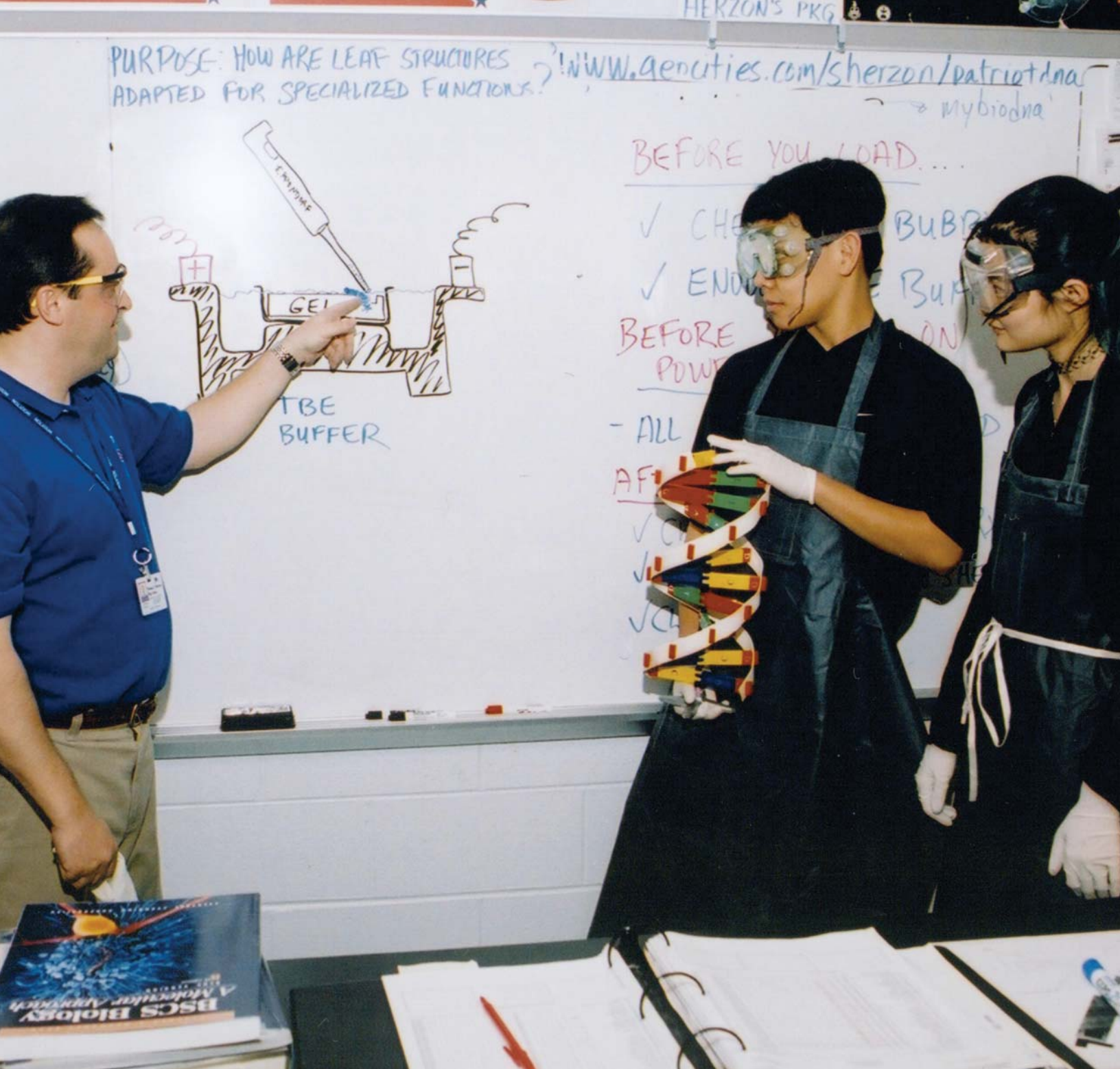# Performance Details

Goal 4: Transform Education into an Evidence-Based Field

The most effective resource we have for improving American schools is scientifically valid knowledge about which strategies work and which don't work.

—*Secretary Rod Paige*

Goal 4:

Transform Education Into An Evidence-Based Field

To improve education for all children, educators need to have an understanding of which practices and policies are effective for improving student achievement and which are not. Providing solutions to the education problems in our nation can only be achieved with trustworthy information on the effectiveness of teaching and learning methods. In response to this need, the Department of Education has committed to improving the quality and relevance of the research we fund and conduct.

The No Child Left Behind Act grounds education improvement in the application of scientifically based research, defined as "rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs."[1] Implicit in the legislation is the assumption that obtaining positive education impacts requires research, and the type of research methods matters. The history of other fields that have become grounded in science shows a progression from decision-making based on precedent to decision-making based on evidence derived from systematic protocols for collecting and analyzing data. Further, in other fields, rapid technological and functional advances have followed the shift to evidence-based decision-making. The Department has made it a strategic priority to bring about just such a change in education.

The Department of Education conducts research across a wide variety of education research topics and funds specialized projects in special education, rehabilitation, and disability research. The Institute of Education Sciences, the Department's primary research arm, reflects our commitment to advance the field of education research, supporting evidence-based education through high standards for research methods and the development and dissemination of research designed to ultimately inform and improve teacher instruction and student achievement. In the

Department's Office of Special Education and Rehabilitative Services, there are two research divisions: the Office of Special Education Program's Research to Practice Division focuses on research, demonstrations, and technical assistance and dissemination for students with disabilities; the National Institute on Disability and Rehabilitation Research maintains a comprehensive program of research and development related to the rehabilitation of individuals with disabilities. Together these three entities advance research in the field to improve teaching and learning in schools and to increase access for individuals with disabilities.

Department Expenditures

APPROXIMATE FY 2004 EXPENDITURES THAT SUPPORTED GOAL 4

Goal 4
0.7%

Other Goals
99.3%
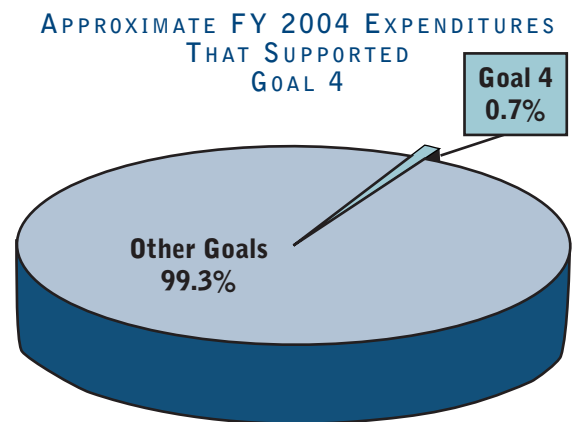
High Research Standards Result in Rigorous Studies

As we hold students, teachers, and schools accountable for their performance, we are also committed to providing them with reliable evidence about educational effectiveness. Education fads will come and go, but the Department of Education encourages practitioners and decision-makers to make decisions based on the best available evidence. The first step in this process has been the impressive gains in the past year that the Department has made to fund studies

[1] Public Law 107-110, No Child Left Behind Act of 2001, section 9101.

based upon rigorous and scientifically based research standards.

Improving the quality of research begins with establishing more rigorous standards for the quality of the projects supported by the Department. The Department communicates these standards to researchers by releasing funding announcements with detailed methodological requirements. To ensure that these standards are met, the Department convenes scientific peer review panels of experienced researchers to evaluate the technical merit of research proposals and funds only applications that meet the high standards for research quality.

Performance Goals. To determine whether newly funded education research and evaluation efforts are of high quality, each year an external panel of distinguished scientists appraises a randomly selected sample of newly funded grant proposals. Based on preliminary fiscal year (FY) 2004 data, the portion of education research deemed to be of high quality increased by 20 percentage points since 2001, even though we did not meet our target for FY 2004. Final FY 2004 data will be available in December 2004.

The Department also assesses the quality of our supported research by annually tracking the proportion of funded proposals that employ experimental methods to answer causal questions. As the "gold standard" for research on the effectiveness of programs, randomized control trials provide the most rigorous tests of what works in education. In FY 2004, a large percentage of Department research projects met high methodological standards: more than 90 percent of the education research projects evaluated to date that address causal questions did so using randomized experimental designs. FY 2004 data from special education projects will be available in December 2004.

The Department's progress on our performance goals for this objective is summarized in the table below. See p. 29 for methodology and appendix A, pp. 212–13, for detailed data.

Quality of Research (Objective 4.1)		
Performance Goals	Status	Year
New IES and OSEP research and evaluation efforts that are deemed to be of high quality • Projects • Publications	Did not meet	FY 2004
New IES and OSEP efforts addressing causal questions that employ randomized experimental designs • Projects • Publications	Exceeded	FY 2004

IES = Institute of Education Sciences
OSEP = Office of Special Education Programs
Note. There were no publications to report so the status reflects only an assessment of projects.

In the long term, improving the quality of education research requires a new generation of researchers who are trained to conduct rigorous studies and evaluation. Currently the capacity of the education research community to conduct rigorous research is limited. To create a scientific workforce capable of high-quality education research, the Department has established predoctoral and postdoctoral training programs to develop a cadre of young investigators with the skills to conduct the type of research needed to provide solutions to the challenges in education facing our country.

Relevant Research Findings Inform Education Practice and Policy

According to Grover J. Whitehurst, Director of the Institute of Education Sciences, "The current nationwide emphasis on ensuring that all students and schools achieve at high levels has increased the demand for sound evidence regarding 'what works' in education."[2] The Department's commitment to the production and dissemination of relevant research findings provides the basis for improving education practices for all students and improving access and rehabilitation techniques for those with disabilities.

To increase the relevance of our education research and

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[2] Department of Education, July 2004 ED Results Agenda.

evaluation activities, the Department emphasizes research designed to evaluate the effectiveness of education programs and practices in the field. To this end, the Department has established focused research programs in reading, mathematics, and science education; teacher quality; education finance, leadership, and management; and special education. Education practitioners and decision-makers have indicated a need for research to answer critical questions in these specific areas, and the Department continues the development and evaluation of research to improve and inform theory and practice.

Review and Dissemination Activities. Many evaluations purport to show the effectiveness of an education intervention, but their design and methods do not provide the basis for assessing impact. By reviewing studies and evaluations for their scientific rigor, the Department's What Works Clearinghouse[3] analyzes the quality of education studies and evaluations to determine whether they provide reliable evidence on the impact of an intervention on student learning. To carry out its work, the clearinghouse developed rigorous standards for reviewing

intervention studies, which are now widely regarded as scientifically valid for assessing research on the impact of interventions in education and other fields.

The clearinghouse prepares individual study reports for all studies meeting its standards. These reports provide education decision-makers with information on the quality of research on the impact of an intervention; the type of intervention evaluated; characteristics of the students, teachers, and schools involved in the evaluation; the outcome measures that were assessed; and the results of the evaluation (i.e., was the intervention effective or not). In June, the clearinghouse released initial study reports in two topic areas—peer-assisted learning and middle school mathematics curricula. Work is underway to evaluate the research in the following areas: beginning reading; elementary school math curricula; character education; English language learning; adult literacy; dropout prevention; and prevention of delinquent, disorderly, and violent behavior.

Another improvement in making quality education research available to the public came in FY 2004 when

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[3] Available at http://www.whatworks.ed.gov.

the Department awarded a major contract to develop and operate the new database system for the Education Resources Information Center (ERIC).[4]   ERIC will be linked to the resources of the What Works Clearinghouse and other sources of up-to-date information and research about education. The new ERIC uses the latest technology to provide access to its documents and journal articles. Users will find fast and effective search results in this well-established directory of education research.

Improvements in Statistical Reports. The Department's National Center for Education Statistics is responsible for informing the nation on the condition of education in our country. *The Condition of Education 2004*[5] was submitted to the Congress and the public on June 1, 2004, to enhance understanding of the current status of education in the United States. The Department also produced other key reports, including *Projections of Education Statistics to 2013* and *Indicators of School Crime and Safety: 2003*, and the results of over 35 studies.

A major accomplishment in statistical reporting this year was the improvement in the timeliness of the release of the congressionally mandated National Assessment of Educational Progress (NAEP) results. During FY 2004, NAEP data for assessments conducted in spring 2003 were released just eight months following data collection, the shortest data lag in the history of the assessment. The 2003 NAEP national and state assessments in reading and mathematics for fourth and eighth grades were of particular importance this year because they provided baseline data to support the assessment's new role in state accountability systems, and, for the first time in the history of the program, they represented all states.

NUMBER OF MONTHS BEFORE INITIAL RELEASE OF NAEP RESULTS
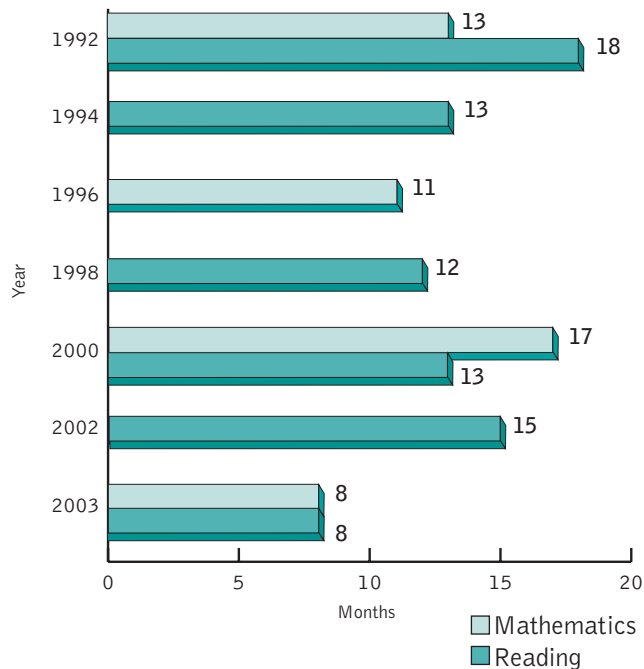
NAEP = National Assessment of Educational Progress
Source. Data from the Department's Institute of Education Sciences.

Research on Disability and Rehabilitation.

Through the National Institute on Disability and Rehabilitation Research, the Department provides leadership and support for a comprehensive program related to the rehabilitation of individuals with disabilities. The Department's ongoing efforts maximize the full inclusion, social integration, employment, and independent living of individuals of all ages with disabilities. Accomplishments in technological advancements over this past year include the following:

- The development of 35 state and local "visit-ability" programs that incorporate an affordable, sustainable, and inclusive design approach for integrating basic accessibility features into all newly built homes.[6]

- The publication of a book on universal design that has been disseminated nationwide and has been

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[4] Available at http://www.eric.ed.gov.
[5] Available at http://nces.ed.gov/pubs2004/2004077.pdf.
[6] Rehabilitation Engineering Research Center (RERC) on Universal Design at the State University of New York at Buffalo, School of Architecture and Planning, Edward Steinfeld, Arch. D., principal investigator.

adopted by the New York City Department of Design and Construction as the official guide for all architects working for the city.[7]

- The implementation of accessible information kiosks at the new World War II Memorial in Washington, D.C., and by the U.S. Postal Service to allow individuals with all types of abilities to access needed public information with ease.[8]

- The development and validation of a new more valid and reliable outcome measure of walking function in individuals with spinal cord injury, the Walking Index for Spinal Cord Injury (WISCI).[9]

Performance Goal. To track the relevance of our research investments, each year the Department submits a randomly selected sample of newly funded projects to an external panel of experienced practitioners, including superintendents, directors of special education, directors of research and evaluation at the district and state levels, and chief state school officers. The panel evaluates the relevance of the proposed research to education practice. Since FY 2001, the percentage of newly funded proposals that were of high relevance has doubled; by FY 2003,

over half of the projects sampled were rated as highly relevant. While this increase did not meet the target set for FY 2003, the Department is continuing efforts to improve the usefulness of our research for education practitioners and decision-makers. We are refining our Requests for Applications to specify the types of questions and projects that are needed by people in the field and providing more guidance to the scientific review panels so that they better understand those needs. FY 2004 data will be available in January 2005.

The Department's progress on our performance goals for this objective is summarized in the table below. See p. 29 for methodology and appendix A, p. 214, for detailed data.

Relevance of Research (Objective 4.2)		
Performance Goal	Status	Year
New research projects of high relevance to educational practice	Did not meet	FY 2003

[7] Ibid.
[8] Rehabilitation Engineering Research Center on Information Technology Access at the Trace Center, University of Wisconsin, Gregg Vanderheiden, Ph.D., principal investigator.
[9] Spinal Cord Injury Model System Project, Thomas Jefferson University, John F. Ditunno, Jr. M.D., principal investigator.

Programs Supporting Goal 4

Six of our grant programs most directly support Goal 4. These programs are listed below. In the table we provide both FY 2004 appropriations and FY 2004 expenditures for each of these programs. We also provide an overview of the results of each program on its program performance measures. Program performance reports are available on the Web at http://www.ed.gov/about/reports/annual/2004report/index.html.
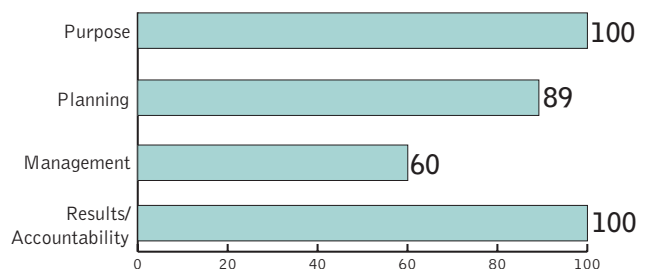
Program Name	Appro-priations†	Expendi-tures‡	Program Performance Results — Percent of Targets Met, Not Met, Without Data								
			FY 2004			FY 2003			FY 2002		
	FY 2004 $ in millions	FY 2004 $ in millions	% Met	% Not Met	% No Data	% Met	% Not Met	% No Data	% Met	% Not Met	% No Data
ESEA: Indian Education National Activities	5	5									
ESEA: Title I Evaluation	11	15									
ESRA: Research, Development and Dissemination	181	126	60	20	20	100	0	0	100	0	0
ESRA: Statistics	119	109	43	57	0	0	0	100			
IDEA: Special Education Research and Innovation	83	86	0	0	100	0	0	100	0	13	88
RA: National Institute on Disability and Rehabilitation Research	119	126	0	0	100	43	29	29	50	50	0
Total	518	467									

† Budget for each program includes program budget authority and the program's proportional share of salaries and expenses budget authority.
‡ Expenditures occur when recipients draw down funds to cover actual outlays. FY 2004 expenditures may include funds from prior years' appropriations. Expenditures for each program include the program's proportional share of administrative expenditures.
▆ A shaded cell denotes that the program did not have targets for the specified year.

ESEA = Elementary and Secondary Education Act
ESRA = Education Sciences Reform Act
IDEA = Individuals with Disabilities Education Act
RA = Rehabilitation Act

PART Analysis for Goal 4 Programs

The Program Assessment Rating Tool (PART) was developed and implemented by the Office of Management and Budget as a standardized process for determining program effectiveness in a consistent way across agencies. Over a five-year period, all programs will be evaluated under this process. Results of PART reviews are used by agencies as one component of justifying their budget requests. Following are summaries of PART reviews that were conducted in conjunction with preparing the Department's FY 2004 budget request and subsequent updated reviews of those programs.[10]

Program: Statistics

Year of Rating: *For FY 2004 Budget (Initial)*
For FY 2005 Budget (Revised)
Rating: *Effective*
Program Type: *Research and Development*

Recommendations:

1. The 2002 PART assessment found a weakness in long-term performance measurement for NCES.

2. The Department of Education needs to improve the timeliness of NCES products and services.

Response:

1. The Department of Education has established long-term performance measures for the program.

2. The Department of Education is examining the timeliness of NCES products and services, including National Assessment products and services.

[10] Information about the PART process is available at http://www.whitehouse.gov/omb/part/. Information on Department PARTs is available at http://www.whitehouse.gov/omb/budget/fy2005/pdf/ap_cd_rom/part.pdf and http://www.whitehouse.gov/omb/budget/fy2005/pma/education.pdf.