’ expertise, this National Academy of Engineering study assesses the qualitative impact of academic research on five industries’ network systems and communications; medical devices and equipment; aerospace; transportation, distribution, and logistics services; and financial services. The book documents the range and significance of academic research contributions to the five industries’ comparing the importance of different types of contributions, the multi- and interdisciplinary nature of these contributions, and the multiple vectors by which academic research is linked to each industry. The book calls for action to address six cross-cutting challenges to university-industry interactions: the growing disciplinary and time-horizon-related imbalances in federal R&D funding, barriers to university-industry interaction in service industries, the critical role of academic research in the advancement of information technology, the role of academic research in the regulation of industry, the impact of technology transfer activities on core university research and education missions, and the search for new pathways and mechanisms to enhance the contributions of academic research to industry. The book also includes findings and recommendations specific to each industry.

Evidence-Based Crime Prevention—David P. Farrington 2003-09-02 Crime prevention policy and practice is, on the whole, far from objective. Instead of being based on scientific evidence, the crime policy agenda is seemingly driven by political ideology, anecdotal evidence and programme trends. Evidence-Based Crime Prevention seeks to change this by comprehensively and rigorously assessing the existing scientific knowledge on the effectiveness of crime prevention programmes internationally. Reviewing more than 600 scientific evaluations of programmes intended to prevent crime in settings such as families, schools, labour markets and communities, this book grades programmes on their scientific validity using the ‘scientific methods scale’. This collection, which brings together contributions from leading researchers in the field of crime prevention, will provide policymakers, researchers and community leaders with an understandable source of information about what works, what does not work and what is promising in preventing crime.

Rethinking Science, Technology, and Social Change—Ralph Schroeder 2007 Rethinking Science, Technology, and Social Change challenges the prevailing notion that science and technology are constructed or socially shaped. The text puts forth a case for technological determinism, based on a realistic and pragmatic account of science and technology, informed by historical comparisons. Schroeder begins by exploring the social organization of scientific and technological advances; the intersecting trajectories of big science and technological systems; and the impact of science and technology on economic change. He goes on to discuss the social implications of technology, including the way that it affects politics and consumption. The book then rethinks traditional theories about the relationship between science, technology, and social change. The argument presented shifts the debate on topics such as the relationship between growth and sustainability, and thus has important policy implications. This book will be of great interest to scholars, scientists, and anyone interested in understanding how science and technology are transforming our world.

Impact of Science on Society—1964

Impact of Federal Research and Development Policies on Scientific and Technical Manpower—United States. Congress. Senate. Committee on
Labor and Public Welfare. Subcommittee on Employment, Manpower, and Poverty 1965 Considers the effects of the geographical distribution of federally funded RPD programs on the employment and manpower situations of local and national economies. Includes discussion of the so called "brain drain," through which scientists from midwestern areas relocate on the coasts where lucrative Federal contracts have increased salaries.

Eager to Learn-National Research Council 2001-01-22 Clearly babies come into the world remarkably receptive to its wonders. Their alertness to sights, sounds, and even abstract concepts makes them inquisitive explorers--and learners--every waking minute. Well before formal schooling begins, children's early experiences lay the foundations for their later social behavior, emotional regulation, and literacy. Yet, for a variety of reasons, far too little attention is given to the quality of these crucial years. Outmoded theories, outdated facts, and undersized budgets all play a part in the uneven quality of early childhood programs throughout our country. What will it take to provide better early education and care for our children between the ages of two and five? Eager to Learn explores this crucial question, synthesizing the newest research findings on how young children learn and the impact of early learning. Key discoveries in how young children learn are reviewed in language accessible to parents as well as educators: findings about the interplay of biology and environment, variations in learning among individuals and children from different social and economic groups, and the importance of health, safety, nutrition and interpersonal warmth to early learning. Perhaps most significant, the book documents how very early in life learning really begins. Valuable conclusions and recommendations are presented in the areas of the teacher-child relationship, the organization and content of curriculum, meeting the needs of those children most at risk of school failure, teacher preparation, assessment of teaching and learning, and more. The book discusses: Evidence for competing theories, models, and approaches in the field and a hard look at some day-to-day practices and activities generally used in preschool. The role of the teacher, the importance of peer interactions, and other relationships in the child's life. Learning needs of minority children, children with disabilities, and other special groups. Approaches to assessing young children's learning for the purposes of policy decisions, diagnosis of educational difficulties, and instructional planning. Preparation and continuing development of teachers. Eager to Learn presents a comprehensive, coherent picture of early childhood learning, along with a clear path toward improving this important stage of life for all children.


Varieties of Anomalous Experience-Etzel Cardena 2013-08-01 For much of the 20th century, unusual perceptions and sensations, radical alternations of consciousness, and other extraordinary subjective experiences were ignored as legitimate topics of study in mainstream psychology. Recent years, however, have witnessed a burgeoning interest in the scientific study of anomalous experiences. In this updated edition, the editors have invited experts to provide definitive reviews and analyses of a wide range of anomalous experiences, from commonly documented sensations and perceptions like synesthesia, lucid dreaming, out-of-body experiences, and auditory and visual hallucinations, to rarer and more seemingly inexplicable experiences, such as anomalous healing, past lives, near-death experiences, mystical experiences, and even alien abductions. The book makes a compelling case for the inclusion of these marginalized and underrecognized experiences as not merely incidental but essential to our understanding of human psychology. Book jacket.

Responsible Science-Committee on Science, Engineering, and Public Policy (U. S.) Panel on Policy Implications of Greenhouse Warming 1992 Responsible Science is a comprehensive review of factors that influence the integrity of the research process. Volume I examines reports on the incidence of misconduct in science and reviews institutional and
governmental efforts to handle cases of misconduct. The result of a two-year study by a panel of experts convened by the National Academy of Sciences, this book critically analyzes the impact of today's research environment on the traditional checks and balances that foster integrity in science. Responsible Science is a provocative examination of the role of educational efforts; research guidelines; and the contributions of individual scientists, mentors, and institutional officials in encouraging responsible research practices.

**Theory and Evidence**—Barbara Koslowski 1996

In Theory and Evidence, Barbara Koslowski brings into sharp focus the ways in which the standard literature both distorts and underestimates the reasoning abilities of ordinary people. She provides the basis for a new research program on a more complete characterization of scientific reasoning, problem solving, and causality. Long acknowledged for her empirical work in the field of cognitive development, Koslowski boldly criticizes many of the currently classic studies and mutes a compelling set of arguments, backed by an exhaustive set of experiments carried out during the last decade. Theory and Evidence describes research that looks at the beliefs that people hold about the type of evidence that counts in scientific reasoning and also examines how those beliefs change with age. The primary focus is on the strategies that underlie actual scientific practice: two general sorts of research are reported, one on hypothesis testing and the other on how people deal with evidence that disconfirms a given explanation—the process of hypothesis revision. Koslowski argues that when scientific reasoning is operationally defined so that correct performance consists of focusing on covariation and ignoring considerations of theory or mechanisms, then subjects are often treated as engaging in flawed reasoning when in fact their reasoning is scientifically legitimate. Neither relying on covariation alone nor relying on theory alone constitutes a formula for success. A Bradford Book. Learning, Development, and Conceptual Change series

**Science, Evidence, and Inference in Education**—National Research Council 2001-06-23

Research on education has come into the political spotlight as the demand grows for reliable and credible information for the guidance of policy and practice in the education reform environment. Many debates among the education research community feature questions concerning the nature of evidence and these questions have also appeared in broader policy and practice arenas. Inquiry has generally, over the past years, created bodies of scientific knowledge that have profound implications for education. Dramatic advances in understanding how people learn, how young children acquire early reading skills, and how to design and evaluate educational and psychological measurements is a good example of this. However, the highly contextualized nature of education and the wide range of disciplinary perspectives that rely on it have made the identification of reducible, generalizable principles difficult and slow to achieve. Due to this, the U.S. Department of Education's National Educational Research Policy and Priorities Board (NERPPB) has asked the NRC to establish a study committee to consider the scientific underpinnings of research in education. The committee consists of members with expertise in statistics, psychology, sociology, anthropology, philosophy of science, history of education, economics, chemistry, biology, and education practice. The committee worked with the three questions in mind: What are the principles of scientific quality in education research?, How can research-based knowledge in education cumulative?, and How can a federal research agency promote and protect scientific quality in the education research it supports?. A workshop was held on March 7-8, 2001 that was organized into three main sessions: Supporting Scientific Quality at the Federal level, The Interface of Research and Practice in Education, and Evidence and Inference. Science, Evidence, and Inference in Education: Report of a Workshop summarizes this workshop through these three ideas. The report also includes what the committee plans to do next, the workshop agenda, and information on the workshop's participants and speakers.