
For Your Information

International Study of Mathematics and Science Achievement

The first installment of results from the Third International Mathematics and Science Study (TIMSS) was released on November 20. This first batch of data pertains to achievement of eighth-graders; later releases will focus on fourth- and twelfth-graders. The study found that U.S. eighth-graders performed below the international average in mathematics but slightly above average in science. The U.S. was among thirty-three countries in which there was no statistically significant difference between the performance of eighth-grade boys and girls in mathematics. The study also found that one of the most important factors in high achievement was students' home environment. This result was found consistently in the forty-one countries participating in the study.

The report may be found on the Web site <http://www.ed.gov/NCES/timss/>.

—Allyn Jackson

NAS and NSF Launch Studies of Mathematics

This fall the National Academy of Sciences (NAS) began planning an assessment of mathematical sciences research intended to lay the groundwork for decisions about how to

structure federal support. The study is part of a larger effort at the Academy to gauge where the U.S. stands internationally in scientific research. The motivation comes from a 1993 report by the Committee on Science, Engineering, and Public Policy (COSEPUP), which set forth strategies for making decisions about how best to use federal research funds. COSEPUP is a committee of the NAS, the National Academy of Engineering, and the Institute of Medicine. The COSEPUP report recommended that the U.S. aim to be the world leader in certain critical fields and to be among the leaders in other areas. The report urged field-by-field assessments by independent panels of researchers in the field, researchers in closely related fields, and users of the research. The mathematical sciences study is the first such assessment. If this project is successful, the Academy will follow suit with other areas. The ultimate goal is to provide a basis for federal decisions about support of scientific research.

A separate but similar study will also be carried out by the National Science Foundation (NSF). The NSF study differs from the NAS study in that it is for internal management use within the NSF's Division of Mathematical Sciences (DMS). The study is motivated by the Government Performance and Results Act (GPRA), which requires agencies to link their budgets to their strategic plans, spelling out specific goals and ways to measure progress toward achieving them. One of the goals in the NSF Strategic Plan is to enable U.S. science to hold a world leadership position in most if not all areas of science. The NSF study will be a pilot project to allow the Foundation to explore how to do this kind of "benchmarking" study and whether it would be an effective tool for GPRA purposes. The NSF will be conducting other pilots in other divisions that might also be

used for the GPRA. When it submits its fiscal year 1999 budget in the fall of 1997, the NSF must include plans to meet the GPRA requirements.

The NAS committee members are listed at the end of this article. The names of the members of the DMS committee had not been announced at the time of this writing. The DMS committee is expected to include the presidents of the major organizations in the mathematical sciences. The committee will also draw upon consultants as they see fit. In order to avoid any appearance of conflict of interest, the bulk of the DMS committee members will be individuals who are not current DMS grantees. The DMS study should take about a year. For the NAS study, the plan is to make the report public only after parallel studies have been completed for other disciplines.

The mathematical sciences community is welcome to contribute comments and suggestions to either committee. For the NAS committee, contact Deborah Stine, Study Director, dstine@nas.edu; the mailing address is National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, DC 20418. For the NSF committee, contact D. J. Lewis, DMS Director, dlewis@nsf.gov; the mailing address is Division of Mathematical Sciences, National Science Foundation, 4201 Wilson Boulevard, Arlington, VA 22230.

National Academy of Sciences International Benchmarking of U.S. Research Fields—An Experimental Project

Mathematics Panel

Peter D. Lax, Director, Courant Mathematics and Computing Laboratory, New York University;

Spencer J. Bloch, Professor, Department of Mathematics, University of Chicago;

Joseph B. Keller, Professor, Department of Mathematics, Stanford University;

Jacques-Louis Lions, Professor, Collège de France;

Yuri I. Manin, Director, Max-Planck Institute für Mathematik;

Rudolph A. Marcus, A. A. Noyes Professor of Chemistry, California Institute of Technology;

Gary C. McDonald, Head, Consumer Operations Research Department, GM NAO Research and Development Center;

Cathleen S. Morawetz, Professor Emeritus, Courant Institute of Mathematical Sciences, New York University;

Peter Sarnak, Chair, Department of Mathematics, Princeton University;

I. M. Singer, Institute Professor, Department of Mathematics, Massachusetts Institute of Technology;

Margaret H. Wright, Distinguished Member, Technical Staff, Bell Laboratories/Lucent Technologies.

—Allyn Jackson