

Education and Human Resources in the FY 2002 Budget

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INTRODUCTION

The importance of education funding to research and development (R&D) is directly tied to the production of scientists, engineers, and technicians—those who are the future of R&D. Consistent with President Bush's campaign promises, education holds a prominent position in the FY 2002 budget proposal. Bush's proposal includes increased funding for kindergarten through 12th grade (K-12) schools in disadvantaged areas, for special education programs, and for minority-serving institutions of higher education. Large increases in the budget of the National Institutes of Health (NIH) and much more moderate overall increases at the National Science Foundation (NSF) continue an upward trend in funding for science, mathematics, engineering and technology (SMET) research and education. However, the budget proposal also includes a leveling off of spending in other cabinet departments and in some directorates within NSF, and some major cuts, especially in post-secondary education spending and research.

Much of President Bush's education budget is focused at the K-12 level, with emphasis on reading, school assessment, and expanding school choice. Specific programs are eschewed in favor of more flexible state block grants at the elementary and secondary school levels. Most of the increases are in the Department of Education's (ED) Title I funding for disadvantaged school districts. While the Bush administration claims it is increasing ED's budget by 11.5 percent, Democrats contend that the budget represents only a 6 percent increase over last year's spending and are urging much larger increases in ED's discretionary spending budget than the President has requested (see Table II-18 for details of the ED

Table 1: Total Expenditures for Education in the United States¹
(dollars in billions; academic years)

Source of Funds by Level	1999-2000		2000-2001 ²	
	Dollars	Percent	Dollars	Percent
<u>Elementary and Secondary</u>				
Federal ³	\$27.5	7.1%	\$28.4	7.0%
State	\$173.1	44.5%	\$180.8	44.5%
Local	\$150.8	38.8%	\$158.0	38.9%
All Other	<u>\$37.6</u>	<u>9.7%</u>	<u>\$39.2</u>	<u>9.7%</u>
Subtotal, Elementary and Secondary	\$389.0	100.0%	\$406.5	100.0%
<u>Post-Secondary</u>				
Federal ³	\$31.1	12.1%	\$32.8	12.1%
State	\$58.7	22.8%	\$62.0	22.8%
Local	\$6.9	2.7%	\$7.3	2.7%
All Other ⁴	<u>\$161.1</u>	<u>62.5%</u>	<u>\$169.7</u>	<u>62.4%</u>
Subtotal, Post-Secondary	\$257.8	100.0%	\$271.7	100.0%
<u>All Levels</u>				
Federal ³	\$58.6	9.1%	\$61.2	9.0%
State	\$231.8	35.8%	\$242.8	35.8%
Local	\$157.7	24.4%	\$165.3	24.4%
All Other ⁴	<u>\$198.7</u>	<u>30.7%</u>	<u>\$208.9</u>	<u>30.8%</u>
Subtotal, All Levels	\$646.8	100.0%	\$678.2	100.0%

Source: U.S. Department of Education, National Center for Education Statistics, published in Department of Education "FY2002 Budget Summary."

¹ Data revised from previously published figures.

² Projected.

³ Includes expenditures of all Federal agencies.

⁴ Federally supported student aid that goes to higher education institutions through students' tuition payments is shown under "All Other" rather than "Federal." Such payments would add substantial amounts and several percentage points to the Federal share.

NOTES: Data above may vary from data reported in other surveys of education funding. Differences can be accounted for primarily by differences among the reports in any of the following: measures of funding used, *e.g.*, budget authority vs. expenditures; the definition of education used; agencies and institutions reporting the data; and basis of dollars reported, *e.g.*, current vs. constant dollars.

Because of rounding, detail does not add to totals.

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budget). This will ensure greater debate over and scrutiny of federal government spending for education than has usually been the case. Federal funds make up about 9 percent of total public funding for all levels of education. The rest comes largely from state and local property taxes at the elementary and secondary levels, and from private tuition payments and donations at the post-secondary level.

INNOVATION AND ASSESSMENT: K-12 EDUCATION AND THE “NO CHILD LEFT BEHIND” INITIATIVE

President Bush’s “No Child Left Behind” (NCLB) initiative is focused mostly in ED’s budget, but with some funding also going to NSF and the Department of Health and Human Services (HHS) for special programs. ED’s budget shows a trend away from specific programming toward block grants and a heavy emphasis on accountability and expanded school choice. Under the Bush proposal, in exchange for yearly testing in grades three through eight, states can vie for chunks of federal funding rather than applying to several different federally funded programs. Many of these block grants allow states to compete for funding for charter schools and school choice programs. Those public schools whose students do not perform adequately on standardized tests would be given chances to improve before being penalized with a cut in federal funds.

In ED’s budget, Title I funding for Education for the Disadvantaged would have its budget increased by nearly 5 percent. The largest increase would go to new Reading First and Early Reading First programs with a combined budget of \$975 million. These new programs would focus on projects for pre-kindergarten through third grade and must be supported by “scientifically-based reading research.” Increases are also proposed for Title I Grants to Local Educational Agencies and new funding to help turn around low performing schools by improving teacher training and school reforms and restructuring.

Elsewhere in ED’s budget, block grant consolidations would impact science and mathematics education by moving programs out of federal government activities, giving states the purview to design their own programs. Under the President’s plan, appropriations for the Eisenhower Professional Development (EPD) grants, activities and consortia—including EPD regional mathematics and science education consortia—

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would be rolled into state grants for improving teacher quality, which are contingent upon performance evaluations and student test scores. Overall funding for teacher improvement would increase 16.8 percent, an increase of approximately \$375 million.

Other programs proposed for consolidation into state block grants include several reading, arts, gifted and talented and cultural programs, and programs promoting educational technology. Arts and cultural programs would be combined into a proposed category of “Choice and Innovation State Grants” to promote state experiments in school choice (including private school choice) and charter schools. Activities covered previously by federal arts and culture programs may also continue to be funded under this block grant program, but at the state level. Along with program consolidation, funding for this category of activities would be cut by 49.5 percent from FY 2001 spending. Programs promoting educational technology would be rolled into state block grants and would face cuts of 6.3 percent.

Overall, the Bush budget proposes nearly \$700 million in funding for programs promoting school choice and charter schools, including new charter school buildings. State assessments of school performance in reading and mathematics—a new initiative to test students yearly from grades three through eight—would receive \$320 million. This allocation is not meant to cover the full cost of state assessments, thus representing a new, partially funded federal mandate for public schools. The budget would cut funds for new buildings and infrastructure improvements, except for charter and tribal schools and schools on military bases. Most funding for programs that target minority populations at the K-12 level would remain unchanged.

The Administration is asking for a \$1 billion increase in funding for the Individuals with Disabilities Education Act (IDEA). The \$7.3 billion budget request would raise the federal share of the provision of “free appropriate public education” for the estimated 6.5 million children with disabilities from 15 to 17 percent of the average per pupil expenditure. The President has also requested \$10 million in more funding for the National Institute on Disability and Rehabilitation Research to expand the Rehabilitation Engineering Research Program, and a \$25 million increase in resources for assistive technology.

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Also under the President's NCLB program, a new program funded through NSF would foster innovative partnerships between state universities and urban school districts for science and mathematics educational programming. Housed in NSF's Directorate for Education and Human Resources, the new Math and Science Partnerships Initiative would receive \$200 million to support partnerships among scientists, mathematicians, engineers and teachers to promote research-based approaches in the classroom and to improve math and science teacher training (see Table II-7). Two categories of activities would be authorized for merit-review competition. The first involves infrastructure partnerships between states and higher education institutions to improve SMET education statewide. Action partnerships are the second category of activities and are regionally focused initiatives. The program is projected to receive \$1 billion over the next five years. Of the initial \$200 million allocation, \$90 million would be new funds and \$110 million would be redirected from existing NSF programs. Existing programs that would be cut include Educational System Reform (down \$65.2 million), the Office of Innovation Partnerships (down \$10 million), and Elementary, Secondary and Informal Education (down \$37 million).

In addition, NSF's proposed budget includes support for the Learning for the 21st Century initiative, which funds research into how human beings learn as well as the transference of that knowledge into learning environments. Heavily emphasized under this program are new uses for information technology in education. Centers for Learning and Teaching link K-12 schools with higher education institutions to disseminate research and train teachers in new technologies and techniques. Support for the initiative would increase 3 percent over FY 2001 to \$126 million.

POST-SECONDARY EDUCATION IN THE BUSH EDUCATION BUDGET

At the post-secondary education level, the Bush budget request is a mixed bag of modest increases and some deep cuts within ED. Despite a moderate increase in Pell Grants, most student financial aid funding would remain flat or decrease somewhat. Federal money for minority-serving institutions of higher education would increase. However, funding for many programs, including the Fund for the Improvement of Post-Secondary Education (FIPSE), would be dramatically cut.

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The Pell Grant program is the largest federal program serving low- and middle-income undergraduate students with grants in aid. Tied to family income, eligible applicants receive a maximum award of \$3,750 in 2001. Under the President's budget proposal, the maximum Pell Grant award would increase slightly by \$100 to \$3,850 in 2002. Despite a proposed total funding increase of \$1 billion for the Pell Grant program, funding shortfalls in the last fiscal year—due to a large number of qualified applicants—have meant that under the current budget proposal awards would not increase dramatically. Most other student financial aid programs, including Work-Study and Perkins Loans, would not receive any new resources under the Bush proposal.

The budget request does increase funding for a loan forgiveness program for mathematics and science teachers. Currently, teachers who work in low-income schools can have up to \$5,000 of federally guaranteed student loans forgiven. The President's budget proposes that new science and mathematics teachers be forgiven up to \$17,500 in federally guaranteed student loans if they teach for five consecutive years in high-need schools. The estimated cost of the program is \$12.8 million.

In addition to these direct student aid programs, the Bush Administration has also proposed to increase a number of tax incentives for individuals and families to save for college and university education. Tax benefit programs would increase the annual contributions families can put in tax-free education savings accounts from \$500 to \$5,000. In addition, families may be able to pay tax-exempt prepaid tuition to both public and private institutions (previously only prepaid tuition to public institutions was tax exempt). The Administration also proposes to extend a provision that exempts employer-paid educational benefits from taxable income.

Funding for minority-serving institutions of higher education is given a boost in the Bush budget proposal, reflecting renewed attention to equal access to education for all groups. Funding for Historically Black Colleges and Universities (HBCUs) would increase by \$15 million or 4.5 percent to \$245 million (not including \$232.5 million for Howard University). Funding for Hispanic-serving institutions would increase \$4 million to \$72.5 million. This money would fund 162 new and existing grants. Funding for other minority institutional programs would remain

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unchanged at \$29.5 million, including money for strengthening Tribally Controlled Colleges and Universities, Alaska Native and Native Hawaiian Serving Institutions, and Minority Science and Engineering Improvement.

The Federal TRIO Program, which finances efforts to ease the transition into post-secondary education for disadvantaged individuals regardless of race or ethnicity, would receive a 6.8 percent increase from \$730 million to \$780 million and would include more support for Talent Search and Educational Opportunity Centers, Upward Bound Math/Science programs, and the McNair Postbaccalaureate Achievement Program.

The Bush budget proposal requests dramatic cuts in some post-secondary education programs including a 65.1 percent decrease in resources for FIPSE, which supports innovative projects for the reform and improvement of post-secondary education. Although some of the decrease is attributed to the end of one-time appropriations for special projects in FY 2001 (\$115.5 million), FY 2002 proposed funding for FIPSE is still 32 percent less than in FY 2000.

Other programs that would be either partially or totally eliminated include Demonstration Projects to Ensure Quality Higher Education for Students with Disabilities, Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), The Thurgood Marshall Legal Educational Opportunity Program, Learning Anytime Anywhere Partnerships (LAAP), and Teacher Quality Enhancement Grants. The LAAP program, which promotes the experimental use of educational technology in distance learning, is very popular among colleges and universities. ED budget documents indicate that LAAP activities and Demonstration Projects to Ensure Quality Higher Education for Students with Disabilities may continue under FIPSE, despite major funding reductions in FIPSE.

EDUCATION AND RESEARCH PROGRAMS IN OTHER GOVERNMENT DEPARTMENTS

Most of the federal government's activities in promoting SMET education are housed in the **National Science Foundation (NSF)**. Although the overall budget for NSF would increase only 1.3 percent under the President's budget proposal, support levels for NSF educational initiatives

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would increase substantially for preK-12 and graduate education, although undergraduate support would be reduced. NSF activities under its “People” initiatives reach an estimated 200,000 individuals. Housed mostly in the Education and Human Resources (EHR) Directorate, activities for education and research span across all functional directorates. Total support for all People activities under Bush’s budget proposal would rise 13 percent to \$1 billion in FY 2002.

Undergraduate education initiatives EHR would be cut 5.9 percent in the FY 2002 budget proposal (see Table II-7). The largest decrease would be in programs under the “Workforce Development” rubric, which would be reduced 12.3 percent. The programs included in Workforce Development are: Advanced Technical Education; Computer Science, Engineering and Mathematics Scholarships; Federal Cyber Service Scholarships; and NSF Collaboratives for Excellence in Teacher Preparation. Curriculum, Laboratory, and Instructional Development initiatives would be only slightly reduced by 0.5 percent. Undergraduate and graduate support for human resource development would also be cut 0.5 percent.

Graduate education would receive a boost in graduate student stipends for several NSF programs. Graduate stipends are \$18,000 per year in FY 2001 for fellows and trainees in the Graduate Research Fellowship Program, the Integrative Graduate Education and Research Training Program, and the Graduate Teaching Fellows in K-12 Education program. These are proposed to increase to \$20,500 a year for FY 2002.

NSF’s ADVANCE program, which promotes activities to encourage women to enter science and engineering fields, would receive a funding boost of \$7.0 million, for a total of \$16.0 million. (For more information on the NSF budget, please see Chapter 7.)

The **National Institutes of Health (NIH)** would receive a considerable increase in funding under President Bush’s FY 2002 budget. The agency is projected to receive \$23.2 billion in FY 2002, 13.4 percent more than FY 2001. Part of NIH’s mandate is to foster the production of scientists and health professionals who are trained in the basic clinical and methodological techniques to conduct health sciences investigations. Thus, its programs integrate student involvement in research projects, including significant mentoring activities by senior scientists. Research

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training would increase \$53.7 million in FY 2002 to \$645 million (see Table II-10). Some of this would go toward a 10 percent increase in pre-doctoral and post-doctoral stipends.

While NIH has many established projects with universities all over the U.S., significant funding increases for the Biomedical Research Infrastructure Network (BRIN) program would allow the agency to reach out to institutions not yet fully involved in biomedical research. The program would receive \$75 million in FY 2002, an increase of \$35 million.

The budget for the National Center for Minority Health and Health Disparities would receive a 20 percent increase in support (see Table II-9). Included in the \$158 million budget would be considerable resources for the recruitment, training and support of a diverse biomedical scientific workforce, including the Minority Clinical Research Scholars Program. Similar initiatives are also planned within the Office of Women's Health, where a proposed \$50 million for FY 2002 would support research and career development programs to increase the number of female scientists. (For more on the NIH budget, please see Chapter 8.)

The **U.S. Department of Agriculture's (USDA)** Cooperative State Research, Education, and Extension Service (CREES) is facing funding reductions of 12.6 percent in the FY 2002 budget. Of the \$994 million budgeted, \$407 million would be earmarked for research and education, a decrease of 19.4 percent. CREES supports agricultural research, education and extension services through partnerships with state-level agricultural experiment stations and cooperative extensions, and land-grant colleges and universities. Higher education formula grant programs under CREES provide resources to strengthen teaching and provide student financial aid. Higher education funding would remain unchanged in FY 2002 at \$35 million, although resources for the Native American Endowment Fund to improve the education capacity of Tribal colleges would increase by \$1 million for a total of \$9 million.

At the **Department of Energy (DOE)**, support for education involves the integration of education resources into established research programs within the Office of Science. Almost all research programs contain a science education component, and these range from preK-12 education outreach to graduate fellowships and postdoctoral support. In the

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President's budget proposal, overall funding for the Office of Science would increase by a slight 0.1 percent. The leveling off of science research spending, however, may mean that university research projects funded through DOE might have to scale back their activities.

The **National Aeronautics and Space Administration's (NASA)** academic programs would be cut 15.1 percent in the President's proposed budget. While student support programs and teacher/faculty preparation and enhancement programs would receive valuable new resources, educational technology and support for systemic improvement of education would be significantly reduced. In FY 2000, over one million students participated in NASA education activities, most of whom were K-12 students. Activities are designed to provide students with exposure to NASA's mission and pique interest in SMET activities in general. There are also specific programs to recruit and support underrepresented minorities at all education levels. Similarly, teacher and faculty preparation programs are designed to involve educators in NASA-related activities through workshops and laboratory and experimental experiences. Almost 400,000 educators participated in NASA programs in FY2000, 67 percent of whom were K-12 teachers.

CONCLUSION

The 2000 elections focused new attention on education as a major priority of the American people. The debate over the future of education has taken center stage, and we are perhaps poised to see major changes in the way educational resources are allocated in this country. President Bush's budget proposal for FY 2002 clearly reflects his campaign focus on education, placing emphasis on assessment and restructuring at the K-12 level and on the inclusion of all groups in the benefits of educational resources. There is clearly, however, ambivalence toward SMET research support, with NIH receiving priority over other agencies. Given the integration of research and education in the American educational system, the scaling back of research initiatives in other agencies could have a considerable dampening effect on the production of future scientists and engineers.